Food and Agriculture Organization of the United Nations

Bay of Bengal Large Marine Ecosystem Project Phase II

Report of the National Consultative Workshop on BOBLME Phase II Project Implementation in Bangladesh

27 - 29 February 2024 | Dhaka, Bangladesh

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Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO)
Chennai

International Union for Conservation of Nature (IUCN),
Asia Regional Office
Bangkok

Executive Summary

The National Consultative Workshop on the Bay of Bengal Large Marine Ecosystem (BOBLME) Phase II Project Implementation in Bangladesh took place during 27 – 29 February 2024 in Dhaka, Bangladesh. The event was organized jointly by the Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO), International Union for Conservation of Nature (IUCN) Asia Regional Office and the IUCN Bangladesh country office and facilitated by the Ministry of Fisheries and Livestock, Ministry of Environment, Forest and Climate Change, and the Department of Fisheries of the Government of the People's Republic of Bangladesh.

The primary objective of the workshop was to initiate activities under the BOBLME-II project in Bangladesh. The workshop aimed at disseminating information about the BOBLME-II project's progress and plans, prioritizing and planning the implementation of the Ecosystem Approach to Fisheries Management (EAFM) and Marine Managed Areas (MMAs), developing strategies to combat Illegal, Unreported, and Unregulated (IUU) fishing, tackling coastal and marine pollution, and enhancing the livelihoods and resilience of coastal communities. It also sought to strengthen regional cooperation and establish robust partnerships among stakeholders. The expected outcomes of the workshop included identification and prioritization of Fisheries Management Units (FMUs) for EAFM and sites for MMA, outline initial plans for addressing IUU fishing and managing marine pollution, and building a strategic framework for enhancing community livelihoods and resilience; all geared towards sustainable management of marine resources in the region.

The workshop's inaugural session was graced by dignitaries including Mr. Md. Selim Uddin, Secretary of the Ministry of Fisheries and Livestock, Dr. Farhina Ahmed, Secretary of the Ministry of Environment, Forest and Climate Change, Syed Md. Alamgir, Director General of the Department of Fisheries, Mr. Govinda Roy, Deputy Conservator of Forests, Bangladesh Forest Department, Dr. Md. Zulfikar Ali, Director General of the Bangladesh Fisheries Research Institute, Dr. P. Krishnan, Director of BOBP-IGO, and Ms Maeve Nightingale, Senior Programme Officer, IUCN. They emphasized the significance of the EAFM approach for Bangladesh and the potential of BOBLME Phase II in implementing the same. The session highlighted the achievements in marine conservation and the importance of collaborative efforts with local stakeholders to ensure the project's success.

The second and third sessions focused on the identification of potential EAFM and MMA sites in India and scoping the selected sites, respectively. Session 4 was on reducing catch from IUU fishing. Session 5 was devoted to the management of coastal and marine pollution including gear loss and gear marking as well as improved waste management practices in fishing harbours. The sixth session was on improved livelihoods as well as building cooperation among the BOBLME countries. At the concluding session, speakers highlighted the ways forward in planning and implementing the BOBLME Project Phase II in Bangladesh.

The summary of the key decision points is provided in the following section.

1. Selection of EAFM & MMA Sites

(a) EAFM Sites

In order to select suitable sites for implementation of project activities related to EAFM, a detailed group discussion was held. The following 4 FMUs / EAFM sites were prioritized by the experts from the discussion:

1. Nijhum Dwip
2. Estuarine Set-bag net fishery in Central Coastal Bangladesh
3. Set-bag net fishery in Sonadia & Moheshkhali Channel
4. Hilsa fishery in St. Martin Island

The participants, representing diverse stakeholders discussed in detail each of the four prioritized sites through breakout group discussions on the following themes viz., (i) identifying & prioritizing issues and threats; (ii) identifying & prioritizing stakeholders and (iii) assessing capacity development needs and training. This will form the basis for the detailed scoping document that will be prepared later for the FMUs where the project is implemented.

(b) MMA Sites

The following MMA sites were discussed:

1. Nijhum Dwip
2. Saint Martin's Island (SM)
3. Swatch of No Ground (SoNG)

MMA Group

The MMA group, consisting of key stakeholders and experts, highlighted Bangladesh's significant efforts and challenges in marine conservation. MMAs play a crucial role in protecting marine biodiversity and supporting sustainable fisheries. However, several challenges and opportunities were identified during the discussions. These include political, infrastructure and capacity, community engagement, environmental threats and governance and coordination. Discussions during the meeting emphasized strategic priorities and actions for advancing MMA management in Bangladesh under the BOBLME project. The decision to prioritize Nijhum Dwip MPA was based on its strong local government support, existing management plan, and accessibility in terms of data and logistics.

2. IUU Fishing

The workshop addressed the critical issue of Illegal, Unreported, and Unregulated (IUU) fishing in Bangladesh. Key findings included:

Status: Bangladesh's NPOA-IUU, approved by the Ministry of Fisheries and Livestock in 2020, addresses IUU fishing across all three Marine Fisheries Management Plans approved between 2021 and 2024.

Challenges: Inadequate human resources for catch monitoring, data collection, and surveillance; integrating the large artisanal fleet into the fishing permit reporting and MCS mechanisms; issues of under-reporting and misreporting; and the need for improved coordination between agencies.

Strategies: Strengthening human resources for catch monitoring and surveillance, ensuring comprehensive coverage of the artisanal fleet in the fishing permit and reporting systems, and fully integrating Vessel Monitoring Systems (VMS) for all artisanal and industrial vessels.

3. Pollution Control and Gear Marking

The workshop also focused on managing coastal and marine pollution. Key findings included:

Current Practices: Fishing harbour management practices and gear marking are overseen by the Bangladesh Fisheries Development Corporation (BFDC) and the Department of Fisheries.

Challenges: Inadequate waste management systems and insufficient infrastructure at fishing harbours and landing centres.

Proposed Solutions: Upgrading facilities, implementing effective waste management systems, and promoting responsible gear marking to reduce marine litter.

4. Livelihood Enhancement and Resilience

The workshop emphasized the importance of improving the livelihoods and resilience of coastal communities. Key findings included:

Current Initiatives: The Social Development Foundation (SDF) and the Department of Fisheries are co-implementing the 'Sustainable Coastal and Marine Fisheries' project to improve the livelihoods of poor fishing communities.

Challenges: Overfishing, IUU fishing, climate change, lack of access to markets, public services, technology, and resources.

Proposed Solutions: Supporting alternative income-generating activities, empowering women, improving education and social facilities, and promoting sustainable fishing practices.

Epilogue

A systematic approach was followed to meet the objectives of the workshop; the approach provided an excellent impetus to kickstart BOBLME Project Phase II in Bangladesh and helped identify a range of options for action. It provided an opportunity to understand the issues and threats, the categories of stakeholders to be considered for planning and implementing the project, and identify the capacity development needs.

It is recognized that the planning and implementation of EAFM and MMA needs strengthening collaboration and cooperation among the stakeholders. It is, therefore, necessary to identify opportunities that are of mutual interest and to communicate the importance of engagement. All the participants extended full cooperation and were focused on the objective of the consultation process. Many participants had sound knowledge of the proposed EAFM and MMA sites and contributed to the group activities and discussions. Strengthening collaboration among stakeholders was emphasized as crucial for the sustainable management of fisheries resources in Bangladesh. The participants showed full cooperation, contributing their knowledge and expertise to the group activities and discussions, thereby laying a strong foundation for the successful implementation of BOBLME Project Phase II in Bangladesh.

Summary of Follow up Actions

For Department of Fisheries, Govt of Bangladesh:

1. ***Endorsement of selected EAFM sites:*** *The BOBLME Project has scope for implementing EAFM in two FMUs. The top two prioritized FMUs viz.,* Nijhum Dwip and Estuarine *Set-bag net Fishery in Central Coastal Bangladesh may be endorsed for implementation of EAFM by the BOBLME Project*.
2. ***Additional EAFM Sites:*** *During the regional meeting and the GC of BOBP-IGO, it was decided that the National Governments may support additional site(s), where the BOBLME project activities can be implemented simultaneously.*

   Accordingly, the Department may support ONE or TWO additional FMUs in terms of arranging local logistics in the suggested site(s), viz., Set-bag net Fishery in Sonadia & Moheshkhali Channel or Hilsa Fishery in St. Martin's Island.

   Based on the direction of the DoF, the BOBLME project team will take up TWO / THREE FMUs for implementation of project activities, simultaneously.

3. **Constitution of the National Working Group for EAFM and IUU:** For Constitution of National Working Groups: Two National Working Groups will be finalized in consultation with the government to oversee the project's implementation of EAFM and combatting IUU fishing.

For Ministry of Environment, Forest and Climate Change, Govt of Bangladesh:

1. Endorsement of selected MMA sites: Approval and endorsement for the Nijhum Dwip MPA as the MMA site in Bangladesh, ensuring alignment with regional conservation goals and strategies.

For BOBLME Project Team

1. Preparation of Scoping Reports: Detailed scoping documents will be prepared for each FMU, including characterization, identification of threats and issues, stakeholders, and capacity development needs.
2. National Consultant Engagement: BOBP-IGO will engage a national consultant(s) to work closely with the Department of Fisheries and other relevant agencies to plan and implement the selected FMUs, IUU fishing and pollution prevention.
3. Work closely with MOEF&CC to plan and implement MMA in the selected sites.
4 Explore and devise methods for reducing pollution from fishing harbours by undertaking pilot surveys in selected fishing harbours.
5. Take steps for preparing RPOA/NPOA to prevent IUU fishing
6. Take initiatives to enhance local livelihoods, linking with conservation efforts.
7. Develop a regional mechanism for coordination, monitoring and assessment.
8. Communication and Follow-up: Active communication with experts, institutions, and government bodies will be maintained to ensure the project's success.

Abbreviations

ALDFG	Abandoned, Lost, or otherwise Discarded Fishing Gear
BFDC	Bangladesh Fisheries Development Corporation
BFRI	Bangladesh Fisheries Research Institute
BOBLME	Bay of Bengal Large Marine Ecosystem
BOBP-IGO	Bay of Bengal Programme Inter-Governmental Organisation
C& E	Compliance and Enforcement
CCRF	1995 FAO Code of Conduct for Responsible Fisheries
EAFM	Ecosystem Approach to Fisheries Management
EBM	Ecosystem-Based Management
EPR	Extended Producer Responsibility
ETP	Endangered, Threatened and Protected Species
FAO	Food and Agriculture Organization of the United Nations
FGT	Fishing Gear Technology
FMC	Fishery Management Council
FMU	Fishery Management Unit
GEF	Global Environment Facility
GIS	Geographic Information System
ICZM	Integrated Coastal Zone Management
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action (of Food and Agriculture Organization of United Nations)
IUCN	International Union for Conservation of Nature
IUCN-BGL	IUCN in Bangladesh
IUU	Illegal, Unreported and Unregulated fishing
JMC	Joint Monitoring Committee
MCS	Monitoring, Control and Surveillance (in Marine fisheries)
MFA	Marine Fisheries Act
MFHP	Marine Fisheries Harvest Policy
MFR	Marine Fisheries Rules
MMA	Marine Managed Area
MOFL	Ministry of Fisheries and Livestock, Government of Bangladesh
MPA	Marine Protected Area
NORAD	Norwegian Agency for Development Cooperation

NPOA-IUU	National Plan of Action to Prevent, Deter and Eliminate llegal, Unreported and Unregulated Fishing
OCTO	Open Communication for the Ocean
PIF	Project Identification Form
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2009
RFMO	Regional Fisheries Management Organization
RPOA-IUU	Regional Plan of Action to Prevent, Deter, and Eliminate IUU Fishing
SAP	Strategic Action Programme (of BOBLME Project)
SBMmP	Sea-Based Marine micro-Plastics
SBMP	Sea-Based Marine Plastics
SBMPL	Sea-Based Marine Plastic Litter
SEAFDEC	Southeast Asian Fisheries Development Center
SoNG	Swatch of No Ground
TDA	Transboundary Diagnostic Analysis (of BOBLME Project)
UN	United Nations
UN SDG	United Nations Sustainable Development Goals
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
VMS	Vessel Monitoring System
WCS	Wildlife Conservation Society
WTW	Waste to Wealth

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Overview of the BOBLME Project

1. The BOBLME Project

1.1. Background

Bay of Bengal Large Marine Ecosystem (BOBLME) is one of the largest LMEs covering 6.2 million km^2. About 66 percent of the BOBLME lies within the Exclusive Economic Zone (EEZ) of BOBLME countries - Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand. The remainder is the high seas area. The BOBLME is an area of high biodiversity and of important critical habitats and the natural resources are of considerable social and economic importance to the bordering countries. Fisheries and aquaculture contribute immensely to food security, employment and national economies.

The Transboundary Diagnostic Analysis (TDA) and Strategic Action Programme (SAP) of the BOBLME Project Phase I (2009-2015) identified three priority transboundary concerns and their proximate causes. These include 1) overexploitation of marine living resources, 2) degradation of critical habitats, and 3) pollution and water quality.

In order to address these issues, the countries jointly developed the SAP, which the Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) is all set to implement in its member countries under the BOBLME Phase II project titled "Sustainable management of fisheries, marine living resources and their habitats in the Bay of Bengal region for the benefit of coastal states and communities."

1.2. Project Partners

The project is funded by the Global Environment Facility (GEF) and the Norwegian Agency for Development Cooperation (NORAD). It is being implemented by the Food and Agriculture Organization of the UN (FAO), in partnership with three executing agencies *viz.,* International Union for Conservation of Nature (IUCN), Bay of Bengal Programme Inter-Governmental Organizations and Southeast Asia Fisheries Development Center (SEAFDEC).

1.3. Objective and Approach

The project's objective is to contribute to the sustainable management of fisheries, marine living resources, and their habitats in the Bay of Bengal region, to reduce environmental stress and improve environmental status for the benefit of coastal states and communities.

This will be achieved through interlinked project components based on the SAP themes by undertaking country-led programmes and adopting a participatory, bottom-up, integrated focus area approach to planning and implementation at community, sub-national, national, and regional levels to ensure the greatest impact.

1.4. Project Details

Details of the Phase II of the BOBLME project are provided in Table 1.

Table 1: Details of BOBLME Project Phase-II

Component	Outcome	Executing Agencies for South Asia*
1. Sustainable Management of Fisheries	1.1 EAFM institutionalized at the national level, including targeted transboundary fish stocks 1.2 IUU catch in the BOBLME reduced	**BOBP-IGO**
2. Restoration and conservation of critical marine habitats and conservation of biodiversity	2.1 Coastal and marine managed areas (MMAs) contribute to the conservation of biodiversity 2.2 National MMAs established or strengthened, resulting in improved MMA management effectiveness at the national level 2.3 Regional consensus and agreements reached on reduction of threats to marine biodiversity in coastal and open waters	**IUCN**
3. Management of coastal and marine pollution to improve ecosystem health	3.1 Improved waste management practices in fishing harbours 3.2 Marking of fishing gears and the development and dissemination of corresponding regional guidelines	**BOBP-IGO**
4. Improved livelihoods and enhanced resilience of the BOBLME	4.1. Enhanced resilience and reduced vulnerability to natural hazards, climate variability, and change in selected coastal communities 4.2 Enhanced sustainable livelihoods and diversification for selected coastal communities	**IUCN**
5. Regional mechanism for planning, coordination, and monitoring of the BOBLME	5.1 Strengthened institutional mechanisms at regional and national levels for planning, coordination, and monitoring of the BOBLME 5.2 Adaptive results-based management and sharing of information and lessons learned	**IUCN & BOBP-IGO**

*Bangladesh, India, Maldives, Sri Lanka

Workshop Report

The Bangladesh National Consultation Workshop on the Bay of Bengal Large Marine Ecosystem Project Phase-II was successfully held during 27-29 February 2024, in Dhaka. The event was jointly organized by the Bay of Bengal Programme-Inter Governmental Organisation (BOBP-IGO) and the International Union for Conservation of Nature (IUCN), in collaboration with the Ministry of Fisheries and Livestock (MoFL), Department of Fisheries (DoF), Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of the People's Republic of Bangladesh.

The primary objective of the workshop was to initiate the activities under the BOBLME project in India. Within this broad objective, the specific objectives were to:

- *Share information on the BOBLME Project.*
- *Identify two potential sites each for implementing EAFM and MMA and scoping the sites to develop plans for implementation, while considering national policies/integrated coastal management / Marine Spatial Planning interests/ policies.*
- *Initiate planning for reducing IUU fishing and management of coastal & marine pollution.*
- *Initiate planning for enhanced livelihoods and resilience of the BOBLME.*
- *Establish partnerships with and amongst stakeholders for future collaboration.*

The methodology followed was participatory with presentations by resource persons followed by break-out groups discussing on identified themes. The workshop was conducted in English and Bangla. The Prospectus and Agenda of the Workshop is given in ***Annex 1.***

The expected outcomes of the Workshop included

- Selection of Fishery Management Units (FMUs) for implementing ecosystem approach to fisheries management and setting up of Marine Managed Areas (MMAs),
- Initial plans for addressing illegal, unreported and unregulated (IUU) fishing and managing marine pollution,
- Initiating a strategic framework for enhancing community livelihoods and resilience, all geared towards sustainable management of marine resources in the region.

The workshop was attended by 69 participants representing government, non-government and fishers' organizations, academic and research institutions and from BOBP-IGO and IUCN. The List of Participants is given in ***Annex 2***.

The following set of information materials in the form of a booklet was shared with the participants prior to the workshop to ensure engaging discussions:

- *Overview of Ecosystem Approach to Fisheries Management and Marine Managed Area*
- *Methodological Framework for Selection of FMUs (for EAFM) and MMAs*
- *Identifying & Prioritizing Issues and Threats*
- *Identifying Stakeholders*
- *Assessing National Capacity Needs*
- *Combatting IUU fishing*
- *Management of Coastal and Marine Pollution*
- *Improved Livelihoods.*

1. Introduction and BOBLME Overview

A distinguished panel of guests, including the Hon'ble Chair, Mr. Md Selim Uddin, Secretary of the Ministry of Fisheries and Livestock; Hon'ble Chief Guest, Dr. Farhina Ahmed, Secretary of the Ministry of Environment, Forest, and Climate Change; Mr. A.T.M. Mostafa Kamal, Additional Secretary of the Ministry of Fisheries and Livestock and current Chair of BOBP-IGO; Mr. Syed Md. Alamgir, Director General of the Department of Fisheries; Mr. Gobinda Roy, Deputy Chief Conservator of Forests, Forest Department; Dr. Md. Zulfikar Ali, Director General of the Bangladesh Fisheries Research Institute; Dr. P. Krishnan, Director of BOBP-IGO; and Ms. Maeve Nightingale, Senior Programme Officer at IUCN Asia Regional Office, Thailand attended the Inaugural Session. Mr Shoukot Kabir Chowdhury, Assistant Director, DoF and the National Coordinator, BOBLME project hosted the Inaugural Session.

1.1. Welcome address

Ms. Maeve Nightingale, Senior Programme Officer, Coastal and Marine, IUCN, and A.B.M. Sarowar Alam, Programme Manager, Species and Habitats, IUCN Bangladesh, welcomed the delegates. They highlighted IUCN's extensive work in Bangladesh, underscoring their commitment to sustainable marine conservation and enhancement of coastal community resilience. The speakers detailed significant achievements, including the technical support provided for declaring the Nijhum Dwip Marine Protected Area (MPA) in 2019, comprehensive biodiversity and socio-economic surveys, development of co-management systems, and ongoing conservation efforts for critical species such as sharks, marine turtles, and the critically endangered Masked Finfoot. They emphasized the importance of collaborative efforts with local stakeholders, the Department of Fisheries, and the Ministry of Environment, Forest and Climate Change to ensure the successful implementation of the BOBLME project.

Ms. Nightingale and Mr. Alam called for the active participation and cooperation of all relevant parties in the project's implementation, highlighting the need for strengthened governance mechanisms and effective management of marine resources. They also outlined future initiatives, including the SEA Success project aimed at addressing challenges faced by Marine Protected Areas (MPAs) worldwide, and the Green Listing of Nijhum Dwip and Saint Martin’s Marine Protected Areas to achieve fair and effective management. The speakers stressed that such collaborations and concerted efforts are crucial for advancing marine conservation, improving livelihoods, and ensuring the sustainable use of marine resources, ultimately contributing to the long-term health and resilience of the Bay of Bengal's ecosystem.

1.2. Workshop Context & Overview of the BOBLME Project

Dr. P. Krishnan, Director, BOBP-IGO, introduced the objectives of BOBLME Phase II, providing context and approach for the workshop. Dr. Krishnan highlighted the successful outcomes of Phase I, including the Transboundary Diagnostic Analysis (TDA) and the Strategic Action Programme (SAP), endorsed in 2015, which laid the foundation for Phase II. The SAP's endorsement provided a stronger mandate for continued collaboration among the seven participating countries and six international partners, focusing on the sustainable management of fisheries, marine living resources, and their habitats in the Bay of Bengal region for the benefit of coastal states and communities.

Dr. Krishnan detailed the five-year timeframe of the BOBLME Phase II project, with the first year dedicated to inception and the following three years focused on implementation, culminating in a final year of monitoring. He explained the five key components of the project:

- Sustainable Management of Fisheries: Emphasizing the institutionalization and strengthening of capacity to develop and implement ecosystem approach to fisheries management (EAFM) and combating illegal, unreported, and unregulated (IUU) fishing.
- Restoration and Conservation of Critical Marine Habitats and Protection of Biodiversity: Focusing on strengthening Marine Managed Areas (MMAs) and protecting endangered, threatened, or protected species.
- Management of Coastal and Marine Pollution to Improve Ecosystem Health: Implementing waste management and pollution reduction initiatives in pilot ports around the Bay of Bengal.
- Improved Livelihoods and Enhanced Resilience: Enhancing the resilience of coastal communities and promoting sustainable livelihoods, with a focus on women's livelihoods.
- Regional Mechanism for Planning, Coordination, and Monitoring: Strengthening institutional mechanisms for effective regional and national coordination and monitoring of the BOBLME.

Dr. Krishnan emphasized that the workshop would delve into these components in detail, and the discussions and outputs from participants would be instrumental in guiding the planning and implementation of BOBLME Phase II. He concluded by highlighting the critical role of stakeholder collaboration in achieving the project's goals and ensuring the sustainable management of the Bay of Bengal's marine resources.

1.3. Special addresses

Delivering a special address, Mr. Govinda Roy, Deputy Conservator of Forests, Department of Forests, Government of Bangladesh, observed that Component 2 of the BOBLME Project on the restoration and conservation of critical marine habitats and biodiversity aligns closely with the activities of the Department of Forests. He assured that the Department would extend full support to the project, recognizing its importance in preserving the ecological integrity of the Bay of Bengal region.

Mr. Roy highlighted several ongoing activities within the Department of Forests, which align with the goals of the BOBLME Project:

- Development of a Comprehensive Conservation Plan for the Sundarbans: The Sundarbans, a UNESCO World Heritage Site and the largest mangrove forest in the world, is a critical habitat for numerous species. The conservation plan aims to protect this vital ecosystem from threats such as deforestation, climate change, and industrial pollution. This plan includes measures for habitat restoration, species protection, and sustainable resource management to ensure the long-term health of the Sundarbans.
- Creating a Digital Document Focused on Sharks and Rays, Particularly the Silky Shark: Recognizing the importance of marine biodiversity, the Department is developing a digital repository of information on sharks and rays, with a particular focus on the silky shark. This document will serve as a crucial resource for researchers, policymakers, and conservationists, providing data on species distribution, population status, and threats. The initiative aims to raise awareness and drive conservation efforts for these often-overlooked species.
- Engaging Coastal and Fishing Communities through Training on Sustainable Livelihoods and Resilience to Climate Hazards: The Department is actively working with coastal and fishing communities to promote sustainable livelihoods that are resilient to climate change. Training programs focus on alternative income-generating activities, sustainable fishing practices, and disaster preparedness. These efforts aim to reduce the communities' dependency on overexploited marine resources and enhance their capacity to cope with climate-related challenges.

- Protection of Wildlife and Forest Biodiversity: The Department is committed to protecting the rich biodiversity within Bangladesh's forests and marine areas. Efforts include anti-poaching measures, habitat restoration projects, and initiatives to curb illegal logging and fishing. By safeguarding critical habitats and species, these activities contribute to the overall health of the ecosystem.
- Formation of Co-Management Committees for Protected Areas: To ensure effective management of protected areas, the Department is establishing co-management committees that include local communities, government officials, and other stakeholders. These committees aim to promote collaborative decision-making, enhance local stewardship of natural resources, and ensure that conservation measures are socially equitable and sustainable.

He underscored the Department's dedication to marine and coastal conservation and said that the Department of Forests is poised to contribute significantly to the sustainable management and conservation of the Bay of Bengal's marine habitats. This collaboration will help address critical environmental challenges, protect biodiversity, and support the livelihoods of coastal communities.

Delivering a special address, Dr. Md. Zulfikar Ali, Director General of the Bangladesh Fisheries Research Institute, highlighted the BOBLME as a unique and vital project. He noted that the project aligns with the Sustainable Development Goals (SDGs), particularly those related to life below water (SDG 14), and with Bangladesh's national interests. Dr. Ali emphasized several ongoing initiatives under the Institute's purview that complement the objectives of the BOBLME project:

- National Plan of Action for Sharks (NPOA-Sharks): Bangladesh's commitment to the conservation and management of shark populations is embodied in the NPOA-Sharks. This plan aims to ensure sustainable use of shark resources, reduce bycatch, and enhance data collection for better management. The BOBLME project’s focus on marine biodiversity aligns well with these objectives, fostering collaboration and strengthening efforts to protect these critical species.
- Hilsa Project: The Hilsa fish, an iconic species for Bangladesh, is a significant part of the country's cultural and economic fabric. Dr. Ali discussed the ongoing efforts to sustainably manage Hilsa populations through habitat restoration, regulated fishing practices, and community engagement. The BOBLME project supports these initiatives by promoting sustainable fisheries management practices across the Bay of Bengal region.
- Fish Stock Assessment: Accurate assessment of fish stocks is crucial for sustainable fisheries management. Dr. Ali highlighted the Institute's work in conducting comprehensive fish stock assessments, which provide essential data for developing effective management plans. These assessments are critical for ensuring the long-term sustainability of fishery resources, a key component of the BOBLME project.
- Cultivation of Seaweeds and Green Mussels: Over the past five years, the Bangladesh Fisheries Research Institute has been actively promoting the cultivation of seaweeds and green mussels. These aquaculture activities not only provide alternative livelihoods for coastal communities but also contribute to the ecological health of marine environments by enhancing water quality and providing habitat for marine species. The BOBLME project's emphasis on sustainable livelihoods and ecosystem health directly supports these initiatives.

Delivering a special address, Mr. Syed Md. Alamgir, Director General of the Department of Fisheries, underscored the rich fishery resources and biodiversity found in Bangladesh's waters. He emphasized

the critical importance of managing transboundary fish stocks at a regional level to ensure their sustainability and equitable use. Mr. Alamgir highlighted several key points:

- Rich Fishery Resources and Biodiversity: Bangladesh's waters are home to a diverse array of fish species and marine life, making it one of the most productive fishing grounds in the world. Effective management of these resources is essential to maintain biodiversity and support the livelihoods of millions of people who depend on fishing.
- Transboundary Stock Management: Many fish species in the Bay of Bengal migrate across national boundaries, making regional cooperation crucial for their effective management. Mr. Alamgir emphasized the importance of collaborative efforts among the Bay of Bengal countries to develop and implement management strategies for transboundary fish stocks. This cooperation is vital to prevent overfishing, ensure sustainable use, and protect the marine ecosystem.
- Regional Level Coordination: The BOBLME project provides a platform for enhancing regional coordination and collaboration among participating countries. By working together, countries can share knowledge, resources, and best practices to address common challenges related to fisheries management, marine conservation, and sustainable development. This regional approach is essential for achieving the project's goals and ensuring the long-term health of the Bay of Bengal's marine environment.

The eminent guests underscored the alignment of the BOBLME project with national priorities and its potential to enhance marine conservation and sustainable fisheries management in the region. Their insights highlighted the importance of continued collaboration and support to achieve the project's objectives and contribute to the sustainable development of the Bay of Bengal region

1.4. Address by the Chief Guest

Delivering an inspiring address as the Chief Guest, Dr. Farhina Ahmed, Secretary of the Ministry of Environment, Forest, and Climate Change, highlighted the project's crucial importance and its alignment with both national and international environmental commitments. She stated, "The Ministry of Environment, Forest, and Climate Change is committed to ensuring environmental and climate sustainability, conserving our forests and biodiversity, and managing the impacts of climate change for the benefit of our citizens. The Bay of Bengal Large Marine Ecosystem Project Phase-II is a unique and vital initiative that directly supports our mandate."

Dr. Ahmed emphasized the significance of reducing marine plastics and addressing the gender dimension within the project. She remarked, "The urgent need to tackle marine plastic pollution cannot be overstated, and integrating a gender-sensitive approach ensures that women, who are often most affected by environmental degradation, play a central role in our conservation efforts."

Highlighting the project's alignment with the UN Convention on Biological Diversity (CBD), Dr. Ahmed said, "Achieving the targets of the CBD requires collaborative efforts with regional organizations and an integrated approach between different government ministries. The BOBLME project provides an excellent platform for such collaboration, enabling us to address complex environmental challenges through joint strategies and shared knowledge."

Dr. Ahmed assured the full support of the MoEFCC for the project, stating, "Our Ministry will actively participate in the Project Steering Committee and the Monitoring and Evaluation processes. We are committed to contributing to the project's success through active engagement and oversight, ensuring that all activities align with our national policies and priorities."

In conclusion, Dr. Ahmed reiterated the critical role of the BOBLME project in advancing Bangladesh's environmental conservation goals and enhancing the resilience of coastal communities. She called for continued collaboration and commitment from all stakeholders, saying, "This project represents a pivotal step in our journey towards sustainable development and regional cooperation. Together, we can achieve the long-term health and sustainability of the Bay of Bengal's marine ecosystem."

1.5. Remarks by the Chair

Chairing the session, Mr. Selim Uddin, Secretary of the Ministry of Fisheries and Livestock, Government of Bangladesh, highlighted the profound significance of the Bay of Bengal Large Marine Ecosystem Project Phase-II and the workshop for the country's sustainable development. He underscored that fisheries play a crucial role in Bangladesh's food security, providing 60% of the animal protein consumed by the population. With fishers constituting 12% of the population, the socio-economic importance of this sector is immense.

Mr. Uddin reminded the audience of the vision of Bangabandhu Sheikh Mujibur Rahman, the Father of the Nation, who emphasized the importance of ensuring food security, enhancing nutrition, and improving livelihoods for the people of Bangladesh. He quoted Bangabandhu's inspirational words about transforming the agricultural sector to meet the needs of the nation, reflecting on how these principles guide current efforts in the fisheries and livestock sectors.

He noted that the Bay of Bengal's resources are shared among seven countries, making regional cooperation and the exchange of best practices essential for sustainable management. In this context, he emphasized the importance of regional management strategies and collaborative efforts to protect and optimize the use of these shared resources.

Mr. Uddin highlighted Bangladesh's active engagement in developing a Blue Economy, which aligns with Bangabandhu’s vision for sustainable development. He elaborated on the country’s interest in exploring the potential of the tuna fishery, an untapped resource that could significantly contribute to economic growth and food security.

He spoke about various ongoing initiatives in the fisheries sector, such as the development of the Hilsa conservation program, fish stock assessments, and the cultivation of seaweeds and green mussels over the past five years. These initiatives, he noted, are in line with the broader objectives of the BOBLME project and reflect the country's commitment to sustainable marine resource management.

Mr. Uddin expressed his optimism that the policy suggestions and recommendations emerging from the BOBLME project would be pivotal in shaping the future of Bangladesh's fisheries sector. He called for continued collaboration among the participating countries to share knowledge, technology, and best practices, which would lead to improved management and conservation of marine resources in the Bay of Bengal.

In conclusion, Mr. Uddin reiterated the importance of the workshop in providing valuable insights and strategies to enhance the management and conservation of the Bay of Bengal's marine resources. He stressed that these efforts would benefit not only Bangladesh but the entire region, contributing to the sustainable development and prosperity envisioned by Bangabandhu Sheikh Mujibur Rahman for all the people of the Bay of Bengal region.

1.6. Vote of Thanks

The Inaugural Session concluded with a Vote of Thanks by Mr. A.T.M. Mostafa Kamal, Additional Secretary of the Ministry of Fisheries and Livestock and Chair of the Governing Council of BOBP-IGO. In his address, Mr. Kamal expressed deep appreciation for the BOBLME project and the workshop, recognizing them as essential platforms for addressing contemporary issues and challenges facing the marine and fisheries sectors. Mr. Kamal highlighted the collaborative spirit fostered by the workshop, noting that the diverse participation of experts, stakeholders, and representatives from various organizations would enrich the deliberations and outcomes. He acknowledged the efforts of the organizers, partners, and participants in making the workshop a success and emphasized the importance of continued engagement and cooperation. He thanked all attendees for their valuable contributions and participation. He expressed hope that the insights gained, and the partnerships formed during the workshop would pave the way for successful implementation of the BOBLME project.

2. Overview of EAFM and MMA

2.1. Marine Managed Area (MMA) – Overview

Ms Maeve Nightingale, Senior Programme Officer, IUCN, Bangkok gave an overview on Marine Managed Areas. Explaining that Component 2 of the project was the restoration and conservation of critical marine habitats and protection of biodiversity. She said that MMAs were identified based on advice from the Green List assessment process, and under improved management, national plans were developed for endangered, threatened and protected (ETP) species such as sharks, dugong, marine turtles. She said that the IUCN Green List of Protected and Conserved Areas is a unique global Sustainability Standard for successful area-based conservation. It aims to provide an international benchmark for quality that motivates improved performance and achievement of conservation objectives by assessing any protected and conserved area, from site to system level, against a set of globally consistent criteria on equitable governance, sound design, and effective management. The IUCN Green List Standard aims to improve the contribution these areas make to the conservation of nature and associated cultural values and ecosystem services. Its values, aligned with ISEAL principles for sustainability standards, are credibility, independence, objectivity, transparency, and inclusiveness. Green listed sites demonstrate respect for local community through meaningful engagement, design that identifies needs to secure important values of the area, effective management monitoring status of identified values, successful conservation results for nature and for people and a clear contribution to climate change responses, human health and well-being and other challenges.

In the selection of Marine Managed Areas to focus on in the BOBLME II, four key points could be kept in mind, she said. These were to see if the selected site could be a national pilot providing learning opportunity, whether there was some form of governance and management plan in place, were there opportunities for supporting co-benefits to fisheries management and if there was an interest, willingness and commitment by relevant agencies and NGOs to work together over the next 3-5 years. She gave an outline of what spatially Marine Managed Areas and Fisheries OECMs represented and concluded with a list of activities planned in the first year of the project.

2.2. History and background of MPA in Bangladesh

A presentation on the IUCN Bangladesh Marine programme was made by A B M Sarowar Alam Programme Manager, Species and Habitat, IUCN Bangladesh. He explained that IUCN Bangladesh has provided technical support to DoF for declaring the Nijhum Dwip MPA in 2019 and assisted the DoF in formulating the Nijhum Dwip Marine Protected Area Management Plan in collaboration with WCS and developed co-management systems and committees in the Nijhum Dwip areas. He spoke about the 'SEA Success' project led by IUCN HQ and funded by UNDP in collaboration with OCTO aiming to address tailored advisory services to address many of the challenges MPAs face worldwide. In Bangladesh, the conservation of coral reefs and turtles in St Martin's have been identified as priority topics for knowledge exchange. IUCN was also providing support for updating biodiversity data of SoNG MPA for knowledge-based decision making. He said that IUCN's green list initiatives in Bangladesh included Nijhum Dwip MPA and Saint Martin's Marine Protected Area and added that the Forest Department had shown interest in the green listing of the Sundarbans. He also said that since 2012, the Bangladesh bird club was being supported to conduct water bird census in coastal areas.

2.3. EAFM Approach - Overview

Explaining the EAFM approach, Dr. E. Vivekanandan described fisheries management as an integrated process aiming to improve the benefits society receives from harvesting fish. He discussed various threats to fisheries, including fishery-related factors such as overfishing, destructive fishing, illegal, unreported, and unregulated (IUU) fishing, and ghost fishing, as well as non-fishery factors like pollution, habitat destruction, and climate change. He defined the ecosystem approach as a strategy for the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way.

This approach is often used interchangeably with ecosystem-based management (EBM) and is essential for implementing sustainable development. Dr. Vivekanandan outlined the seven principles of the Ecosystem Approach to Fisheries Management and described the five-step process. He emphasized that co-management is a central part of EAFM, highlighting the importance of increased stakeholder participation for its success. Summarizing, he noted that EAFM is an iterative process, where lessons learned help to adapt and improve the approach over time. He pointed out that many fisheries already implement aspects of EAFM and that moving towards a full EAFM implementation involves many small, incremental steps rather than drastic changes.

After the presentations, the participants were divided into two groups, one for short-listing Fishery Management Units (FMUs) for planning and implementing EAFM, and another for Marine Managed Area.

3. Prioritization of Provisional FMUs and Selection of new FMUs for EAFM Planning and Implementation

Dr Vivekanandan made a presentation to the EAFM group on the provisional 3 sites identified in BOBLME Phase 2 project document.

Three sites suggested for EAFM in the BOBLME project document are:

1. Nijhum Dwip in Noakhali District, focusing on the conservation and management of marine habitats and resources;
2. Swatch of No Ground (SoNG), including the management of Hilsa shad and endangered, threatened, and protected (ETP) species; and
3. St. Martin Island in Cox's Bazar, involving the management of Hilsa shad and lobster fisheries.

He suggested the participants to discuss about the provisional sites identified in the Project Document and make changes, if they find it necessary. For selecting the FMUs, a process was followed in the Workshop (Table 2).

Table 2. Process of EAFM Site Selection followed in the Workshop

Activity	Description
Criteria Presentation	Presentation of criteria for selecting EAFM sites (FMUs), focusing on ecological, socio-economic, and feasibility factors.
Group Exercise: Site Selection	Breakout groups applied the criteria and identified potential EAFM sites including three sites identified earlier during project preparation phase.
Presentation of Group Reports	Groups presented their findings and discussed potential sites with all participants.
Finalizing Potential Sites	Consolidation and finalization of the list of potential EAFM sites based on group feedback.
Identifying Issues and Threats	Groups identified and prioritized issues and threats at the selected FMUs.
Identifying and Prioritizing stakeholders	Groups identified and prioritized the stakeholders in the selected FMUs.
Assessing capacity development needs	Groups identified the capacity development needs for implementing EAFM.

For the selection of FMUs, the criteria to be followed and weightage for each criterion for selecting the FMUs were presented by Dr Vivekanandan. The criteria, explanation for applying the criteria for selecting the FMUs and weightage for each criterion are given in Table 3 (the criteria and weightage were finalised earlier by the BOBP-IGO's BOBLME Project Team by consulting a group of EAFM experts).

Table 3. Criteria for selecting Fishery Management Units

#	Criteria	Weightage	Explanation for application
1	Stakeholder participation	0.374	FMU where stakeholders are highly receptive and willing to participate to improve management measures may be prioritized. For e.g., in FMUs where a formal or informal co-management arrangement already exists, the implementation would be smoother and successful.

#	Criteria	Weightage	Explanation for application
2	Government participation	0.312	FMU with high levels of government interest and investment and will be acceptable to the governments for implementing EAFM will have priority.
3	Technical & Institutional Capacity	0.180	FMU where institutions are already working and have good knowledge and capacity to provide an impetus to the entire process, will have priority.
4	Scale	0.064	FMU have to be prioritized based on the potential of the project to implement within practical scales and boundaries.
5	Issues in the FMU	0.044	Potential of the project to find and implement solutions to the issues considering the limited human and monetary resources and time availability, need to be considered.
6	Information/Data Availability	0.026	FMU having enough data/information are in an advantageous position to begin action. They will have priority over others.

Following the presentation, the EAFM group was further divided into two sub-groups of about 10 participants in each sub-group. After intense discussion for two hours, the sub-groups selected the following four sites:

- **Nijhum Dwip**
- **Hilsa fishery in St. Martin Island**
- **Estuarine Set-bag net fishery in Central Coastal Bangladesh**
- **Set-bag net fishery in Sonadia and Moheshkali Channel**

3.1. Prioritizing the Selected FMUs

After selecting the FMUs, the selected sites were subjected to prioritization by the groups by following the 6 criteria and assigning weight to each criterion as guided by Dr P Krishnan. For prioritization, Swatch of No-Ground, which was proposed in BOBLME Project Document, was also included. The result from the breakout group discussion is given in Table 4.

Table 4: Results of the evaluation of FMUs against the criteria

Selection Criteria/Potential FMU	Nijhum Dwip	SoNG	St. Martin	Estuarine Set-bag net Fishery in Central Coastal Bangladesh	Sonadia-Moheshkhali
Stakeholder participation	7.5	3	5	7.5	7
Government participation	7.5	2	7	7.5	6.5
Technical and Institutional capacity	6.5	2	5	5.5	6
Scale of the FMU	5.5	2	6.5	6.5	5.5
Issues and threats in the FMU	5	1.5	5	4.5	5

Information and data availability on the FMU	6	4	7.5	4.5	4.5
Total Score	**7.043**	**2.404**	**5.785**	**6.866**	**6.415**

The EAFM sub-group prioritized Nijhum Dwip and Estuarine Set-bagnet Fishery in Central Coastal Bangladesh (including Barguna) while the other two sites (Sonadia-Moheshkhali Channel and St. Martin Island) were suggested by the group for further consideration of the Government. Discussions during the workshop highlighted various challenges and considerations for effective management, including governance issues, logistics constraints, and the need for community involvement. Concerns were raised regarding pollution, governance, and effective management, with suggestions for improvement including regular monitoring and stronger enforcement of regulations and the application of fisheries co-benefits.

3.2. Description of Prioritized FMUs

The participants discussed in groups and prepared brief characteristics of the shortlisted sites. The outcome of the group discussions and presentations are summarized hereunder.

3.2.1 Nijhum Dwip

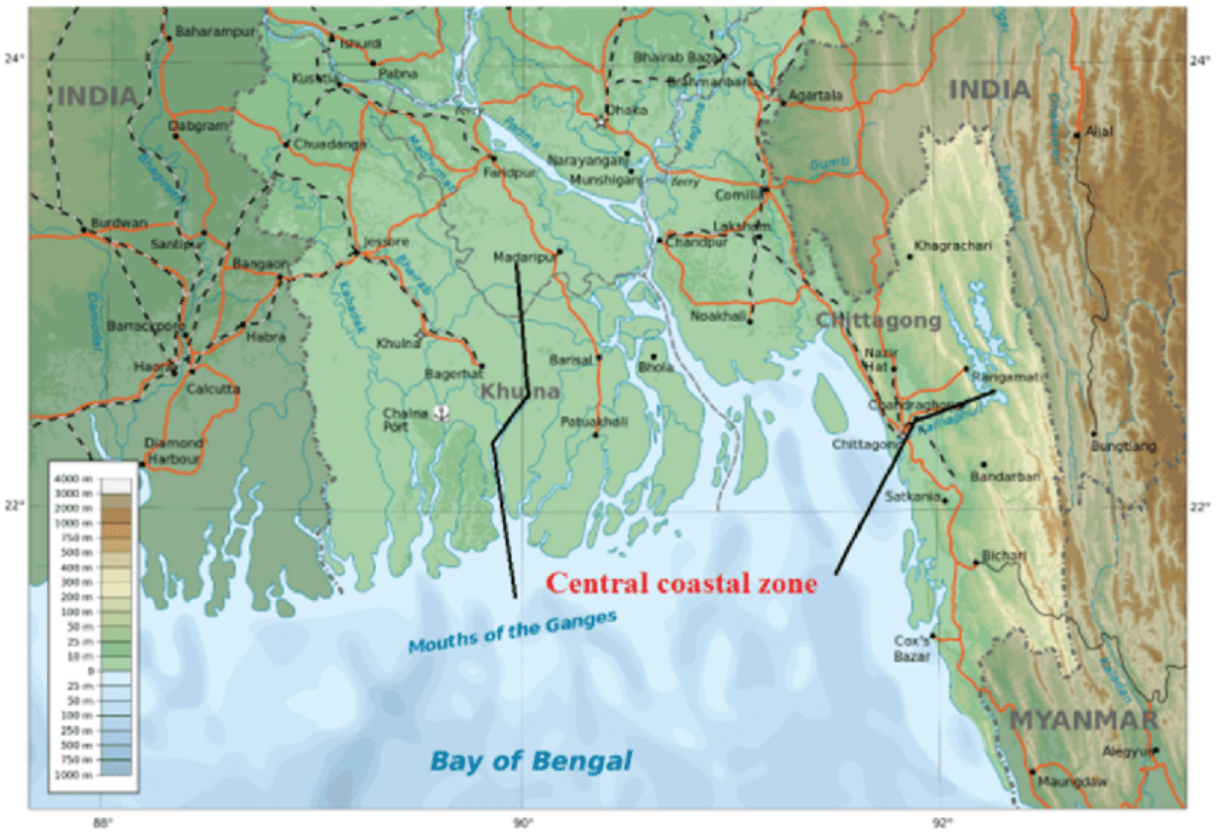
Nijhum Dwip is a cluster of islands in the shallow estuary of the Bay of Bengal on the south of Noakhali, a part of Sundarbans Delta. In 1974 the Forest Department took an afforestation program for a duration of twenty years in the north side of the island. Covering an area of nine thousand acres, it has now developed into a deep forest with a variety of plant species. In 2001, the government declared the 16,345 ha of forest of Jahajmara range including 3,865 ha of forest land on Nijhum Dwip as a National Park for the protection and development of the biodiversity of the forest. During winter, thousands of migratory birds flock into island. The fishermen use the airy and sunny land as an ideal place for drying their catches from the sea. In 2001, the government of Bangladesh declared the forest area as Nijhum Dwip National Park on the banks of the river Meghna. A big leap in marine conservation occurred last week when Government of Bangladesh announced the declaration of the Nijhum Dwip Marine Protected Area (MPA) in the northern Bay of Bengal to safeguard critical spawning grounds for the country's most valuable fish species – the Hilsa shad. Waters around Nijhum Dwip are a biodiversity 'hotspot' supporting an astonishing variety of iconic marine wildlife including dolphins, porpoises, sharks, rays, and marine turtles.

Map 1. Nijhum Dwip
(Source: https://www.sadharongyan.com/2016/03/nijhum-dwip/)

The new MPA will protect at least 15 species of globally threatened or near-threatened marine wildlife species, and as many as 30 additional species suspected to occur in these waters. Marine wildlife supported by the MPA include globally threatened Irrawaddy and humpback dolphins, finless porpoises, olive ridley turtles, scalloped hammerhead sharks and at least six species of rays including the endangered giant freshwater whipray. Intertidal mudflats shared by the MPA and Nijhum Dwip National Park are priority migratory feeding habitat for threatened shorebirds including the critically endangered spoon-billed sandpiper. The Nijhum Dwip MPA is envisioned as a multiple-use MPA with distinct management zones ranging from strict reserves to community-based management areas. A participatory planning process, involving local community members, government agencies, and NGOs, will produce a marine spatial plan that optimizes biodiversity protection with healthy fisheries.

3.2.2 Estuarine Set-bag net fishery in Central Coastal Bangladesh

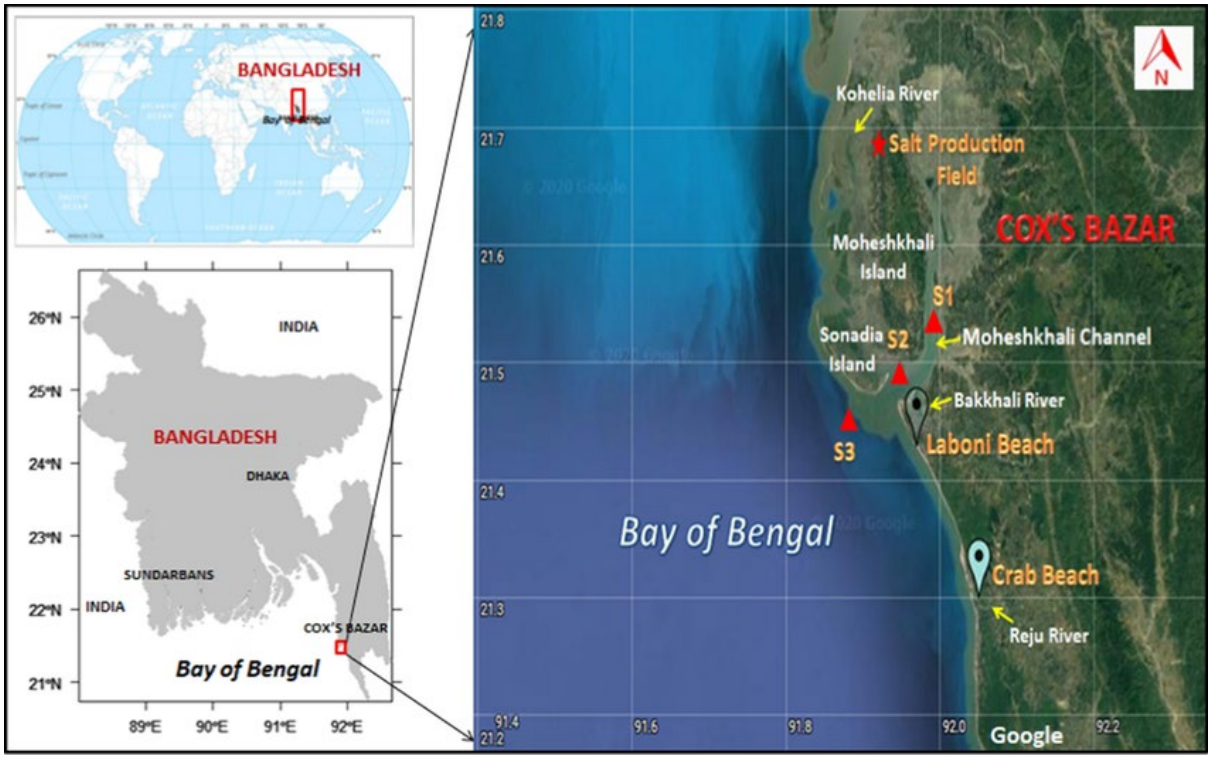
Estuarine Set Bag Net (ESBN) is very popular gear in the coastal fishing community of Bangladesh. A large variety of finfishes including Hilsa, crustaceans and cephalopods are caught by the gear. Overexploitation of resources is reported. Combined impact of overexploitation with the destructive fishing of the ESBN fishery, the shrimp post-larvae fishery, shrimp trawl fishery, and juveniles of many finfishes have been reported to have greatly destabilized the coastal fisheries resources. However, reliable estimates as to the exact size of stocks are not available. It has been suggested that set bag net fishery should be regulated with co-management approach to allowable limit with strong monitoring system for the protection and conservation of fish species.



Map 2. Central Coastal Zone of Bangladesh
(Source: Rahman, Ataur & Alvee, Faisal Mohammad. (2015). Vulnerability Analysis of Central Coastal Zone of Bangladesh.)

3.2.3 Set-bag net fishery in Sonadia and Moheshkali Channel

Sonadia Island is a geologically important crescent-shaped island off the Cox's Bazar coast, and on the east is the Moheshkhali Channel estuary. Like the ESBN fishery in the Central Bangladesh, set bag net fishery in very popular here. A large variety of finfishes including Hilsa, crustaceans and cephalopods is caught by the gear. Overexploitation of resources is reported. Combined impact of overexploitation with the destructive fishing of the ESBN fishery, the shrimp post-larvae fishery, shrimp trawl fishery, and juveniles of many finfishes have been reported to have greatly destabilized the coastal fisheries resources. The area is breeding ground for seabass. The ecosystem is rich with mangroves and coral reef. Olive ridley and green turtles have been observed to nest on Sonadia Island. Sonadia is seen as a potential deepwater port for economic development. Several related economic development activities are being planned for the area by the government.



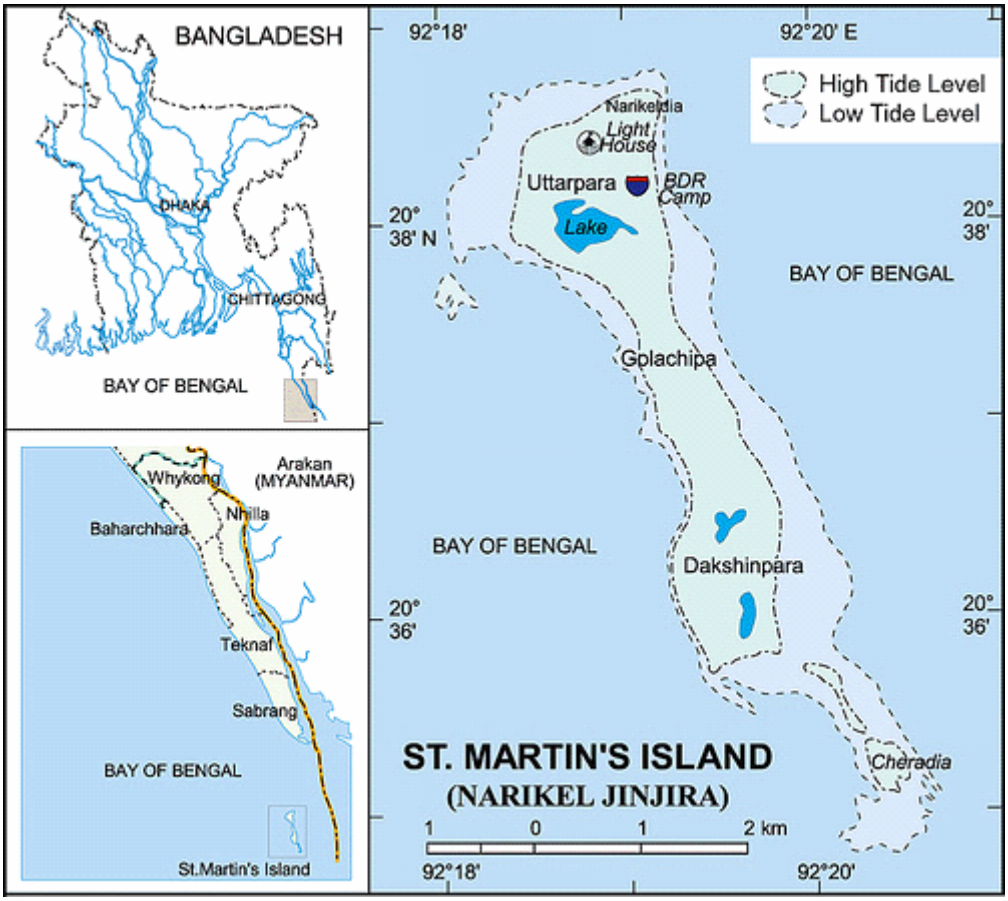
Map 3. Sonadia and Moheshkhali

(Source: Fatema, Kaniz & Sumon, Kizar & Mahjabin, Sumaya & Alam, Md & Hasan, Shanur & Uddin, Md. Helal & Arakawa, Hisayuki & Rashid, Professor Harunur. (2023). Microplastics and mesoplastics in surface water, beach sediment, and crude salt from the northern Bay of Bengal, Bangladesh coast. Journal of Sedimentary Environments. 8. 1-16. 10.1007/s43217-023-00131-z.)

3.2.4 Hilsa fishery in St. Martin Island

The island has several ecosystems, including coral-rich areas, mangroves, lagoons and stony areas. The island is a haven to various species of fauna. The distinctive intertidal and sub-tidal habitats surrounding this island supports diverse types of marine living resources such as 153 species of sea weeds, 66 species of coral, 187 species of oysters, 240 species of fish, 120 species of birds, 29 species of reptiles and 29 species of mammals were recorded at the St Martin Island in 2010. St Martin Island is the only coral-bearing island in Bangladesh, and it is situated close to one of the major marine fishing grounds. The area in vicinity has been declared as a Marine Protected Area in 2022.

Fishing is one of largest professional activities of St. Martin Island's 5,500 residents. There are two main types of fishing operations around the St. Martin Island: Small-scale and Large-scale fisheries. The former operates within the 40m of depth and the latter above 40m of depth. Conflicts among the two sectors is often reported and it adds additional pressure on the resource. Saint Martin Island has become a major tourist spot. Tourism generated deterioration of surrounding aquatic ecosystem and use of destructive fishing practices is causing decreasing fishery yields in recent times. Establishment of a Marine Protected Area and its proper management, strict regulation of tourism, elimination of destructive fishing practices, and restoration of lagoon and intertidal fish habitats can protect the fisheries resources as well as rich biodiversity of the only coral bearing island in Bangladesh. The government of Bangladesh declared the island as an Ecologically Critical Area (ECA) in 1999 to address the degradation of biodiversity driven by high demographic pressure, tourism activities, and infrastructure construction.



Map 4. St. Martin Island

(Source: Siddiqui, Md. Saiful & Ahasan, A & Islam, N & Kundu, Preyangkar & Munshi, MN & Chowdhury, Emdadul Haque. (2016). Peste des Petits Ruminants (PPR) virus antibodies in goats and cattle of the Saint Martin's Island in Bangladesh. Bangladesh Veterinarian. 31. 55. 10.3329/bvet.v31i2.27685.)

3.3. Issues, Threats and Stakeholders Mapping for Prioritized FMUs

On the second day, the session was followed by group exercises to identify and prioritize issues, threats, and stakeholders for the selected FMUs. The session continued with assessing capacity development needs, concluding with group report presentations.

i. Identifying Issues and Opportunities.
ii. Identifying stakeholders; and
iii. Assessing Capacity Development Needs and Training.

This scoping exercise helped expose participants to the future development and implementation of EAFM. A detailed scoping document will be prepared later for each finalized FMUs by the Project team. Highlights of the discussion were as follows:

i. Each sub-group discussed the issues prevailing in the EAFM Units and identified the opportunities. The groups were given guidance to classify the issues into three components of EAFM, namely, ecosystem well-being, human well-being, and good governance. The groups were provided with charts, papers and cards to document their discussions.

ii. To identify the stakeholders, each group continued to work on the same EAFM Unit for which it identified the issues and opportunities. The participants used a 2x2 matrix. In the matrix,

each group plotted (i) how important the stakeholder is to the EAFM process (Y axis) and (ii) how much influence (power) they have over the EAFM process (X axis).

iii. As developing the capacity of different levels of stakeholders is an essential component of the EAFM process, the participants were guided to assess the capacity needs for planning and implementing EAFM. A matrix was adopted for the exercise, with three levels of capacity needed for four levels of stakeholders. Each sub-group discussed and provided opinion on the level of capacity of the stakeholders.

Following this, presentations were made by a team member of each group; the output tables from the discussion are given below.

3.3.1 Nijhum Dwip

The group discussions for Nijhum Dwip identified key issues and opportunities across ecosystem well-being, human well-being, and good governance (Table 5). Major concerns included overfishing, illegal gear use, habitat loss, pollution, financial crises among fishers, conflicts with other sectors, the influence of middlemen, and weak resource management. Opportunities highlighted included implementing boat registration, law enforcement, awareness-building, providing loans, and enhancing departmental manpower and co-management strategies. The stakeholder importance and influence matrix revealed high-priority stakeholders such as the Department of Fisheries, fishermen, and boat owners (Figure 1). The assessment of stakeholder capacities indicated a need for improved knowledge use, decision-making, and implementation practices, especially among NGOs (Table 6). These insights underscore the necessity for targeted interventions and robust stakeholder engagement to effectively manage and conserve the marine resources in Nijhum Dwip.

Table 5: Identification of Issues and Opportunities for Nijhum Dwip

EAFM components	Issues	Opportunities
Ecosystem well-being	Overfishing	Boat registration, licensing, Awareness building, training
	Use of illegal gear	Law enforcement for preventing use of illegal nets
	Habitat loss - siltation	Dredging
	Pollution- Plastic, oil spill, water quality	Law enforcement, implementation of measures, awareness building
Human well-being	Financial crisis of fishers	Loan from banks
	Conflict with other sectors – Environment, Tourism	Coordination between departments
Good governance	Influence of middlemen	Law enforcement, awareness building, community development
	Weak resource management	Increasing the manpower in the department; co-management

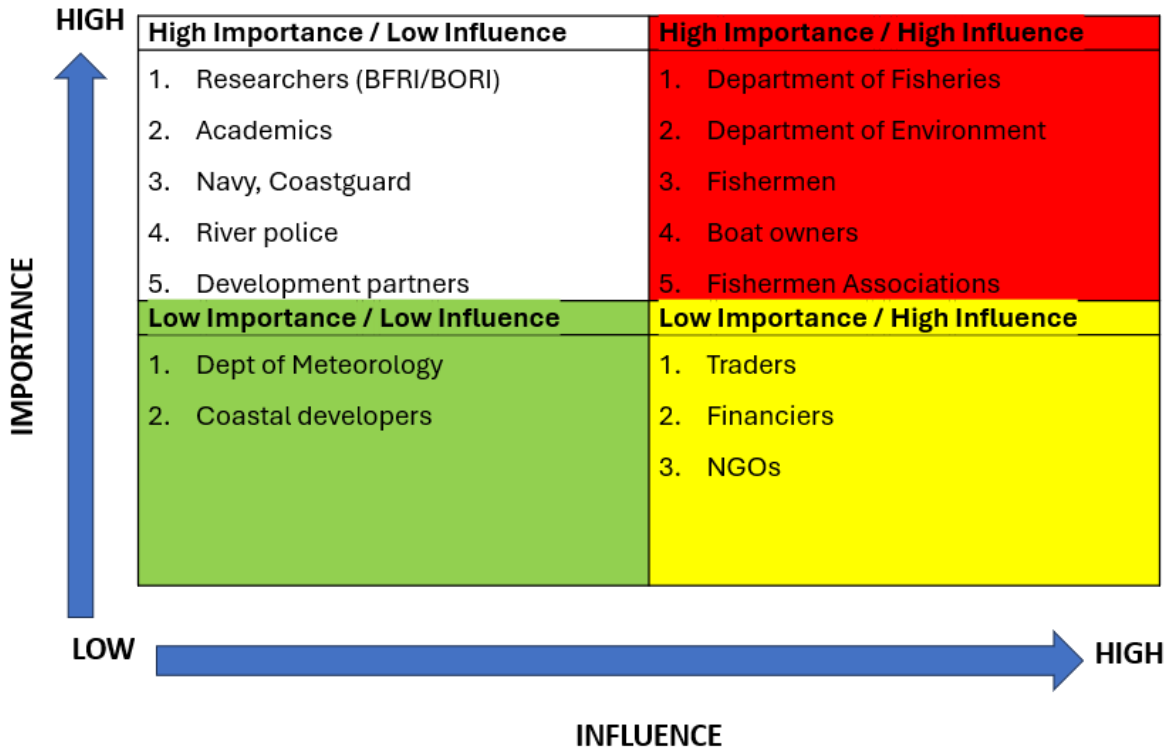


Figure 1: Stakeholder Importance and Influence matrix for Nijhum Dwip

Table 6: Stakeholder capacity level for Nijhum Dwip

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
Knowledge				
• *Knowledge base*	Medium	Medium	Poor	Medium
• *Use of knowledge*	Poor	Poor	Poor	Medium
• *Access to knowledge*	High	High	High	High
Decision-making				
• *Evidence-based?*	Poor	Medium	Poor	Poor
• *Involvement of stakeholders*	Poor	Medium	Poor	Medium
• *Uptake of advice*	Poor	Poor	Poor	Medium
• *Transparency*	High	Medium	Medium	Medium
Implementation				
• *Attitude*	Medium	Medium	Poor	Medium
• *Cooperation*	Medium	Medium	Medium	Medium
• *Communication*	Medium	Medium	Poor	Medium

3.3.2 Estuarine Set-bag net fishery in Central Coastal Bangladesh

The group discussions for the estuarine set-bag net fishery in central coastal Bangladesh identified various issues and opportunities across ecosystem well-being, human well-being, and good governance. Key issues included indiscriminate fishing, non-selective gear with fine mesh, loss of biodiversity, and disturbance of benthic fauna (Table 7). Opportunities to address these included regulated fishing practices, increasing mesh size, protecting the area, and converting to eco-friendly gear.

In terms of human well-being, the set-bag net fishery obstructs navigation for other fishing boats and merchant vessels, and affects the income and livelihoods of other fishing communities. Solutions proposed included alternative income generation activities, implementation of safety measures at sea, training, and awareness building. Governance issues highlighted inadequate compliance and enforcement, lack of effective co-management, infrastructure deficiencies, and open access to fishing. Addressing these requires the implementation of existing rules and policies, strengthening co-management, improving monitoring, control, and surveillance (MCS), and adopting data-driven, science-based decision making.

The stakeholder importance and influence matrix showed that the Department of Fisheries, Department of Environment, fishermen, boat owners, and fishermen associations hold high importance and influence (Figure 2). In contrast, researchers, academics, navy, coastguard, river police, and development partners are high in importance but low in influence. Traders, financiers, and NGOs were identified as having low importance but high influence. Stakeholder capacity assessment indicated that mid-level managers, research institutions, and NGOs generally have high knowledge bases, while decision-making practices such as evidence-based approaches and stakeholder involvement need improvement (Table 8). Implementation capabilities, including attitude, cooperation, and communication, were generally rated medium to high.

Table 7: Identification of Issues and Opportunities for the estuarine set-bagnet fishery in central coastal Bangladesh:

EAFM components	Issues	Opportunities
Ecosystem well-being	Indiscriminate Fishing	Regulated fishing
	Non-selective gear with fine mesh	Increase mesh size
	Loss of biodiversity	Protect the area
	Disturbance of benthic fauna	Conversion to eco-friendly gear
Human well-being	Set bagnet fishery obstructs navigation of other fishing boats and merchant vessels	Alternate Income Generation Activities Programme; Implementation of safety of life at sea.
	Affects income and livelihood of other fishing communities	Training, Awareness building
Good governance	Inadequate compliance and enforcement	Implementation of existing rules, laws, policies
	Lack of effective co-management	Strengthening co-management; coordination among villages
	Lack if infrastructure	Improved MCS
	Open access to fishing	Data-driven, science-based decision making

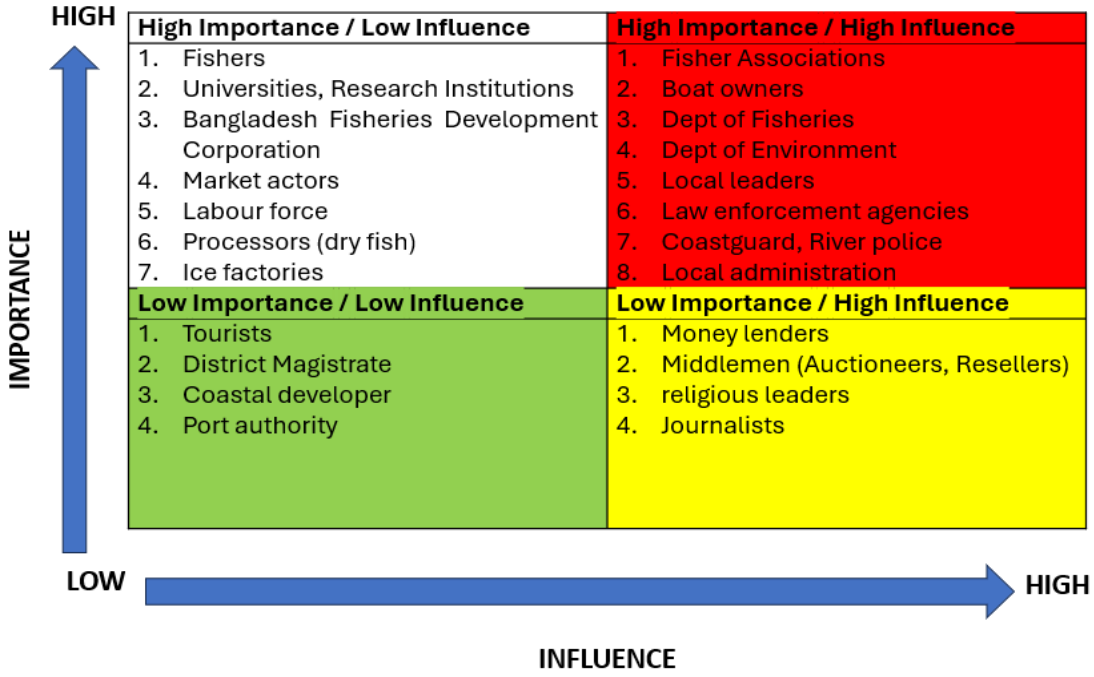


Figure 2: Stakeholder Importance and Influence matrix for the estuarine set-bagnet fishery in central coastal Bangladesh

Table 8: Stakeholder capacity level for the estuarine set-bagnet fishery in central coastal Bangladesh

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
Knowledge				
• *Knowledge base*	High	High	High	Medium
• *Use of knowledge*	Medium	Poor	Medium	Medium
• *Access to knowledge*	Medium	High	Medium	High
Decision-making				
• *Evidence-based?*	Poor	Poor	Medium	Medium
• *Involvement of stakeholders*	High	Poor	High	Poor
• *Uptake of advice*	Medium	Medium	Medium	Medium
• *Transparency*	Medium	Medium	Medium	Medium
Implementation				

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
• *Attitude*	High	Medium	Medium	High
• *Cooperation*	High	Medium	Medium	Medium
• *Communication*	Medium	High	High	Medium

3.3.3 Set-bag net fishery in Sonadia & Moheshkali Channel

The group discussions for the set-bag net fishery in Sonadia and Moheshkali Channel identified several critical issues and opportunities across ecosystem well-being, human well-being, and good governance. Key issues included the destruction of larvae and juveniles, reduction in Hilsa and shrimp populations, and pollution from nearby towns and fishing vessels, as well as tannery and industrial effluents (Table 9). Opportunities to address these issues included protecting juvenile fish, particularly seabass, implementing a Hilsa management plan, and enforcing pollution control laws.

For human well-being, the main concerns were conflicts among stakeholders, urbanization, loss of income, and the reducing quality of fish products. Proposed solutions included awareness building, conflict resolution, strengthening Integrated Coastal Zone Management (ICZM) to remove illegal settlements, providing better alternative livelihood support, and promoting hygienic practices.

In terms of governance, issues such as lack of law enforcement, inadequate government support, and poor coordination were highlighted. Addressing these would require strengthening law enforcement manpower, improving infrastructure, and developing better coordination within and across sectors.

The stakeholder importance and influence matrix revealed that fisher associations, boat owners, the Department of Fisheries, the Department of Environment, local leaders, law enforcement agencies, coastguard, and local administration hold high importance and influence (Figure 3). In contrast, fishers, universities, research institutions, and the Bangladesh Fisheries Development Corporation are high in importance but low in influence. Money lenders, middlemen, religious leaders, and journalists were identified as having low importance but high influence.

Stakeholder capacity assessment indicated that mid-level managers and research institutions generally have medium to high knowledge bases, while NGOs and senior leaders need improvement in knowledge use and decision-making practices. Implementation capabilities, including attitude, cooperation, and communication, varied, highlighting the need for targeted capacity-building efforts (Table 10).

Table 9: Identification of Issues and Opportunities for set-bagnet fishery in Sonadia & Moheshkali Channel

EAFM components	Issues	Opportunities
	Destruction of larvae/juveniles	Protect juveniles, particularly that of seabass
	Reducing Hilsa and shrimps	Implement Hilsa management plan

EAFM components	Issues	Opportunities
Ecosystem well-being	Pollution from nearby towns & fishing vessels	Law enforcement for pollution control
	Tannery & industrial effluents	Law enforcement for pollution control
Human well-being	Conflicts within stakeholders	Awareness building and conflict resolution
	Urbanization	Strengthening of ICZM; remove illegal settlements
	Loss of income	Better alternate livelihood support
	Reducing quality of fish products	Follow hygienic practices
Good governance	Lack of law enforcement	Strengthening of manpower for law enforcement
	Inadequate support from government	Infrastructure to be strengthened
	Lack of coordination	Develop coordination within and with other sectors

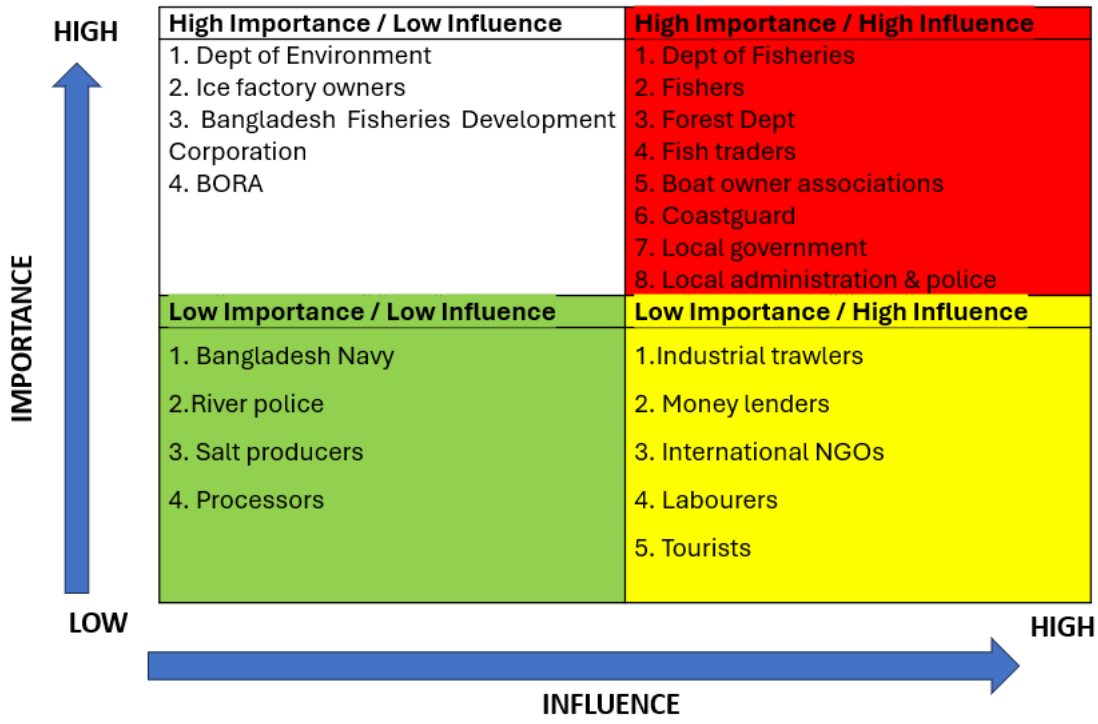


Figure 3. Stakeholder Importance and Influence matrix for Set-bagnet fishery in Sonadia & Moheshkali Channel

Table 10: Stakeholder capacity level for Set-bagnet fishery in Sonadia & Moheshkali Channel

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
Knowledge				

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
• *Knowledge base*	Medium	Medium	Poor	Poor
• *Use of knowledge*	Medium	Medium	Medium	Poor
• *Access to knowledge*	High	High	High	High
Decision-making				
• *Evidence-based?*	Medium	Medium	Poor	High
• *Involvement of stakeholders*	High	High	High	High
• *Uptake of advice*	Medium	Medium	Medium	Medium
• *Transparency*	Medium	Medium	Medium	Medium
Implementation				
• *Attitude*	High	High	Medium	High
• *Cooperation*	Medium	Medium	Medium	Medium
• *Communication*	Medium	Poor	High	Poor

3.3.4 Hilsa fishery in St. Martin Island

The group discussions for the Hilsa fishery in St. Martin Island identified several critical issues and opportunities across ecosystem well-being, human well-being, and good governance. Key issues included the use of illegal fishing gear (such as current nets), ghost fishing, overfishing, violations of fishing laws, uncontrolled tourism activities disturbing coral reefs, pollution, habitat loss, and post-harvest losses (Table 11). Opportunities to address these issues included promoting the use of appropriate fishing gear, strengthening the implementation of fisheries laws, promoting eco-friendly tourism, improving ecosystem and coral reef conservation, and ensuring hygienic fish landing, processing, and marketing. For human well-being, major concerns included reduced fishing profits, gender inequality, lack of alternative livelihoods, poor literacy, and conflicts between artisanal and industrial fishers. Proposed solutions included supporting alternative livelihoods, empowering women through awareness programs, supporting income-generating activities, improving education and social facilities, and resolving conflicts through law enforcement. Governance issues highlighted transboundary challenges, lack of coordination between departments, weak management, IUU fishing, and insufficient infrastructure. Addressing these issues requires better control of human trafficking and smuggling, strengthening cooperation and coordination between ministries and departments, improving the implementation of fisheries laws, and enhancing infrastructure facilities.

The stakeholder importance and influence matrix showed that the Navy and Coastguard, Department of Fisheries, local government, NGOs, fishing community, local politicians, fish processors, and local

lenders hold high importance and influence (Figure 4). In contrast, the meteorological department, environment department, shipping department, police, research institutions, and the Department of Disaster Management are high in importance but low in influence. The Department of Tourism, journalists, environmental activists, and religious leaders were identified as having low importance but high influence. Stakeholder capacity assessment indicated that mid-level managers and research institutions generally have high knowledge bases, while NGOs and senior leaders need improvement in knowledge use and decision-making practices (Table 12). Implementation capabilities, including attitude, cooperation, and communication, varied, highlighting the need for targeted capacity-building efforts.

Table 11: Identification of Issues and Opportunities for Hilsa fishery in St. Martin Island

EAFM components	Issues	Opportunities
Ecosystem well-being	Use of illegal fishing gear (current net), ghost fishing	Use of appropriate fishing gear
	Overfishing & violation of fishing laws	Strengthening implementation of fisheries laws
	Uncontrolled tourism activity and disturbance to coral reefs	Promote ecofriendly tourism & other economic activities
	Pollution and habitat loss	Improved ecosystem and conservation of coral reef & habitat
	Post-harvest loss	Hygienic fish landing, processing, marketing
Human well-being	Fishing profit reduction	Support alternate livelihoods
	Gender inequality	Women empowerment by awareness
	No alternate livelihood	Support income generating activities
	Poor literacy	Improved education and providing social facilities
	Conflict between artisanal and industrial fishers	Conflict resolution by implementing law.
Good governance	Transboundary issues	Better control of human trafficking smuggling
	Lack of coordination between departments	Strengthening cooperation and coordination between ministries & departments
	Weak management	Improved implementation of fisheries law
	IUU fishing	Improved implementation of fisheries law
	Insufficient infrastructure	Improved infrastructure facilities

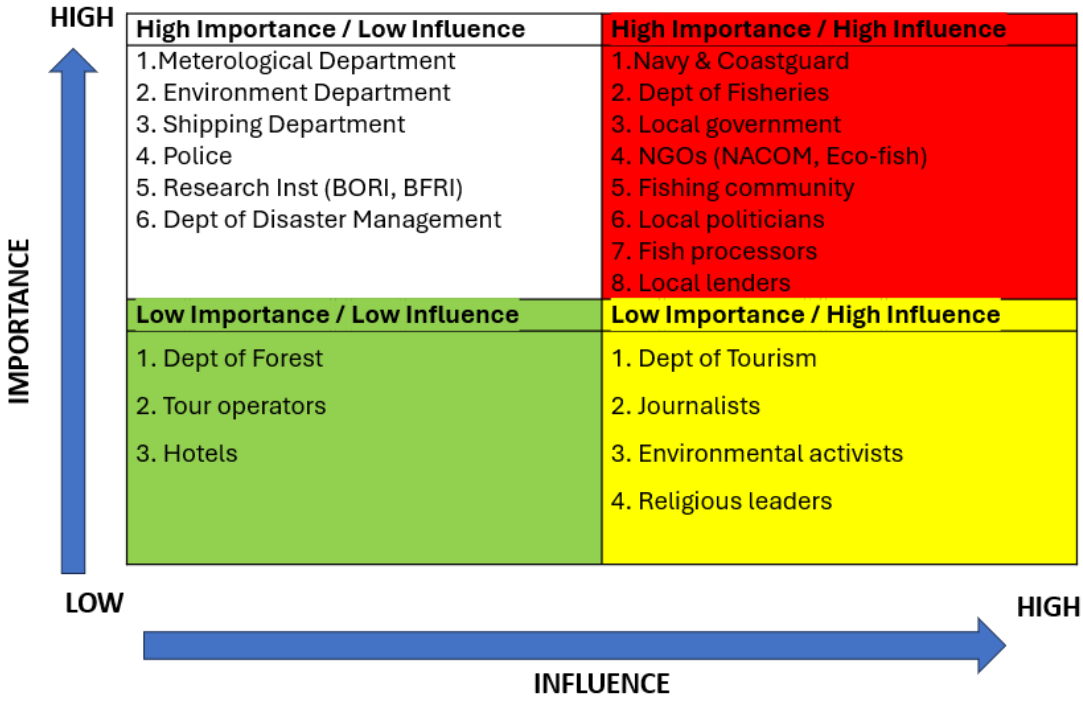


Figure 4: Stakeholder Importance and Influence Matrix for Hilsa fishery in St. Martin Island

Table 12: Stakeholder Capacity levels for Hilsa fishery in St. Martin Island

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
Knowledge				
• *Knowledge base*	Medium	High	Medium	Medium
• *Use of knowledge*	High	Medium	Medium	Medium
• *Access to knowledge*	Poor	High	Medium	High
Decision-making				
• *Evidence-based?*	High	High	Medium	Poor
• *Involvement of stakeholders*	High	Poor	High	Medium
• *Uptake of advice*	High	Poor	Medium	Poor
• *Transparency*	Medium	Medium	Medium	Poor
Implementation				
• *Attitude*	Medium	Medium	Medium	Medium

Capacity	Mid-level Managers	Research Institutions/ Academia	Non-government Organisations	Senior leaders, Executives, Decision makers
• *Cooperation*	Medium	Poor	Medium	Medium
• *Communication*	Medium	Poor	High	Poor

4. MMA Sites in Bangladesh

The approach to selecting the MMA sites was outlined by Ms Maeve Nightingale, leading to a session on criteria for selecting sites for MMA, which included group exercises and presentations. On the second day, the session was followed by group exercises to identify and prioritize issues, threats, and stakeholders. The session continued with assessing capacity development needs and identifying institutions and individuals for the constitution of working groups, concluding with group report presentations.

4.1. Criteria for MMA Group Discussions

Ms Maeve Nightingale explained the criteria for MMA to the group before they began the discussions.

4.2. Group Discussions

The MMA group, consisting of key stakeholders and experts, highlighted Bangladesh's significant efforts and challenges in marine conservation. MMAs play a crucial role in protecting marine biodiversity and supporting sustainable fisheries. However, several challenges and opportunities were identified during the discussions.

Key Challenges Identified:

1. **Political challenges:** MMAs face mid-high political challenges, requiring robust community-based management and inter-agency cooperation.
2. **Infrastructure and capacity:** Limited infrastructure and monitoring capacity pose challenges to effective management and enforcement within MMAs.
3. **Community engagement:** Local fishers and communities need support and empowerment to participate effectively in MMA management and conservation efforts.
4. **Environmental Threats:** Challenges include overfishing, illegal fishing, marine plastic pollution, and habitat changes, necessitating coordinated stakeholder participation and management strategies.
5. **Governance and Coordination:** Strengthening governance structures and enhancing inter-agency coordination are crucial for successful MMA management.

Discussion on Focus Areas: Discussions during the meeting emphasized strategic priorities and actions for advancing MMA management in Bangladesh under the BOBLME project:

- **National pilot opportunities:** evaluating MMAs as potential national marine protected areas (MPAs) and learning sites.
- **Governance and management plans:** assessing existing governance arrangements and the development of comprehensive management plans for effective MMA management.
- **Fisheries co-benefits:** exploring opportunities to enhance fisheries management co-benefits through MMA initiatives.
- **Commitment and resources:** assessing stakeholder commitment and availability of human and financial resources for sustained MMA management over the next 3-5 years.

Table 13 is a summary of the discussion on the three MMA sites.

Table 13: MMA Sites

MMA Sites	Nijhum Dwip (ND)	Saint Martin Island (S.M)	Swatch of No Ground (SoNG)
Overview	Logistics challenges specific to MPAs. Initial phase lacks cross-dams; relocation of fisheries communities expected in Noakhali area. Improved transportation post cross-dam installation.	Scored 3 for governance, emphasizing community-based management and multisectoral involvement. Pollution challenges from tourism. Coral reefs threatened by anchoring.	Focus on cetaceans and unique ecosystems. Pollution concerns from GBM systems. WCS proposes color-coded spawning areas; monitoring challenges exist. Recognized as an important green mammal area by IWC.
Location	10-15km south, shallow depth (3m); potential impact on Hilsa zones due to segmentation.	Legal perspective: BFD under MOEFCC management from May 2023. Depth definition pending. Proposed restoration program for MPA declaration and diving areas.	Unique ecosystem with emphasis on cetaceans. Major pollution concerns; efforts to establish monitored spawning areas. Recognized by IWC as significant for marine mammals.
Challenges	Communication and transportation issues persist. Regular yearly monitoring proposed.	Significant marine pollution from tourism and infrastructure. Coral reefs at risk due to tourism-related activities.	Monitoring challenges due to remote location and environmental threats. Endangered species presence. WCS color-coding for spawning areas proposed.
Management Focus	Regular monitoring proposed for effective management.	Restoration programs for MPA declaration and diving areas.	Emphasis on cetaceans and unique ecosystem management. Proposed WCS color-coded spawning areas.
Governance Score (1-5*) ***5: being good**	3 (medium governance). Community-based management and multisectoral involvement highlighted.	3 (medium governance). Challenges include political complexities and infrastructure limitations.	3/4 (medium-high governance). Challenges include monitoring, endangered species, and pollution. Recognized by IWC for significance in marine mammal conservation.
Conservation Outcomes	Effective conservation outcomes linked to	Political structure challenges noted;	Important green mammal area

MMA Sites	Nijhum Dwip (ND)	Saint Martin Island (S.M)	Swatch of No Ground (SoNG)
	regular monitoring and community engagement.	conservation efforts ongoing with policy integration.	recognized by IWC; conservation efforts critical due to unique ecosystem.

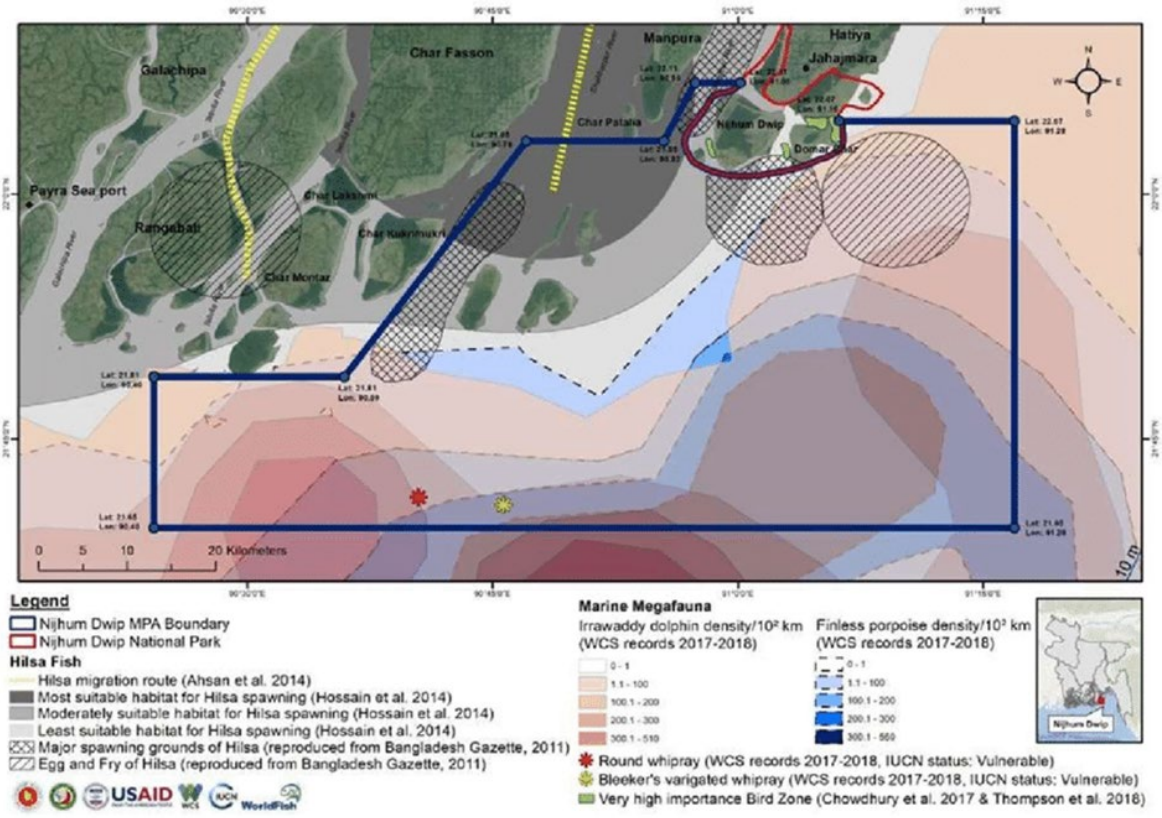
Conclusion: Bangladesh's MPA/MMAs, including Nijhum Dwip, Saint Martin Island, and Swatch of No Ground, represent critical areas for marine conservation and sustainable resource management. Addressing identified challenges such as political complexities, infrastructure limitations, community engagement, and environmental threats will be essential for achieving successful MMA outcomes. Integration of insights and recommendations from the discussions into policy frameworks and action plans will contribute significantly to enhancing marine biodiversity conservation and sustainable fisheries in Bangladesh under the BOBLME project. Currently, GIZ is implementing a project on SoNG in collaboration with the Forest Department, with recommendations from the Department of Fisheries to exclude SoNG among the MMA choices.

The decision to prioritize Nijhum Dwip MPA (Table 14) was based on its strong local government support, existing management plan, and accessibility in terms of data and logistics. Moving forward, the focus will be on ensuring comprehensive stakeholder engagement, effective governance, and continuous monitoring to adaptively manage and protect these vital marine ecosystems.

Table 14: Nijhum Dwip

Issues	Solutions
Logistics support (e.g., equipment) for industrial fisheries	Secure financial support from WB project and other funding sources.
Overlapping jurisdictions (across ministries, agencies) making coordination difficult	Clarify and revise ND zoning to match BOBLME project requirements. Develop a clear management policy and establish a local co-management committee involving all stakeholders. **Recently, DoF has assigned IUCN Bangladesh to implement some activities mentioned in the Nijhum Dwip MPA management Plan**
Political engagement	Utilize strong political will, especially from the Prime Minister. Increase awareness at the local government level through public awareness campaigns.
Risky decision-making positions	Engage the media as allies to promote transparency and accountability. Use scientific demonstrations to support political leaders' objectives.
Technological support	Implement day-to-day site monitoring with the Navy. Establish a demarcation and communication system for management zones. Equip deep-sea areas with appropriate technology, such as smartphones with mapping features, and connect to Navy and navigation apps. Ensure most fishers have mobile phones.
Data accessibility	Improve coordination for data flow and scientific research at site levels. Ensure all data around ND is

Issues	Solutions
	available and accessible through a centralized platform, potentially led by the DoF.
Monitoring catch and bycatch	Install monitoring stations and deploy personnel at different landing centers. Enhance data collection systems for catch and bycatch, utilizing community involvement and research units.
Skilled manpower shortage	Establish a national group of advisors for MMA. Implement legal recognition for fishers and resource users. Simplify complex fisheries regulations for better compliance.
Public/stakeholder awareness	Increase public awareness and education efforts to build knowledge and support for MMA/MPA management.
Co-management approach	Customize the co-management committee structure from forestry sectors for MMAs. Ensure coordination among organizations working on MMA/MPA activities. E.g., Sundarbans co-management committee
Coordination among organizations	Enhance knowledge sharing and coordination among agencies working in the Bay of Bengal.
Committee structure for local management	Develop a localized management plan with union conservation committees involving various stakeholders.
Functional support	Establish financial support for co-financing and ensure strict monitoring systems. Engage fishermen in reporting and compliance through the development of AIS/GPS systems and surveillance checkpoints.
Resource survey and stock analysis	Conduct resource surveys and stock analysis to understand factors affecting resource degradation.
Accountability and equitable management	Ensure equal balance in fishing activities. Use community consultations to enhance accountability and equitable resource use.



Map 5: Recently declared Nijhum Dwip Marine Protected Area
(Source: S.M.A., Rashid. (2020). Coastal Biodiversity of Bangladesh - A Review)

For example, the ECOFISH project has been actively collecting information at the community level, collaborating with universities and institutions. The current status of the MPA is acknowledged, with a focal point established for communication with the Navy regarding operational activities. The management plan should begin with a draft and be revised every 2-3 years to reflect reality and practicalities. Fishers need to be included in the management plan. It is suggested to form a sub-committee of the national committee, drawing examples from other MMAs and MPAs, defining specific roles for the Navy and Coast Guard, and establishing clear reporting methods through simple means such as an app. There is a focus on sustainable livelihoods at the community level, with past projects by WB and ECOFISH, including gender work by WorldFish at the household level.

Incentives need to be designed to include fishers who do not have a fishers' card (FID card) but operate within the MMA. Marine biodiversity conservation and pollution awareness should be integrated into school-level education programs. Infrastructure development is needed for fish landing sites, including floor facilities, fish processing, and handling facilities to maintain proper hygiene. This requires permission from local government bodies such as the UNO, Department of Environment, Forestry, and Fisheries, and site management based on fish landing centres. Incentives should be designed to provide rice to fishers who refrain from fishing in the core zone for two months, improve facilities for artisanal local fishers, and address their social issues. It is important to observe the situation for at least one year to identify effective and ineffective elements and understand barriers. The Department of Forestry has laws to protect sharks, whereas the Department of Fisheries does not, highlighting differing interests. Although a management plan permitted by the prime minister exists, it has not been implemented yet and can still be revisited to align with the BOBLME project. There is potential for the World Bank to extend support for another five years in Nijhum Dwip, subject to a Memorandum of Understanding. A consultation and experience-sharing meeting on IUU fishing

with diverse stakeholders from both artisanal and industrial fishing sectors is recommended to address these issues.

Follow up actions and Recommendations for Bangladesh

- Conduct a resource survey including fish, megafauna, birds and mangrove to identify factors affecting resource degradation.
- Perform stock analysis and aim for a 6% to 20% increase in sustainability through this project.
- Involve stakeholders who care about long-term fish catch in workshops to ensure accountability and equitable fishing practices.
- Develop a co-management proposal and establish union conservation committees for effective localized management.
- Review and revise the current management plan, including socialization plans and guidelines for the Navy and Coast Guard.
- Continue educating and socializing the importance of MMA/MPAs to future generations.
- Ensure that the zoning and management of ND are revisited and revised as needed.

This structured approach will help address the complex challenges facing Nijhum Dwip, ensuring sustainable management and conservation of this critical marine area.

Observation and Next Steps:

- Focus initial efforts on obtaining MOEFCC approval and endorsement for the MMA site in Bangladesh, ensuring alignment with regional conservation goals and strategies.

5. Reducing Catch from IUU Fishing

5.1. Combatting IUU Fishing – Overview

Mr. Rajdeep Mukherjee, International Consultant, BOBP-IGO, made a presentation on "Combatting IUU Fishing: The BOBLME-II Perspective," providing an in-depth analysis of the challenges and strategies associated with addressing Illegal, Unreported, and Unregulated (IUU) fishing. He highlighted that IUU fishing is a significant threat to the sustainability of the marine fisheries sector, undermining management and conservation measures, and severely impacting the livelihoods of millions of people globally. Mr. Mukherjee highlighted that under the BOBLME-II project, the targets are implementing a Regional Plan of Action (RPOA), enhancing national IUU Monitoring, Control, and Surveillance (MCS) systems and Vessel Monitoring System (VMS), developing tools for best practices in MCS, Port State Measures (PSM), and traceability, and implementing a regional capacity-building program focused on port inspections, MCS, and traceability. He outlined strategies such as promoting regional cooperation, achieving effective implementation through country-level collaborations, and creating policies and national actions to combat IUU fishing. To effectively combat IUU fishing, Mr. Mukherjee emphasized the necessity of reviewing the status of national NPOAs, decoding national targets, identifying constituents for National Working Groups on IUU (NWG-IUU), and preparing national IUU status papers through data audits and collaboration. By implementing comprehensive strategies and strengthening capacities, the BOBLME project aims to achieve a 20% reduction in IUU fishing from 2014 levels, significantly contributing to the sustainability of marine fisheries in the region and ensuring long-term benefits for coastal communities and the broader ecosystem.

Delineating activities for the workshop, he said that to contribute to the preparation of national IUU activity plan under the BOBLME-II project, the participants of the workshop would work in groups focusing on policy, planning and implementation, and capacity need assessment and training methodology.

5.2. Status Report on Combatting IUU fishing in Bangladesh

Dr. Mohammed Shariful Azam, Deputy Project Director at the Department of Fisheries under the Ministry of Fisheries and Livestock, Government of Bangladesh, delivered a comprehensive presentation titled “Combatting IUU Fishing: The BOBLME-II Perspective,” which addressed the critical issue of Illegal, Unreported, and Unregulated (IUU) fishing in Bangladesh. Displaying a map of the different fishing zones off Bangladesh, Dr. Azam highlighted that there are 29,358 artisanal vessels and 264 industrial trawlers operating with various gear targeting different fish species. He explained that the zone for artisanal fishing had been demarcated, beyond which industrial trawlers were permitted to operate.

Dr. Azam elaborated on the definitions of IUU fishing, emphasizing the importance of addressing it as it undermines efforts in sustainable fisheries management, disadvantages those acting responsibly, and targets vulnerable stocks. He also mentioned that IUU fishing restricts access to international markets. He referenced the FAO Code of Conduct for Responsible Fisheries (CCRF), which outlines the duties of states, and discussed the relevant SDG targets (14.4 and 14.6) and other international instruments such as UNCLOS. Bangladesh ratified the Port State Measures Agreement (PSMA) in 2019 and adopted the National Plan of Action (NPOA) to combat IUU fishing in 2021.

He detailed the progress Bangladesh has made in combating IUU fishing, including updating the Marine Fisheries Act (MFA) 2020, the Marine Fisheries Harvest Policy (MFHP) 2022, and the Marine Fisheries Rules (MFR) 2023 with a focus on combating IUU fishing. A frame survey for artisanal crafts

and gears was conducted in 2021, assigning a unique ID to each vessel. An obligatory fishing permit system for the artisanal fleet and an online Catch and Effort (C&E) data management system were introduced. Additional measures included the establishment of a Joint Management Council (JMC) under the Fishery Management Council (FMC), the introduction of GSM devices for monitoring near-shore fishing activities, the deployment of onboard observers to prevent IUU fishing and discards, and the mobilization of 450 fisher villages to reduce fishing pressure and illegal practices.

Bangladesh's NPOA-IUU, approved by the Ministry of Fisheries and Livestock in 2020, addresses IUU fishing across all three Marine Fisheries Management Plans approved between 2021 and 2024. An online catch monitoring system has been developed, with routine data collection by 195 data enumerators from 175 landing sites. The online registration and licensing system is currently being piloted. Dr. Azam also acknowledged several challenges, including inadequate human resources for catch monitoring, data collection, and surveillance; integrating the large artisanal fleet into the fishing permit, reporting, and MCS mechanisms; issues of under-reporting and misreporting; and the need for improved coordination between agencies.

Dr. Azam outlined several activities to enhance the effectiveness of efforts against IUU fishing. The proposed way forward includes strengthening human resources for catch monitoring and surveillance, ensuring comprehensive coverage of the artisanal fleet in the fishing permit and reporting systems, and fully integrating Vessel Monitoring Systems (VMS) for all artisanal and industrial vessels. Additionally, there is a need to address under-reporting and misreporting issues, improve coordination and alignment among different organizations and agencies, and establish joint monitoring mechanisms. These steps are crucial for improving data accuracy, enhancing enforcement, and fostering greater cooperation across sectors to combat IUU fishing effectively.

5.3. Group Discussions

Following the presentation, the participants were distributed into three groups. Each group was given a set of questions to discuss. The summary of the finding from the group discussion is presented below:

Policy Group (Group 1)

The Policy Group focused on decoding national policy objectives related to IUU fishing and aligning them with the BOBLME project's goals. The group identified key national policy objectives, such as enhancing Monitoring, Control, and Surveillance (MCS) capabilities, developing a National Plan of Action (NPOA) for IUU fishing, and achieving a 20% reduction in IUU fishing from 2014 levels. They emphasized the need for technical assistance and funding for VMS upgrades, regional MCS training programs, and improved coordination with regional and international bodies. The group also proposed innovative strategies, including leveraging existing resources and potential collaborations, to support national policy objectives.

Planning & Implementation Group (Group 2)

The Planning & Implementation Group focused on identifying the constituents of the National Working Group on IUU (NWG-IUU) and developing its Terms of Reference (TOR). The group recommended including representatives from concerned ministries, NGOs, CBOs, academics, and influencers. They outlined the scope of work for the NWG-IUU, which includes reviewing existing legal frameworks, identifying gaps, proposing amendments, and enhancing MCS capabilities. Additionally, the group suggested preparing an outline for a national IUU status paper, conducting a thorough data audit, and

collaborating with relevant stakeholders to provide a comprehensive overview of the current state and impacts of IUU fishing in the nation.

Capacity Needs Assessment & Training Methodology Group (Group 3)

The Capacity Needs Assessment & Training Methodology Group assessed the feasibility of conducting a Management and Functional Review (MFR) and suggested alternative needs assessment methodologies. The group highlighted the potential benefits and challenges of MFR, noting the lack of practical experience with MFR in Bangladesh. They proposed adopting alternative capacity gap assessment tools, such as MPA Connect, to identify the most appropriate tool for the Bangladesh context. The group also identified potential capacity-building agencies, including the Department of Fisheries (DoF), BFRI, and various universities. They evaluated different training modalities, such as online training, physical training, and study tours, recommending low-cost in-situ trainings for effective and inclusive capacity building.

During the plenary, the groups reviewed the potential of IUU fishing in selected Fisheries Management Units (FMUs) and Marine Managed Areas (MMAs) and suggested that the work-plan on IUU should be in tandem with the EAFM/MMA plan (Table 15). In this regard, the group observed that the objectives of IUU fishing control must align with the broader EAFM and MMA plans to ensure cohesive management efforts. Effective collaboration between agencies and stakeholders involved in EAFM/MMA plans and those focusing on IUU fishing is crucial for leveraging joint initiatives and shared resources to enhance monitoring, enforcement, and compliance efforts. Establishing robust data-sharing mechanisms between EAFM/MMA and IUU fishing management teams will improve the accuracy of assessments and the effectiveness of interventions. Regular monitoring and reporting should be streamlined to facilitate timely responses to IUU fishing activities. Training programs should be developed to address both EAFM/MMA and IUU fishing management needs, ensuring that personnel are equipped with the necessary skills and knowledge. Capacity-building initiatives should focus on enhancing technical expertise, monitoring capabilities, and community engagement. Engaging local communities in both EAFM/MMA and IUU fishing management plans is essential for fostering sustainable practices and compliance, with awareness programs and stakeholder consultations conducted to ensure community support and participation. Policies and regulations governing EAFM/MMA and IUU fishing should be harmonized to avoid conflicts and ensure consistent enforcement, with regular reviews and updates to address emerging challenges and incorporate best practices.

Table 15. Summary of Potential IUU Fishing Activities in Selected FMUs

FMU/MMAs	Potential IUU Activities	Scope/Method of Measuring Degree of IUU Fishing
Nijhum Dwip	Overfishing, use of illegal gear, habitat loss	Catch Per Unit Effort (CPUE), compliance rates, Vessel Monitoring System (VMS) data
St. Martin Island	Illegal fishing gear use, overfishing, uncontrolled tourism activities	VMS data, tourism impact assessments, compliance rates
Sonadia & Moheshkali Channel	Destruction of larvae/juveniles, pollution from towns and fishing vessels, stakeholder conflicts	Juvenile fish catch rates, pollution monitoring, stakeholder surveys
Estuarine Set-bag Net Fishery	Indiscriminate fishing, use of non-selective gear	Gear use compliance rates, CPUE, community feedback

6. Management of Coastal and Marine Pollution

6.1. Improving waste management practices in fishing harbours & fishing gear marking – Project Objectives & Activities

Mr. R Mukherjee made a presentation on Component 3 of the BOBLME project, which focuses on the management of coastal and marine pollution. The presentation outlined two main sub-components: improving waste management practices in fishing harbours and fishing gear marking. He emphasized that fishing harbours are critical points of convergence between production and trade, handling processing, marketing of fish, providing fuel and freshwater supplies, ice, boat supplies, and repair facilities. The diversity of stakeholders and activities in fishing harbours has significant consequences on human and environmental health, fish prices, and exports. Proper infrastructure and its management and maintenance are crucial for the sustainability of fishing harbours. Mr Mukherjee also discussed the types and sources of pollutants, including natural phenomena like siltation and seaweeds, and man-made sources such as oil waste, solid waste (plastics, heavy metals), and liquid waste (sewage, wastewater from fish cleaning, and effluents from nearby industries). He highlighted the FAO's technical guidelines on clean fishing harbours and the Chennai Declaration on Cleaner Fishery Harbours and Seafood Quality Assurance, which recommend developing model fishery harbours and landing sites in each country. Furthermore, Mr Mukherjee pointed out that abandoned and discarded commercial fishing gear, known as 'ghost fishing', remains in the oceans for years, entangling and killing marine life, eventually breaking down into microplastics that harm marine organisms. Marking fishing gear to establish origin, ownership, and position can promote responsible fishing, reduce gear conflict, improve safety, and aid in capacity control and reducing marine litter.

In the second part of his presentation, Mr. Mukherjee outlined the tasks for the workshop participants, focusing on group activities to manage coastal and marine pollution effectively. The tasks included assessing waste management practices in selected fish landing sites and fishing ports, developing and disseminating guidelines and action plans for good waste management practices, and promoting their implementation in selected fishing activities or hotspots. For fishing gear marking, the tasks involved studying lost fishing gear, developing and disseminating guidelines and action plans, and promoting gear marking in selected fisheries. Participants were also tasked with selecting sites for assessing waste management practices, promoting good waste management practices through infrastructure upgrades, sanitation improvements, and strengthening management. Additionally, they were to address capacity-building needs, select gear types for loss assessment and marking, promote gear marking, and identify issues and challenges in gear marking, along with building awareness and capacity development. These activities aimed to enhance the sustainability of marine resources and improve the overall health of the coastal and marine environment in the Bay of Bengal region. The workshop's approach included engaging stakeholders, implementing best practices, and fostering collaboration among various national and regional authorities to achieve the project's goals.

Mr. Shoukot Kabir Chowdhury, Assistant Director, Department of Fisheries, Government of Bangladesh, and National Coordinator for the BOBLME project presented “An overview of the Status on fishing harbour management practices and gear marking in Bangladesh”. He explained that while port management falls under the Port Authority, fishing harbour management is the responsibility of the Bangladesh Fisheries Development Corporation (BFDC), and gear marking is overseen by the Department of Fisheries. The BFDC manages one main fishing harbour, the Chattogram Fish Harbour, and several fish landing centres for artisanal fishers located in Chattogram, Cox’s Bazar, Patharghata, Barguna, Patuakhali, Barishal, and Khulna.

Mr. Chowdhury detailed the facilities at the Chattogram fishing harbour, which include a cold store with a capacity of 350 metric tons, four freezing stores with a capacity of 50 metric tons each, a plate freezer with a capacity of 240 kg per day, and two blast freezers with capacities of 5 metric tons and 3 metric tons respectively. Additionally, the harbour has an auction shed, a marine workshop, a dockyard, and a basin covering 20 acres. He emphasized that the multi-slipway dockyard is one of the largest in Bangladesh, providing essential services for vessel maintenance and repair. The fish landing centres are equipped with essential facilities such as ice plants to ensure the freshness of fish, auction sheds for fish trading, auction houses, shops for retailers, water supply facilities, and toilets, which are critical for maintaining hygiene and supporting the fishery trade. These facilities play a vital role in the local economy by ensuring that fishers can land, process, and sell their catch in a clean and efficient manner.

For gear marking, Mr. Chowdhury highlighted the Marine Fisheries Rules of 2023, which include specific regulations under rule number 10 that pertain to fishing licenses. Sub-rule 10 (19) mandates that lost, abandoned, or unused fishing nets, gears, and plastic materials should not be discarded into the ocean but must be disposed of in accordance with international conventions, treaties, and national laws. This rule aims to prevent marine pollution and protect marine life from the dangers of ghost fishing. Additionally, the Department of Fisheries has established Technical Guidelines, 2023, to further support these regulations, ensuring that fishers are aware of the proper methods for marking and disposing of their gear. Mr. Chowdhury emphasized that responsible gear marking is crucial for promoting sustainable fishing practices and reducing marine litter. By marking fishing gear, the origins and ownership of the gear can be established, which helps in reducing gear conflicts, improving safety at sea, and aiding in capacity control. These measures also contribute to the reduction of marine litter caused by abandoned, lost, or otherwise discarded fishing gear (ALDFG), which poses a significant threat to marine ecosystems.

6.2. Group Discussion on Component 3

Owing to the paucity of time, the group discussion could not take place and a plenary was organized. The plenary discussion addressed several key questions and provided an in-depth exploration of specific aspects. One participant asked for clarification on gear marking, which was explained as the identification and labelling of fishing gear to establish its origin, ownership, and position, promoting responsible fishing and reducing marine litter. The discussion then focused on the current state and potential improvements for Chattogram Fish Harbour and various fish landing centres in Chattogram, Cox's Bazar, Barguna, Patuakhali, Barishal, and Khulna. Participants highlighted the need for upgrading facilities such as cold stores, freezing stores, auction sheds, and sanitation amenities. They also emphasized the importance of effective waste management systems and regular maintenance schedules. Challenges like inadequate waste management and insufficient cold storage were identified, with proposed solutions including the installation of additional ice plants, construction of more auction sheds, and enhancement of water supply and sanitation facilities. In terms of gear marking, the discussion underscored the necessity of awareness and training programs for fishers, effective monitoring and enforcement mechanisms, and active community involvement. The collaboration and active participation of all stakeholders were deemed essential to enhance the sustainability of marine resources and improve the overall health of the coastal and marine environment in Bangladesh, aligning with the goals of the BOBLME project.

7. Improved Livelihoods

In Session 6 on Improved Livelihoods, the scope of work included a status report on livelihood concerns for coastal communities in Bangladesh, followed by a plenary session. Discussions emphasized the importance of regional coordination, communication, and project sustainability, with a particular focus on Bangladesh's stakes in the BOBLME and the necessity for regional cooperation.

A presentation on the livelihood's component in the 'Sustainable Coastal and Marine Fisheries' project was made by Mr Zulfikar. The Social Development Foundation (SDF), along with the Department of Fisheries (DoF), was the co-implementing agency of Component-3, of the project 'Sustainable coastal and marine fisheries project' (SCMFP). The objective was to improve the livelihood of the poor fishers' community of the coastal area with the capacity to better manage local resources and expand their participation in more exclusive and sustainable development. The project area included 450 fishers' villages in 45 coastal upazilas under the selected 13 Coastal districts of the Southern part of Bangladesh. The implementation approach was to be community demand driven. The key project interventions would be to first select the project villages, identify beneficiaries through the participatory identification of poor (PIP) exercise, mobilizing them into groups, building accountable and transparent village level institutions and strengthening them, enable general social development and livelihood development which would lead to community empowerment and livelihoods transformation. There would be capacity building on different Alternative Income Generating Activities (AIGA), stipends for higher education, distribution of fishing elements etc.

Several key challenges were also identified including overfishing, IUU fishing, climate change, the inaccessibility of fishing villages, lack of access to markets, lack of public services and the limited access to technology and resources.

This presentation was followed by a discussion in which questions included selection of Income Generating Activities (IGA), the basis for selecting villages, issues of corruption and compensation during the ban period for Hilsa.

In terms of livelihoods, the focus was on capacity building, providing stipends for higher education, and skill training through institutions like BOLA. Selection of IGA should utilize local resources while addressing key challenges like overfishing, climate change, and habitat degradation. The basis for selecting villages and ensuring the continuity of activities post-project was also discussed. During the Hilsa catch ban period, compensation methods and co-management issues were addressed, with a need for increased support and consultation to resolve challenges and corruption. The Department of Fisheries aims for a 5% annual increase in fish production and is seeking resources to support this goal.

Ms Maeve Nightingale, IUCN spoke on the scope of the BOBLME project on Livelihoods and Regional Cooperation. Under Component 4 "Improved livelihoods and enhanced resilience of the BOBLME", the expected outcomes are: "Enhanced resilience and reduced vulnerability to natural hazards, climate variability and change of selected coastal communities"; and "Enhanced sustainable livelihoods and diversification for selected coastal communities". Ms Nightingale stressed the importance of gender mainstreaming by making women actively involved in fisheries management and marine managed area management. This could be achieved by capacity development; gender mainstreaming in EAFM and MMA management; analysis for coastal communities on gender equity and equality; gender responsive planning; and monitoring, evaluation and reporting by developing gender-based indicators. The EAFM cycle and Green List framework could be used for gender and gap analysis, highlighting how to engage local communities and support livelihoods. There is a need to improve capacity in gender issues and data collection. The workshop highlighted the ambition to

establish regional mechanisms with robust governance structures designed to secure continuous funding beyond the project's completion.

Under Component 5 “Regional mechanism for coordination, monitoring and assessment”, the expected outcome is “Strengthened institutional mechanisms at regional and national levels for planning, coordination and monitoring of the BOBLME”. The major task is to establish a “Consortium for Conservation and Restoration (CCR-BOBLME)” - a regional mechanism to coordinate action on BOBLME. The other tasks are:

- *Establishing national multi-stakeholder mechanisms.*
- *Agreeing upon financing partnerships.*
- *Establishing national inter and intra ministerial committees.*
- *Developing and implementing BOBLME monitoring system; and*
- *Establishing gender balance at project completion.*

Mr. R Mukherjee made a presentation on stake of Bangladesh in the BOBLME project. The key points highlighted Bangladesh's rapid growth in fisheries and the significant trade relationships with various global regions. The presentation underscored the critical pressures and risks impacting the BOBLME, including unsustainable fishing practices, pollution, habitat loss, and climate change. These pressures are accelerating, and without concerted action, the impacts could become irreversible. The BOBLME-II Project aims to address these challenges through collaborative regional efforts. He also provided a detailed overview of the current state of fisheries in the Indian Ocean, focusing on shared fisheries in the region and the substantial contributions of Bangladesh and India to global Hilsa fish production. However, it was noted that the top collaborating countries in Hilsa research are outside the region. Several initiatives, such as the Bay of Bengal Policy Research Group (BOB-PRG), a virtual voluntary expert network, and the Bay of Bengal Stock Assessment Network (BOB-SAN), were introduced to strengthen regional stock assessment and research cooperation. The presentation highlighted Bangladesh's leading role in creating a robust framework for fisheries data collection, collaborative research in areas like biodiversity, fish stock health, pollution, genetics, and blue economy, and ocean governance and fisheries plans.

8. Closing Session

In the concluding session, Ms Maeve Nightingale, Senior Programme Officer, IUCN, Bangkok, summarized the outputs from the three-day workshop and outlined the way forward. She noted that the workshop had identified opportunities that enabled the development of a roadmap for implementing the BOBLME Project Phase II. It was evident from the workshop that there is significant interest in the project in Bangladesh, which will aid in its successful implementation.

The way forward includes:

- Finalizing the EAFM Fisheries Management Units (FMUs) and Marine Managed Areas (MMAs) with the Ministry of Fisheries & Livestock and the Ministry of Environment, Forest & Climate Change, Government of Bangladesh.
- Finalizing the landing sites for the clean harbour programme and identifying suitable gear types for gear marking.
- Addressing issues related to Illegal, Unreported, and Unregulated (IUU) fishing.
- Constituting a National Working Group (NWG) for EAFM & MMA and a NWG for combating IUU fishing in consultation with the government.
- Communicating with experts, institutions, and government bodies for active follow-up of project activities.

The Chief Guest of the closing session, Mr. A.T.M. Mostafa Kamal, Additional Secretary, Ministry of Fisheries & Livestock, appreciated the BOBLME project as a true spirit of cooperation that will explore boundless opportunities. He highlighted the alignment of the project with national policies and targets of the Government of Bangladesh, emphasizing sustainable fisheries, biodiversity conservation, and ecosystem health. Mr. Kamal acknowledged the comprehensive discussions on harbour management practices, gear marking, and the importance of addressing marine pollution, as outlined in the presentations. He stressed the need to consider the issues faced by marginalized communities by involving all stakeholders, ensuring that the benefits of the project reach those most in need. Mr. Kamal reiterated the government's commitment to supporting the project and its initiatives, particularly the clean harbour programme, sustainable gear marking practices, and the fight against IUU fishing. He also underscored the importance of regional cooperation, as discussed in the plenary sessions, to enhance the effectiveness of the project and foster long-term sustainability.

As a chair of the closing session of the BOBLME National Consultation Workshop, Syed Md. Alamgir, Director General, Department of Fisheries expressed his appreciation to the BOBP-IGO & IUCN for their meticulous planning and execution, hard work behind the scenes, which has allowed to focus on the exchange of ideas and the building of connections that will endure beyond these few days. Mr. Alamgir emphasized the importance of sharing the same resources by the neighboring countries under a single umbrella for the sustainability of the resources. He recapitulated the initiatives that would be taken by BOBLME phase-II project especially piloting of EAFM sites, marking of fishing gears, minimizing ocean pollutions, combating IUU fishing, maintaining marine managed areas and livelihood of fishers.

The workshop concluded with a vote of thanks by Mr. Zia Haider Chowdhury, Project Director of the SCMF Project, Department of Fisheries, Ministry of Fisheries & Livestock, and member of the Governing Council of BOBP-IGO, Government of Bangladesh. Mr. Chowdhury expressed gratitude to all participants, experts, and organizers for their contributions to the workshop. He reiterated key points from the discussions, including the critical need for improved waste management practices in

fishing harbours and the significance of gear marking to reduce marine litter and promote responsible fishing. Mr. Chowdhury highlighted the collaborative efforts required to finalize the FMUs and MMAs, develop and implement guidelines, and strengthen regional cooperation. Mr. Chowdhury assured that the Department of Fisheries and the Government of Bangladesh are fully committed to the active follow-up and implementation of the project activities, aiming to achieve the project's goals and contribute to the sustainability of marine resources in the Bay of Bengal region.

Workshop Highlights

- **Broad Stakeholder Engagement:** Information on the BOBLME Project Phase II was disseminated widely among stakeholders, effectively leveraging the support of various ministries and institutions across Bangladesh. This widespread engagement provided a solid foundation for the commencement of Phase II.

- **Strategic Planning and Site Selection:** The workshop served as a crucial platform to jumpstart Phase II of the BOBLME Project in Bangladesh, aiding identification of potential actions and understanding pertinent issues and threats. Key activities included the shortlisting of provisional sites for implementing the Ecosystem Approach to Fisheries Management (EAFM) and Marine Managed Areas (MMAs).

- **Pilot Projects and Pollution Reduction:** Discussions were initiated to explore and devise methods to reduce pollution derived from fishing activities. This initiative is part of a broader effort to enhance environmental stewardship within the fishing industry.

- **Enhanced Gear Management:** The workshop provided insights into the assessment of fishing gear loss and the implementation of gear marking techniques, which are crucial for reducing ghost fishing and improving accountability within fisheries management.

- **Progress on addressing IUU Fishing:** Clarity was achieved regarding the steps towards preparing the National Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (NPOA-IUU), highlighting the workshop's role in refining strategic approaches to combat IUU fishing.

- **Collaborative Efforts:** There was a recognized need to strengthen collaboration and cooperation among stakeholders to ensure the effective planning and implementation of the project. Identifying mutually beneficial opportunities and emphasizing the importance of engagement were noted as key factors for success.

- **Establishment of a robust framework:** Collaboration among governmental bodies, NGOs, academic institutions, and community groups to support sustainable marine resource management in the region was discussed.

- **Active Participation and Knowledge Sharing**: Participants showed full cooperation and focus on the consultation process, contributing valuable insights and expertise, which facilitated productive discussions and the development of a cohesive action plan aimed at achieving the project's objectives.

- **Gender Mainstreaming:** Implementation of gender-sensitive approaches across all project components, ensuring equitable participation and benefits for women, and inclusion in training programs and decision-making processes was recognised.

- **Livelihood Enhancement and Resilience:** Development of initiatives linking conservation efforts to local livelihood enhancement, such as promoting eco-tourism, diversifying aquaculture, and facilitating community-led resource management was emphasised.

Annexures

Annexure 1

Workshop Programme

Date & Time	Agenda Item	Persons/Affliations
Day 1	***Date: 27 February 2024***	
0930 - 1140	***Session 1: Inaugural Session / BOBLME Overview***	
0930 - 1000	Registration	
1000 - 1010	Welcome address	Ms Maeve Nightingale, Senior Programme Officer Coastal and Marine, IUCN, Asia Office, & A B M Sarowar Alam, Programme Manager, Species and Habitats, IUCN ,Bangladesh
1010 - 1025	Workshop Context & Overview of the BOBLME Project	Dr. P Krishnan, Director, BOBP-IGO
1025 - 1040	Address by Special Guest	Govinda Roy, Deputy Conservator of Forests, Bangladesh Forest Department Dr. Md Zulfikar Ali, Director General, Bangladesh Fisheries Research Institute Syed Md. Alamgir, Director General Department of Fisheries
1040 - 1050	Chief Guest Address	Dr. Farhina Ahmed, Secretary, Ministry of Environment, Forest and Climate Change, Government of Bangladesh
1050 - 1105	Address by Chair	Md Selim Uddin, Secretary, Ministry of Fisheries and Livestock, Government of Bangladesh
1105 - 1110	Vote of Thanks	Mr A T M Mostafa Kamal, Additional Secretary, Ministry of Fisheries and Livestock, Government of Bangladesh & Chair, Governing Council of BOBP-IGO
1110 - 1140	***Group Photograph/Refreshments***	
1140 - 1155	***Self-Introduction of Participants***	
1155 - 1715	***Session 2: Overview & Identifying Potential MMA & EAFM Sites in Bangladesh***	
1155 - 1220	Marine Managed Area (MMA) - Overview History and background of MPA in Bangladesh	Ms Maeve Nightingale, IUCN Mr A B M Sarowar Alam, IUCN
1220 - 1245	Ecosystem Approach to Fisheries Management (EAFM) – Overview	Dr E Vivekanandan, BOBP-IGO
1245 - 1300	Approach to the Workshop	IUCN/BOBP-IGO
1300 - 1400	***Lunch***	
1400 - 1425	Site selection for MMA & EAFM - Criteria	IUCN/BOBP-IGO
1425 - 1520	Site selection for MMA & EAFM – Group Exercise	4 Breakout Groups
1520 - 1600	Presentation of Group Reports	Breakout Groups

Date & Time	Agenda Item	Persons/Affliations
1600 - 1630		***Refreshments***
1630 - 1715	Finalising Potential Sites for MMA & EAFM	All

Date & Time	Agenda Item	Person/Venue
Day 2	***Date: 28 February 2024***	
0945 - 1400	***Session 3: Scoping MMA & EAFM Plan Development & Implementation in Selected Sites***	
0945 - 1000	Recap of Day 1	IUCN/BOBP-IGO
1000 - 1045	• Identifying & Prioritising Issues and Threats - Group Exercise (2 Groups) • Identifying Stakeholders (2 Groups)	Break-out groups
1045 - 1115	• Presentation of Group Reports	
1115 - 1145		***Refreshments***
1145 - 1230	• Assessing Capacity Development Needs and Training – Group Exercise	Break-out Groups
1230 - 1300	• Presentation of Group Reports	
1300 - 1400		***Lunch***
1400 - 1615	***Session 4: Reducing Catch from IUU Fishing***	***BOBP-IGO***
1400 - 1415	Combatting IUU Fishing - Overview	Rajdeep Mukherjee, BOBP-IGO
1415 - 1445	Status Report on Combatting IUU fishing in Bangladesh	Dr Mohammed Shariful Azam, Deputy Project Director, SCMFP, DoF
1445 - 1515	• National Actions & Tools to combat IUU Fishing	4 Break-out groups
1515 - 1545	• Presentation of Group Reports	
1545 - 1615		***Refreshments***
1615 - 1645	• Assessing National Capacity Needs	Break-out groups
1645 -1715	• Presentation of Group Reports	
1715 - 1730	Consolidation of 2 days' Workshop Output	IUCN/BOBP

Date & Time	Agenda Item	Person/Venue
Day 3	***Date: 29 February 2024***	

Date & Time	Agenda Item	Person/Venue
0945 - 1200	***Session 5: Management of Coastal and Marine Pollution***	
0945 - 1000	Improving waste management practices in fishing harbours & fishing gear marking – Project Objectives & Activities	Rajdeep Mukherjee, BOBP-IGO
1000 - 1030	Status report on harbour management practices and gear marking in Bangladesh	Shoukot Kabir Chowdhury, DoF
1030 - 1100	• Plenary discussion	
1100 - 1130	• Presentation of Group Reports	
1130 - 1200		***Refreshments***
1200 - 1300	***Session 6: Improved Livelihoods***	
1200 - 1215	Scope of Work	Maeve Nightingale, IUCN
1215 - 1245	Status report on livelihood concern for coastal communities in Bangladesh	MIM Zulfiqar, PC, SCMFP, SDF
1245 - 1300	Plenary on Improved Livelihoods	All participants
1300 - 1400		***Lunch***
1400 - 1420	Regional coordination, Communication and Project sustainability	Maeve Nightingale, IUCN
1420 - 1500	Bangladesh's stake in BOBLME & need for regional cooperation	Rajdeep Mukherjee, BOBP-IGO
1500 - 1530	Panel discussion on building regional cooperation and effective communication	All participants
1530 - 1630	***Session 7: Concluding Session***	
1530 - 1550	Summary & Next Steps	Maeve Nightingale, IUCN
1550 - 1620	Closing Address	Chair : Syed Md. Alamgir, Director General, Department of Fisheries Chief Guest: A T M Mostafa Kamal, Additional Secretary, Ministry of Fisheries and Livestock, Government of Bangladesh & Chair, Governing Council of BOBP-IGO
1620 - 1630	Vote of Thanks	Mr Zia Haider Chowdhury, Project Director, SCMF, DoF
1630 - 1700		***Refreshments***

Annexure 2

Workshop Participants

	Agency	Sl	Name / Designation/Address
A			
1	Prime Minister's Office	**1**	Prime Minister's Office Government of the People's Republic of Bangladesh
2	Maritime Affairs Unit, Ministry of Foreign Affairs	**2**	**Commander Ahmad Al Karim (H1) BN**, Director Maritime Affairs Unit Ministry of Foreign Affairs
3	Economic Relations Division, Ministry of Finance	**3**	Economic Relations Division Ministry of Finance
4	Ministry of Fisheries and Livestock	**4**	**Md Selim Uddin** Secretary Ministry of Fisheries and Livestock
		5	**A.T.M. Mostafa Kamal** Additional Secretary Ministry of Fisheries and Livestock
		6	**Md. Abdul Quaiyum** Additional Secretary Ministry of Fisheries and Livestock
		7	**Md. Tofazzel Hossain** Additional Secretary Ministry of Fisheries and Livestock
		8	**Andrio Drong** Joint Secretary Ministry of Fisheries and Livestock
		9	**Dr SM Zobaidul Kabir** Joint Secretary Ministry of Fisheries and Livestock
		10	**Md. Mozammel Haque** Deputy Secretary Ministry of Fisheries and Livestock
		11	**Md. Afzal Hossain** Assistant Secretary Ministry of Fisheries and Livestock
5	Ministry of Environment, Forest and Climate Change	**12**	Dr. Farhina Ahmed Secretary Ministry of Environment, Forest and Climate Change
		13	**AKM Showkat Alam Mozumder** Deputy Secretary Ministry of Environment, Forest and Climate Change
6	Ministry of Commerce	**14**	**Mr. Feroj Al Mamoon** Deputy Secretary Ministry of Commerce
7	Blue Economy Cell, Energy and Mineral Resources Division,	**15**	**Md. Ashraf Hossain** Deputy Secretary Blue Economy Cell

	Agency	Sl	Name / Designation/Address
	Ministry of Power, Energy and Mineral Resources		Energy and Mineral Resources Division
B			
	Department of Fisheries	**16**	**Syed Md. Alamgir** Director General Department of Fisheries
		17	**Md. Zia Haider Chowdhury** Director (Inland) & Project Director, SCMFP Department of Fisheries
		18	**Md. Abdus Sattar** Director Marine Fisheries Office Department of Fisheries
		19	**Molla Imdadullah** Project Director Hilsa Development & Management Project Department of Fisheries
		20	**Masud Ara Momi** Deputy Chief (Hilsa Management) Department of Fisheries
		21	**Bishwajit Kumar Dev** District Fisheries Officer Barguna Department of Fisheries
		22	**Md. Iqbal Hossain** District Fisheries Officer Noakhali Department of Fisheries
		23	**Md. Boduruzaman** District Fisheries Officer Cox's Bazar Department of Fisheries
		24	**Dr. Mohammed Shariful Azam** Deputy Project Director SCMFP Department of Fisheries
		25	**Shoukot Kabir Chowdhury** Assistant Director, MFO Department of Fisheries & NATIONAL PROJECT COORDINATOR
		26	**Mt. Shamima Yasmin** Assistant Director (Marine) Department of Fisheries
		27	**Mst. Salma Aktar** Assistant Director (Planning) Department of Fisheries

	Agency	Sl	Name / Designation/Address
		28	**Taslima Akhter** Assistant Director (Planning) Department of Fisheries
		29	**Md. Maynul Islam** Assistant Project Director SCMFP Department of Fisheries
		30	**Md. Shamsul Alam Patwary** Assistant Director (Marine) Department of Fisheries
	Department of Environment	**31**	**Syful Asrab** Assistant Director Department of Environment
		32	**Saiful Islam** Assistant Director Department of Environment
	Forest Department	**33**	**Govinda Roy** Deputy Conservator of Forests Forest Department
		34	**Md. Moniruzzaman** Assistant Conservator of Forests Bhola
		35	**Sayad Mahmudur Rahman** Mammalogist Development Planning Unit Forest Department
	Bangladesh Navy	**36**	Bangladesh Navy
	Bangladesh Coast Guard	**37**	**Lt Commander M ASHIQUR RAHMAN**, (ND), psc, BN Bangladesh Coast Guard
	River Police of Bangladesh Police	**38**	**Mina Mahmuda** Police Super River Police Narayanganj Region
	Bangladesh Fisheries Development Corporation	**39**	**Adwaita Chandra Das** (Deputy Secretary) Director Bangladesh Fisheries Development Corporation
	Department of Shipping	**40**	**Captain Sheikh Md Jalal Uddin Gazi** Nautical Surveyor Mercantile Marine Office Department of Shipping
C			
	Bangladesh Fisheries Research Institution (BFRI)	**41**	**Dr. Md. Zulfikar Ali** Director General Bangladesh Fisheries Research Institute
		42	**Dr. Shafiqur Rahman** Principal Scientific Officer Marine Fisheries and Technology Station Bangladesh Fisheries Research Institute, Cox's Bazar

	Agency	Sl	Name / Designation/Address
	Bangladesh Oceanographic Research Institute (BORI)	**43**	**Md. Hashibul Islam** Principal Scientific Officer Bangladesh Oceanographic Research Institute Cox's Bazar
	Universities	**44**	**Sayedur Rahman Chowdhury** Professor Institute of Marine Sciences University of Chittagong
		45	**Dr. Kazi Ahsan Habib** Professor Faculty of Fisheries, Aquaculture and Marine Science Sher-e-Bangla Agricultural University, Dhaka.
		46	**Alifa Bintha Haque** Assistant Professor Department of Zoology University of Dhaka
	NGO Affairs Bureau	**47**	**Mst. Jesmin Ara** Assignment Officer (Senior Assistant Secretary) NGO Affairs Bureau Prime Minister's Office
		48	**Runa Khan** Executive Director Friendship Foundation Ka 14/2a, Baridhara, North Road (kalachandpur) Dhaka-1212.
		49	**Mr Zahidul Islam** Head Coast Foundation Metro Melody (1st Floor) House-13, Road-2, Shyamoli, Dhaka-1207.
	Social Development Foundation (SDF)	**50**	**Keshob Chandra Roy** Specialist (Livelihood) SCMFP Social Development Foundation
			MIM Zulfiqar Project Coordinator SCMFP Social Development Foundation
	Bangladesh Frozen Foods Expoters Association (BFFEA)	**51**	**Sheikh Shoel Parvez** Secretary Bangladesh Frozen Foods Expoters Association (BFFEA)
			Md. Humayon Kabir Joint Secretary Bangladesh Frozen Foods Expoters Association (BFFEA)
	Bangladesh Marine Fisheries Association (BMFA)	**52**	**Sk. Abid Husain** Secretary Bangladesh Marine Fisheries Association

	Agency	Sl	Name / Designation/Address
	Marine White Fish Trawler Owners Association, Chattogram	**53**	**Md. Helal Ahmed Chowdhury** Marine White Fish Trawler Owners Association Chattogram
	Marine Fishing Boat Owners Association, Chattogram	**54**	**Md. Ismail** Joint General Secretary Marine Fishing Boat Owners Association Chattogram
	Cox's Bazar District Fishing Boat Owners Association, Cox's Bazar	**55**	**Delwar Hossain** General Secretary Cox's Bazar District Fishing Boat Owners Association Cox's Bazar
	Marine Fisheries Academy Ex-Cadet Association, Chattogram	**56**	**Engr. Monwar Hossain** General secretary Marine Fisheries Academy Ex-Cadet Association Chattogram
	Sea Resources Group	**57**	**Md. Monowar Parvez** Head of Operation (Fishing) Sea Resources Group Chattogram
	Food and Agriculture Organization (Regional and country office)	**58**	**Md. Abul Hasanat PhD** National Project Coordinator GEF Fisheries Project FAO Representation in Bangladesh
	Wildlife Conservation Society (WCS)	**59**	**Elisabeth Fahrni Mansur** Senior Manager, Marine Conservation Program Wildlife Conservation Society Bangladesh
	WorldFish	**60**	**Dr. Md. Sharif Uddin** Scientist (Fisheries Co-management) USAID/ECOFISH II Activity Resilient Small Scale Fisheries
	BOBP-IGO	**61**	**Dr. P. Krishnan** Director, BOBP-IGO
		62	**Rajdeep Mukherjee** Policy Analyst, BOBP-IGO
		63	**Dr. E. Vivekanandan** International Expert BOBLME Project, BOBP-IGO
	IUCN	**64**	**Ms. Maeve Nightingale** Senior Programme Officer Coastal and Marine Programme IUCN Asia Regional Office
		65	**Yumi Son** IUCN Asia Regional Office
		66	**A.B.M. Sarowar Alam** Program Manager, IUCN Bangladesh

The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO), set up in 2003, is a unique regional fisheries body, specifically mandated to assist the member countries in increasing the livelihood opportunities and improving the quality of life of the small-scale/ artisanal fisher folk in the Bay of Bengal region. The current members of the Organisation are Bangladesh, India, Maldives and Sri Lanka while Indonesia, Malaysia, Myanmar and Thailand are cooperating non-contracting parties.

The core objectives of the BOBP-IGO are to increase awareness and knowledge of the needs, benefits and practices of marine fisheries management; enhance skills through training and education; transfer appropriate technologies and techniques for development of the small-scale fisheries; establish regional information networking; and promote women's participation in marine fisheries value chain.

The Organisation evolved from the erstwhile Bay of Bengal Programme of the Food and Agriculture Organization (FAO) of the United Nations (UN) founded in 1979. Over four decades of operation, the Organisation has worked closely with the whole-range of the stakeholders including the R&D Institutions to develop pathways to capacity enhancement for a sustainable future of the region. It has set international benchmarks in execution of programs and activities in the field of small-scale fisheries that has translated into measurable benefits for the member countries.

Bay of Bengal Programme

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