

Final Project Report (May 2024 – June 2025)

“Supporting the Integrated and Effective Management of the SoNG MPA”

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Executive Summary

Since its declaration as a marine protected area in 2014, the effective management of the SoNG MPA in Bangladesh remains largely unachieved. Timely access to relevant monitoring data for decision-makers, coordinated and adequately resourced efforts between institutions involved in SoNG MPA management, effective rights for direct users and other local stakeholders, and capable and informed (co)managers and stakeholders are crucial conditions for an integrated and effective management of the SoNG MPA.

The Leibniz ZMT was contracted as implementing partner for "**Supporting the Integrated and Effective Management of the SoNG MPA**" (SoNG Support project), an endeavour within the project "*Integrated management of the Sundarbans Mangroves and the Marine Protected Area 'Swatch of No Ground' (SoNG)*". The latter is an initiative of the Ministry of Environment, Forest and Climate Change (MoEFCC) in Bangladesh, implemented by the Bangladesh Forest Department (BFD), the Department of Fisheries (DoF), and GIZ Bangladesh, and funded by the German Federal Ministry of Economic Cooperation and Development (BMZ). In its duration of fourteen months, the SoNG Support project involved a package of measures, including participatory and inclusive stakeholder consultations, as well as the preparation and piloting of tailored training material. Through this process, we strove to support the development of relevant measures for a sustainable and equitable management of the SoNG MPA and other MPAs in Bangladesh, complementing existing engagements in the region.

This project had several overarching objectives:

- (1) Taking into account the outcomes of consultative processes with relevant actors, all stakeholder groups are identified and motivated to jointly contribute to the management of the SoNG MPA.
- (2) Local fishing communities and, if applicable, other marine resource user groups, are continuously informed about MPA planning and decision-making processes, and their rights in these, included in MPA management, and informed about and able to interpret the results of MPA monitoring.
- (3) The capacity of relevant actors to monitor, safeguard, and manage the SoNG MPA is improved. Official representatives from different stakeholder groups (i.e., from BFD, DoF, Coast Guard) will have taken part in a first set of MPA management courses.

During the first project phase, three kick-off workshops with MPA stakeholders in Bangladesh were planned and carried out in Khulna, Chattogram, and Dhaka. These workshops served to develop a joint vision of a successful and equitable SoNG MPA and to identify training needs for decision-makers in MPA management. Overall, 85 stakeholders attended the workshops, with a diverse representation of government authorities, armed forces, fishers, boat owners, tour operators, academia, and NGOs. Additional meetings were held with representatives of the Bangladesh Forest Department in Dhaka and in Khulna, the Department of Fisheries in Chattogram, and the Joint Monitoring Centre (under DoF) in Chattogram.

Insights from the kick-off workshops and meetings served as a basis to develop training materials for MPA decision-makers, which were tested and refined through a pilot training in the second project phase. The pilot training was delivered in close cooperation with local partners from Bangladesh and took place in Dhaka, Sylhet, and online. Overall, 26 officers participated in different parts of the pilot training, including both high-level decision-makers as well as implementation decision-makers. Most of them took part in the introductory module "*Basics of Responsible and Evidence-informed MPA Management*", while half of the group attended consecutive specialisation modules. Feedback and insights gathered during the pilot training informed the development of a ***Training Manual for Responsible & Evidence-Informed MPA Management for Decision-Makers in Bangladesh***¹, including reflections, exercise protocols, a list of potential resource persons, and a recommended curriculum for future trainings.

¹ Available at <https://doi.org/10.5281/zenodo.20508127>

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1. Project Work Plan and Overview of Achievements

Step 0: Stakeholder identification and review of management plans

Initial Background research for step 1: a) Stakeholder identification, b) desktop evaluation of existing drafts of SoNG management plan(s), c) Framework co-development for trainings, and approach to scenario development.

Time frame: May – November 2024

To coordinate these tasks, a project manager was hired to start working in August. For further support, a local consultant in Bangladesh was hired to start in September, and a student assistant was hired from November onward. Several preparatory meetings with GIZ and ZMT team members were held between July and November 2024 to plan the kick-off workshop programme and participant constellation. The ZMT team gathered and reviewed resources for the development of training materials, and conducted a detailed review and summary of the SoNG MPA draft Integrated Management Plan (see Appendix A)².

Step 1: Kick-off workshops on-site with local partners and stakeholders

The initial kick-off workshops will introduce ZMT project members to the national stakeholders, and stakeholders to each other. Additionally, ZMT participants will introduce and discuss planned activities for the project duration. In addition to government representatives responsible for implementing the MPA management plan, participants will be invited from both social and environmental NGOs, local fishing stakeholders and residential communities as well as universities and research institutions involved in, and/or affected by the implementation (incl. monitoring and management activities) of the MPA. All invited stakeholders will be facilitated to provide input from their own perspectives on the impacts that they expect the MPA to have on their own activities, livelihoods and well-being, and on how these impacts might be addressed. The kick-off workshops will provide important guidance on the needed content and design of the training activities that are to follow. It is intended to conduct three kick-off workshops in different locations (presumably Khulna, Chittagong and Dhaka), which will be tailored depending on the composition of stakeholders represented there. ZMT will moderate the kick-off workshops and initiate the planned co-analysis process with main SoNG monitoring and management stakeholders. Feedback will be sought on the perceived impacts of MPA implementation, and joint scenario development undertaken to systematically identify major training needs for the different key stakeholders.

Time frame: November – December 2024

Three members of the ZMT team travelled to Bangladesh between November 21 and December 5, 2025 and were joined by their local consultant on site. Three kick-off workshops were conducted in Khulna, Chattogram, and Dhaka, with overall participation of 85 stakeholders relevant for MPA management (some participants attended more than one workshop). The presence of ten artisanal fishers (including two women) from Bagerhat, Bhola, Lakshmipur, and Pirojpur at the Khulna workshop, and four fishermen at the Chattogram workshop was well received by all participants. The two regional workshops in Khulna and Chattogram served to inform the final workshop in Dhaka. All workshops included mutual introductions, presentations of planned project activities, a presentation highlighting the main aspects of the draft SoNG IMP, small-group exercises, and discussions in plenary. A detailed account of the kick-off workshop concept can be found in Appendix B.

Kick-off Workshop Khulna, 24.11.2024		
Affiliation	Number Participants	Female Participants
Bangladesh Forest Department (BDF)	4	
Department of Fisheries (DoF)	4	
Mongla Port Authority	1	
Bangladesh Shipping Corporation	1	
Geo Spatial Planning (GSP)	1	
WCS	1	

² Upon learning about a new draft version in early 2025, the summary was updated. The revised version is included.

CNRS	1	
BEDS	1	
COAST Foundation	1	1
Khulna University	3	
Patuakhali Science and Technology University	1	
TOAS	2	
Boat Managers	3	
Artisanal fishermen	8	
Artisanal fishing women	2	2
ZMT/GIZ organisers and facilitators	7	2
Total	34 (41)	3 (5)

Kick-off Workshop Chattogram, 28.11.2024		
Affiliation	Number Participants	Female Participants
Bangladesh Forest Department (BDF)	7	
Department of Fisheries (DoF)	7	
COAST Foundation	1	
CODEC	2	
University of Chittagong	4	
Industrial fisher / boat owner	5	
Kutubik Fishing Boat Owners Association	1	
Cox's Bazar Fishing Boat Owners Association	1	
Artisanal fishermen	4	
ZMT/GIZ organisers and facilitators	9	2
Total	32 (41)	0 (2)

Kick-off Workshop Dhaka, 03.12.2024		
Affiliation	Number Participants	Female Participants
Bangladesh Forest Department (BDF)	1	
Department of Fisheries (DoF)	3	
Navy / Blue Economy Cell (Cabinet Division)	1	
Bangladesh Fisheries Development Corporation (BFDC)	1	
BIMRAD	2	
Bangladesh Coast Guard	2	
WCS	2	
IUCN	2	1
COAST Foundation	1	
Sylhet Agricultural University	1	
Shahjalal University of Science and Technology	1	
Bangladesh Agricultural University	1	
Dhaka University	2	1
University of Chittagong	1	
Khulna University	1	
ZMT/GIZ organisers and facilitators	10	5
Total	22 (32)	2 (7)

In between the workshops, additional meetings were held with representatives of the Bangladesh Forest Department in Dhaka and in Khulna, the Department of Fisheries in Chattogram, and the Joint Monitoring Centre (under DoF) in Chattogram.

Step 2: Participatory scenario and mapping exercise

During the initial workshop, ZMT will conduct a participatory mapping and scenario exercise with the involved stakeholders. Those methods have proven useful in capturing stakeholder's perceptions on planned activities and measures and on identifying the respective incentives or disincentives for MPA implementation. Participatory methods will also enable participants to see specific monitoring and management activities from different points of view as well as the linkages between different procedural aspects. Through this enhanced mutual understanding, the

process of joint scenario development can support communication and collaboration among stakeholders in the implementation phase of the monitoring and management plan(s). ZMT will prepare the exercises, as well as identify particularly relevant external speakers to be recruited to support the workshop. ZMT will also compile the inputs from stakeholders to support the management planning and activities.

Time frame: November – December 2024

Workshop exercises were based on the most recent available draft of the SoNG MPA IMP. In the Khulna and Chattogram workshops, stakeholders participated in a “Participatory Impact Mapping Exercise”. This exercise consisted of two parts, in which they first mapped potential positive and negative impacts of implementing the SoNG MPA according to the draft IMP, and in a second step developed an “Outcome Logic Model” for these impacts. In the Dhaka workshop, stakeholders participated in a brainstorming exercise to reflect on their reactions to the draft IMP and to discuss next steps for decision-makers responsible for the SoNG MPA, other MPAs in Bangladesh, or for marine spatial planning (MSP). An overview of workshop methods and results can be found in Appendices B and C.³

Step 3: Co-develop tailored training activities

Based on the outcomes and findings from the initial kick-off workshops, ZMT will develop a tailored training course curriculum to support the implementation of the SoNG MPA management plan. Topics will be based on articulated stakeholder needs that will have been confirmed in steps 1 and 2, but likely include an introduction into MPA planning as a process which is embedded in wider MSP, an overview of essential variables needed for effective monitoring of the SoNG MPA, and relevant methodologies. Based on training needs, data collection and management, and participatory methods in MPA management or MSP could be included. ZMT will also develop more general information material (preferably in local language) to potentially increase the relevant capacities of (co-)managers and the buy-in into the MPA management process by otherwise excluded stakeholders. This material will target a broader audience and discuss benefits of MPAs and the envisaged possibilities for local communities to benefit from and be involved in their implementation, monitoring and management. ZMT will develop a, potentially modular, curriculum based on stakeholder feedback for government institutions and NGOs involved in the process. More general outreach material will be designed to target broader audiences not yet entirely familiar with the concept of MPAs (if necessary).

Time frame: January – April 2025

Based on insights of the kick-off workshops and additional meetings during the first field visit, a modular training agenda was developed, including objectives, methods, and content ideas for each module, with the overall objective to enhance decision-makers’ abilities to effectively and equitably manage, enforce, and monitor the SoNG MPA and other MPAs in Bangladesh with engagement of all relevant stakeholders. This resulted in seven initial training modules addressing design, spatial planning, implementation, conflict management, monitoring, and capacity building for MPAs in Bangladesh. A preliminary course agenda around these initial modules was shared with experts in Bangladesh who were involved and/or identified during the kick-off phase, including people from various organisations and research institutions. In February and March 2025, three online meetings were offered to these experts to give feedback to the preliminary course agenda and to propose resource persons and ideas. Some written feedback was also submitted during this time, supporting the finalisation of contents for the pilot training. Subsequently, known experts from Bangladesh were contacted for delivering or supporting training inputs, based on their expertise and availability for in presence and/or online sessions. The ZMT team further established contact with the Public One consulting team and considered their activities and insights for planning the trainings. Relevant outcomes of their workshop in February 2025 were also integrated into the training sessions. Additionally, seven focus group discussions were conducted with small-scale fishers, fish workers, and boat owners in Chattogram, Bhola, Patuakhali, and Patharghata through the local consultant during March, to learn about their awareness of previous/ existing training programs for small-scale fishers

³ All materials used for the kick-off workshops (consent forms, surveys, exercise manuals, results, etc.) are available upon request).

and fish workers in coastal communities, and perceptions of their helpfulness and effectiveness. Results were discussed with a small group of experts from NGOs and academia who have experience in community engagement and capacity building, right before the pilot training in Dhaka in April 2025 (see Appendix D). These insights served to refine the module on capacities and livelihoods.

Step 4: Implementation of a first test set of introductory trainings on management of MPAs including aspects of Marine Spatial Planning

From the curriculum created in Step 3, ZMT will compile actual training materials to be tested with specific target audiences (e.g., policy leaders, BFD-MoEFCC staff). A test training per group will be implemented to gain feedback from the target audience on the suitability of the training for their purposes, new feedback as well as identification of potential gaps or unnecessary topics/items. The training of trainers will be supported by providing training material on MPAs and their management.

Time frame: April – May 2025

The pilot training served to ensure that the training materials suit the needs of policy-makers, planners, and implementers responsible for the SoNG MPA and other MPAs in Bangladesh, and was conducted in two phases. The first training phase was delivered during a two-week stay in Bangladesh in April 2025. 26 MPA decision-makers from various authorities attended two full-day training sessions for the baseline module in Dhaka to address a broad range of MPA-related topics (MPAs in context and stakeholder identification, co-management and national coordination, incentives and ecosystem approach for effective and equitable MPA management, and monitoring for enforcement, research, and evaluation). These two training days were supported by lecturers and co-trainers from University of Chittagong, Khulna University, Public One, ULAB, WorldFish, and BIMRAD. Fourteen participants further attended training activities set during the *International Conference on Marine Spatial Planning (MSP) for Advancing Sustainable Blue Growth* at Shahjalal University of Science and Technology (SUST) in Sylhet. ZMT hosted a dedicated session at the conference with talks and discussions about spatial planning and MPAs. The session was greatly enriched by the participation of small-scale fishermen, as well as panellists from University of Chittagong, SUST, Dhaka University, Sylhet Agricultural University, and WorldFish. The second phase was conducted through four online training sessions in May, which allowed for further in-depth exploration of topics addressed during the baseline module. Seven to fourteen officials joined lectures and discussions on MSP, governance approaches for managing conflicts and synergies (online session 1), data and information management, and principles and indicators of good governance (online session 2), sustainable fishery livelihoods and capacity-building for ecosystem users (online session 3), as well as criteria for MPA establishment and stages of MPAs toward active management (online session 4). Online sessions were supported by guests and co-trainers from IUCN, WCS, Dhaka University, University of Chittagong, Patuakhali Science and Technology University, SUST, Public One, and several colleagues of ZMT.⁴

Training Module 1, Dhaka, 9.-10.04.2025		
Affiliation	Number Participants	Female Participants
MoEFCC, Forest 2	1	
MOFL, Marine Fisheries-2 Section (Attached)	1	
MPEMR, Energy & Mineral Resources Division	1	1
Payra Port Authority	1	
Mongla Port Authority	1	
Coast Guard, Headquarters/Personnel Directorate	1	
Coast Guard, BCGS RUPOSHI BANGLA	1	
Coast Guard, West Zone	1	
BFD, Bana Bhaban, Agargaon, Dhaka	4	

⁴ All materials used for the pilot training (consent forms, surveys, exercise manuals, results, etc.) are available upon request.

BFD, Coastal Forest Circle, Barishal	1	
BFD, Khulna Circle, Khulna	1	
BFD, Coastal Forest Division, Patuakhali	1	
BFD, Sundarban West Forest Division, Khulna	1	
DoF, Matshya Bhaban, Ramna, Dhaka	7	1
DoF, Marine Fisheries Survey Management Unit, Chattogram	1	
BFRI (Fisheries)	1	
ZMT/GIZ organisers and facilitators, lecturers and co-trainers	16	5
Total	25 (41)	2 (7)

Training Module 2, Sylhet, 15.-16.04.2025		
Affiliation	Number Participants	Female Participants
MoEFCC, Forest 2	1	
MOFL	1	
MOFL, Marine Fisheries-2 Section (Attached)	1	
MPEMR, Energy & Mineral Resources Division	1	1
Mongla Port Authority	1	
Coast Guard, Headquarters/Personnel Directorate	1	
Coast Guard, BCGS RUPOSHI BANGLA	1	
Coast Guard, West Zone	1	
BFD, Bana Bhaban, Agargaon, Dhaka	2	
BFD, Khulna Circle, Khulna	1	
DoF, Matshya Bhaban, Ramna, Dhaka	3	
ZMT/GIZ organisers and facilitators, guests and co-trainers	14	3
Total	14 (28)	1 (4)

Training Module 3, Online, 10.05.2025		
Affiliation	Number Participants	Female Participants
MPEMR, Energy & Mineral Resources Division	1	1
Payra Port Authority	1	
Mongla Port Authority	1	
Coast Guard, Headquarters/Personnel Directorate	1	
Coast Guard, West Zone	1	
BFD, Khulna Circle, Khulna	1	
BFD, Coastal Forest Division, Patuakhali	1	
BFD, Bana Bhaban, Agargaon, Dhaka	2	
DoF, Matshya Bhaban, Ramna, Dhaka	4	
DoF, Marine Fisheries Survey Management Unit, Chattogram	1	
ZMT/GIZ organisers and facilitators, guests and co-trainers	9	2
Total	14 (23)	1 (3)

Training Module 4, Online, 16.05.2025		
Affiliation	Number Participants	Female Participants
Payra Port Authority	1	
Mongla Port Authority	1	
BFD, Khulna Circle, Khulna	1	
BFD, Coastal Forest Division, Patuakhali	1	
BFD, Bana Bhaban, Agargaon, Dhaka	1	
DoF, Marine Fisheries Survey Management Unit, Chattogram	1	
DoF, Matshya Bhaban, Ramna, Dhaka	3	1
ZMT/GIZ organisers and facilitators, guests and co-trainers	6	3
Total	9 (15)	1 (4)

Training Module 5, Online, 23.05.2025		
Affiliation	Number Participants	Female Participants
MOFL	1	
Mongla Port Authority	1	
Coast Guard, Headquarters/Personnel Directorate	1	
BFD, Bana Bhaban, Agargaon, Dhaka	3	
DoF, Matshya Bhaban, Ramna, Dhaka	1	1
ZMT/GIZ organisers and facilitators, guests and co-trainers	8	3
Total	7 (15)	1 (4)

Training Module 6, Online, 30.05.2025		
Affiliation	Number Participants	Female Participants
MOFL	1	
MPEMR, Energy & Mineral Resources Division	1	1
Payra Port Authority	1	
Mongla Port Authority	1	
Coast Guard, West Zone	1	
BFD, Coastal Forest Division, Patuakhali	1	
BFD, Bana Bhaban, Agargaon, Dhaka	1	
DoF, Marine Fisheries Survey Management Unit, Chattogram	1	
DoF, Matshya Bhaban, Ramna, Dhaka	3	1
ZMT/GIZ organisers and facilitators, guests and co-trainers	8	3
Total	11 (19)	2 (5)

Step 5: Evaluated training programme and dissemination of project results

Feedback from trainings will feed into the development of a tailored training programme and into the development of a roadmap to implement the SoNG management plan in a sustainable and equitable way to both benefit local stakeholders (incl. fishing communities) as well as the marine ecosystem. Additionally, ZMT will provide a concise final report on the outcomes of the training material developments and evaluation of the test trainings. ZMT will compile feedback on the training and outreach material and process and present the improved knowledge products. It will also moderate a roadmap development process to support the implementation of the management plan.

Time frame: June 2025

Upon completion of the pilot training, participant feedback was used to refine the training programme and to develop it for further use. The resulting *Training Manual for Responsible & Evidence-Informed MPA Management for Decision-Makers in Bangladesh* can be used to support the implementation of future trainings with MPA decision-makers, as well as a Training of Trainers in cooperation with key resource organisations in Bangladesh. Project results are currently being disseminated among all relevant stakeholders.

Challenges and Changes in the Work Plan

Initially, kick-off workshops were planned for August 2024. Due to the political unrest and unstable government conditions in Bangladesh during that time, the kick-off workshops were postponed until the end of November 2024. Another unforeseen development was that the Integrated Management Plan (IMP) for the SoNG MPA had neither been finalised nor approved before the workshops took place. The kick-off workshop programme was thus based on the most recent available draft of the IMP and exercises were adapted accordingly. Although a version of the SoNG MPA IMP from 2024 with ministerial approval became available in February 2025, the full legalisation of management zones and regulations remained unclear until the end of the project. Developing an implementation roadmap for the SoNG MPA was thus not possible. Potentially, this endeavour could be pursued in a follow-up project (e.g., CONNECT), integrating with the progress made under Public One consulting activities. Due to the delay of the kick-off workshops, it was necessary to already develop a first rough draft of a training programme in parallel

to planning and conducting the kick-off workshops (instead of waiting until the workshops were finished and evaluated). This initial draft was later adapted and complemented based on workshop insights. One of these insights was the need to involve a broader set of stakeholders in the development of training materials, as well as in the pilot trainings themselves. Hence, feedback from key knowledge holders and affected groups was incorporated during training development. The training scope was broadened beyond the SoNG MPA, to foster equitable and effective management of all MPAs in Bangladesh. One challenge in the trainings was that most participants did not (yet) have access to MPA management plans, even if their ministry/department was involved in drafting these documents. For future trainings, it should be clarified if (draft) MPA management or action plans could be disseminated to participants prior to trainings.

Another central insight of the kick-off workshops was the need to create spaces for exchange and mutual learning within and across different government authorities. For this reason, the two target groups (policy decision-makers and implementation decision-makers), jointly participated in training activities. Bringing together government stakeholders that do not regularly interact turned out to be a major benefit of the pilot training. While a broad range of ministries and departments joined for the pilot training, we had limited success in recruiting government officials that play a “peripheral”, yet important, role in the implementation of MPA management plans, i.e., from ministries and departments related to national coordination, planning, tourism, or social services and welfare. Moreover, most participants were based in Dhaka, while only few officials from regional offices (that are more closely involved in on-site MPA management) attended. For future trainings (especially specialisation modules), we recommend to conduct them with regional officers in districts close to the MPAs themselves. Baseline trainings could be held regionally with involvement officers from Dhaka, or at national level in Dhaka with regional officers reporting from their district, to make the most of their diverse perspectives. For all trainings, both central implementation agencies for MPA management and “peripheral” authorities should be included to create a space for exchange. Pilot training participants further wished for the inclusion of fishing community representatives in future trainings, which is likely most feasible in regional training contexts.


Part of the pilot training was conducted online to accommodate a greater range and depth of training topics. After encountering technical issues with using Microsoft Teams in the first online session, the remaining sessions were hosted on Zoom, which allowed for session recordings and breakout rooms for small group exercises. As online attendance was anticipated to be an issue, great efforts were undertaken to make online sessions attractive and schedule them according to participants’ preferences and availability. While more than half of the pilot training participants joined for the first online session, establishing commitment for the other sessions was difficult and further complicated by conflicting work appointments in the involved departments, even during weekends. While online sessions worked well for seminar formats with lecture inputs, expert panels, and Q&A elements, it was very difficult to initiate engagement in small group work and discussions. We recommend to limit online sessions to lecture inputs and discussions while implementing practical exercises in presence.

Several participants suggested the benefit of conducting on-site trainings in the field (out at sea) and wished to receive training in practical skills and capacity-building activities for monitoring. Although the advantage of field visits is clear, the project was not equipped with the resources to provide such a training. Moreover, the second field visit during April took place during unfavourable seasonal weather conditions. However, for future training activities, we highly recommend sessions in the field and to include practical sessions, for instance with the Joint Monitoring Centre, monitoring systems such as SMART, and citizen science networks.

Appendix A: Handout with summary of SoNG MPA draft IMP (revised version)

Summary of the Draft Integrated Management Plan for the Swatch-of-No-Ground Marine Protected Area 2024-2033

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SoNG MPA Goals and Objectives

The overarching goal of the SoNG marine protected area (MPA) is to conserve threatened marine wildlife, biodiversity and to sustain productive marine fisheries. Objectives are to:

- 1) Protect globally threatened marine wildlife, including dolphins, porpoises, whales, sharks, rays, and marine turtles, and their habitat through marine spatial planning, engagement of coastal communities, and multi-agency enforcement and monitoring.
- 2) Sustain productive marine fisheries and coastal fishing livelihoods that provide economic benefits for local communities.
- 3) Support a sustainable blue economy for the benefit of the nation.

Characteristics of the SoNG MPA

- MPA size: 1,738 km² (proposed extension: 6,866 km²)
- Highly productive and biodiverse marine canyon close to Sundarbans mangrove forest
- Globally unique combination of habitat in an MPA
- Refuge for marine species under pressure from climate change
- Large diversity of cetaceans (dolphins, whales, and porpoises), sharks, rays, turtles, and sea birds, including endangered species
- Habitat for hilsa and other finfish (shad, scad, Bombay duck, threadfin sea catfish, etc.)
- Fishery: gillnets (fixed and drifting), set-bag nets (*behundi/badha/jaal*), longlines, trawling

Key stakeholders

- Government of Bangladesh (GoB), especially Bangladesh Forest Department (BDF), Department of Fisheries (DoF), Navy, Coast Guard
- Fishing communities, artisanal/small-scale and industrial fishing sectors (especially from Bagerhat, Pirojpur, Barguna, and Patuakhali)
- Transport and tourism vessel operators, port authorities
- Oil and gas developers
- NGOs and social service providers, academia

MPA Category

The SoNG MPA is designated as **IUCN Category VI** Protected Area. For these types of protected areas, IUCN recommends:

- Mostly maintaining the ecosystem in a natural state, allowing for traditional and sustainable resource use where compatible with conservation
- Prioritisation of non-industrial fishing and community-based resource use, as this protected area category is not designed for industrial fishing
- Creation of no-take zones in which fishing and extraction is prohibited, as to support fish reproduction and growth and to create spillover effects for enhancing fisheries around zones



SoNG MPA Management Strategy

Zoning and Management Recommendations

The management plan (IMP) recommends a marine spatial plan with 3 zones:

Fish Spawning and Nursery Zone (Red):

- No fishing should be allowed in this zone
- Resource extraction (oil, gas, and minerals) should be banned in this zone

Marine Wildlife Protection and Regulated Fishery Zone (Yellow):

- Only selective fishing methods should be allowed in this zone (non-selective gillnets, set-bag nets, trawling should be banned)
- Accidentally caught protected wildlife should be released
- Extraction of natural resources in this zone should only be allowed after rigorous Environmental Impact Assessment (EIA)

Sustainable Fishery Zone (Green):

- Trawl fisheries and set-bag nets should not be permitted in this zone
- Extraction of natural resources in this zone should only be allowed after rigorous Environmental Impact Assessment (EIA)

Enforcement, Monitoring and Evaluation in the SoNG MPA

The IMP provides recommendations for patrols, and for assessing and monitoring effectiveness of the SoNG MPA:

SMART (Spatial Monitoring and Reporting Tool) Patrols

- Establishment of SMART patrols with inter-agency and community participation
- Training and technical support for officers from BDF, DoF, Navy, and Coast Guard who will conduct SMART patrols and record data
- Central database for reports/maps for adaptive management and patrol refinement

Community-led SMART patrols

- Coastal community members (including local fishers) as “Ocean Guardians,” equipped to report on protected species, violations, and threats
- Training, mentoring, and equipment (smartphones, GPS devices, binoculars, lifesaving equipment) to support and incentivise community monitoring
- Data management system for information collected by community monitoring patrols
- Sharing of SMART patrol results with coastal communities at the home ports of fishermen operating in SoNG MPA

Monitoring & Evaluation

- Different indicators should be assessed and monitored
 - **Biological and threat indicators:** Trends in marine wildlife occurrence, illegal fishing, changes in vessel traffic, pollution, and tourism
 - **Socio-economic indicators:** Changes in financial stability, dependency on loans, nutrition, and health within fishing communities (monitored in cooperation with social service providers)
 - **Governance indicators:** inclusive and transparent management, annual consultations and interviews with local communities
- Management plan should be refined every five years after a comprehensive review
- A decision-making framework for adaptive management of the SoNG MPA should be developed





Proposed Actions for Implementing the Integrated Management Plan of the SoNG MPA

Sector Recommendations	Responsibilities
<p>Marine Spatial or Zoning Plan Implement marine spatial plan, including a Fish Spawning and Nursery Zone, Marine Wildlife Protection and Regulated Fishery Zone, and Sustainable Fishery Zone, for optimizing the protection of threatened marine wildlife and other biodiversity with sustaining productive fisheries in the SoNG MPA.</p>	<p>BFD with DoF, Navy, Coast Guard, technical experts from NGOs Timeframe: November 2024 onward</p>
<p>Fisheries</p> <ul style="list-style-type: none"> • Strict enforcement and monitoring of existing fishing regulations in Bangladesh (see overview on page 4) • All fishing vessels must be licensed by DoF and should be equipped with GPS technology marking MPA zones • Capture or killing of protected marine wildlife should be prohibited or only allowed with permission from BFD, listed species caught by accident should be released immediately • Navy and Coast Guard should prevent foreign fishing vessels from entering the SoNG MPA 	<p>Coast Guard with DoF, BFD, Navy Timeframe: Initiate after IMP-SoNG MPA endorsement, to be continued</p>
<p>Vessel Traffic & Pollution</p> <ul style="list-style-type: none"> • Strict enforcement of existing marine pollution laws for marine shipping vessels • Prohibition of bilge water disposal, liability in case of any accidental discharge • Prohibition of non-emergency anchoring for commercial shipping vessels (exception: Mongla Port Authority outer anchorage area) • No military firing practice within the SoNG MPA • Enforcement of operational and piloting guidelines for vessels • Free provision of updated digital maps for commercial vessels • Speed limit of 10 knots in the SoNG MPA for all vessels 	<p>Mongla and Payra Port Authorities with BFD, DoF, Coast Guard, Navy, DoE Timeframe: Initiate after IMP-SoNG MPA endorsement, to be continued</p>
<p>Oil and Gas Dredging and Exploration</p> <ul style="list-style-type: none"> • Prohibition of dredging in entire SoNG MPA • Prohibition of oil and gas exploration in the red zone • Seismic surveys only in consultation with SoNG MPA Management Committee, according to international protocols for sensitive areas • Oil and gas drilling and production in the yellow and green zones only after rigorous EIA approved by SoNG MPA Management Committee, with specific measures to protect threatened wildlife and fisheries • Before dredging and oil and gas exploration commence, an Environmental Clearance Certificate must be obtained from the DoE pending EIA approval 	<p>Ministry of Power, Energy and Mineral Resources (MPEMR) with DoE, BFD, DoF, and Mongla and Payra Port Authorities Timeframe: Initiate after IMP-SoNG MPA endorsement, to be continued</p>
<p>Tourism</p> <ul style="list-style-type: none"> • SoNG MPA entry fees for tourists and tourism vessels • Tourism vessels should be certified and registered with the Bangladesh Inland Water Transport Authority (BIWTA), and registered with the BFD • Tour operators must inform authorities before each departure to the SoNG MPA • All tourism vessels should be equipped with GPS, VHF radio, life vests, fire extinguishers, and other relevant safety gear • Tourists and operators must not dispose any waste in MPA • Safe distances and limited encounters for viewing marine mammals, disturbances should be avoided and feeding prohibited • Catch-and-release required for sportfishing, harm should be minimised through appropriate equipment and careful handling of fish 	<p>Bangladesh Tourism Board with BFD, BIWTA, Ministry of Civil Aviation and Tourism (MoCAT), Navy, Coast Guard, DoE Timeframe: Initiate after IMP-SoNG MPA endorsement, to be continued</p>
<p>Community Engagement</p> <ul style="list-style-type: none"> • Local communities in Bagerhat, Projpur, Barguna, and Patuakhali should be primarily engaged • Instalment of signs on SoNG MPA objectives, location, zones, rules, and benefits at key ports • Educational outreach programmes (events, radio programmes) and training programmes for fishermen to access, understand, and use available tools, applications, & services • Distribution of practical communication tools (ID guides, mesh size rulers, smartphone-compatible MPA maps) • Frequent consultative meetings through SoNG MPA Community Engagement Unit • Daily broadcast of Fishermen Forecasts via national, community, and VHF radio • Extension of mobile phone network range to 30 km offshore to increase safety and communication 	<p>BFD with DoF, NGOs Timeframe: Initiate after IMP-SoNG MPA endorsement, to be continued</p>
<p>Livelihood Improvement</p> <ul style="list-style-type: none"> • Improve post-harvest processing facilities for fisheries products • Support women through training in fish handling, financial management, and processing, and through better access to government and NGO services • Support fishers in transition to legal fishing methods, alternative livelihoods (such as boat renovation, engine repair, post-harvest processing), or community-based eco-tourism • Inform fishermen about labour laws, finance and insurance schemes, and vocational training programmes to reduce dependency on money lenders • (Quota-based) employment in emerging local blue economy industries and partnerships with NGOs for job training and sustainable tourism <p>Climate Adaptation</p> <ul style="list-style-type: none"> • Formulate a cost-effective and robust ecological and biodiversity monitoring approach for the SoNG MPA • Design a decision-making framework for providing science-based guidance to ocean stakeholders for adaptive management of the SoNG MPA 	<p>DoF with BFD, NGOs Timeframe: November 2024 onward</p> <p>BFD with DoE, DoF, NGOs Timeframe: 2024-2025</p>



SoNG MPA Management Structure and Stakeholder Involvement

- Declared by MoEFCC, with BFD as lead agency for implementation
- DoF ensures sustainable fisheries together with the Coast Guard and Navy who have the at-sea capacity for enforcement and monitoring
- SoNG MPA Management Committee coordinates effective collaboration among agencies and with local stakeholders, and ensures that management decisions are informed by results from enforcement and monitoring patrols, transparent assessments, and stakeholder engagement



SoNG MPA Infrastructure and Resource Needs

- Land-based infrastructure**
- Office space and internet connectivity for central SMART database managers, and SoNG MPA management units, potentially sharing existing infrastructure with DoF Monitoring, Control, and Surveillance (MCS) Unit and the MoFL Joint Monitoring Cell (JMC)
 - Central VHF radio station, mobile hotline, and staff to respond to distress calls, possibly incorporated in existing Navy, Coast Guard, or Port Authority offices
 - Mobile phone tower to extend the mobile network range to 30 km offshore
 - Signs that communicate the location, management zones, and fishing laws and rules in home ports of fishing, tourism, and shipping vessels entering the SoNG MPA
- Sea-based infrastructure**
- Vessel support for government-led enforcement and monitoring patrols and emergency response to be provided by Navy and/or Coast Guard
- Equipment and resources**
- Updated detailed base map for mobile phones and GPS devices, electronically available and free of charge to vessels operating in or transiting through the SoNG MPA
 - Robust GPS-enabled smartphone devices for both government and community-led SMART patrols
 - Educational materials and compliance tools for small-scale fishers, including informative signs, training handbooks, mesh size rulers, map of MPA and management zones, marine wildlife identification and safe handling guides
 - Computers or laptops for data processing and reporting, and for administration

Management Unit & Responsibilities	Lead & Funding
<p>SoNG MPA Management Committee</p> <ul style="list-style-type: none"> • Coordinate Research, Community Engagement, and Monitoring and Enforcement Units through annual workplans • Prepare annual public report • Secure sustainable funding for implementation of SoNG MPA • Facilitate and coordinate engagement of government agencies, community associations, research institutions, and NGOs for implementing the management plan 	<p>Chaired by: MoEFCC Secretary or appointed representative</p> <p>Members from: MoEFCC (BFD, DoE), MoFL (DoF, JMC), Navy, Coast Guard, Mongla and Payra Port Authorities, Tourism Board, BFRl (Fisheries), BFRl (Forest), Deputy Commissioners and fishery associations from Bagerhat, Pirojpur, Barguna, and Patuakhali</p> <p>Chaired by: BFRl (Fisheries)</p> <p>Members from: BFD, DoF Marine Fisheries Office, BFRl (Forest), conservation NGOs, and selected researchers</p>
<p>Research Unit</p> <ul style="list-style-type: none"> • Coordinate research on SoNG MPA effectiveness • Coordinate annual at-sea fisheries investigations, biannual visual surveys for marine wildlife • Review research and monitoring results from the other two units to make adaptive management recommendations • Share findings with other units to inform educational outreach, training, and consultations • Advise the SoNG MPA Management Committee on the results of SMART patrols, marine development projects, and tourism activities that could affect the SoNG MPA • Provide key research findings and science-based recommendations for the annual report <p>Community Engagement Unit</p> <ul style="list-style-type: none"> • Coordinate and promote training programmes to enable fishers for monitoring patrols, handling of protected marine wildlife, data collection, navigation, and at-sea safety skills • Promote and coordinate educational outreach initiatives and tools • Frequent consultative meetings with local communities to share information from research and monitoring activities and annual reports, and to provide opportunities for expressing their concerns and contributing to adaptive management • Support the Monitoring and Enforcement Unit by identifying and motivating local fishers to engage in SMART patrols • Coordinate biannual land-based socio-economic and knowledge, attitude, and practice (KAP) survey in fishing communities • Ensure that livelihood enhancement or alternative income generating opportunities include adequate numbers of women and men from SoNG MPA-dependent communities • Support DoF with the registration of fishers and fishing vessels, and the distribution of Vulnerable Group Feeding (VGF) rice subsidies during fishing ban periods 	<p>Chaired by: Senior ranking BFD officer</p> <p>Members from: BFD, DoF Marine Fisheries Wing, Coast Guard, Navy, District Commissioners or Upazila Nirbahi officers from Bagerhat, Pirojpur, Barguna, and Patuakhali districts</p>
<p>Monitoring & Enforcement Unit</p> <ul style="list-style-type: none"> • Coordinate and ensure implementation of inter-agency SMART patrols with appointed patrol team leaders • Ensure that SMART patrol teams have safe, well-maintained vessels and are equipped, trained, motivated, and supported by on-board mentors to carry out their duties according to the SMART SOP • Coordinate with the Community Engagement Unit on enabling and motivating local fishers to engage in community-led SMART patrols • Coordinate data management of inter-agency and community-led SMART patrols and generate SMART law enforcement and monitoring reports • Provide key results and achievements for the annual report of the SoNG MPA Management Committee • Coordinate efforts with JMC of the MoFL for optimizing management resources and impact 	<p>Chaired by: Senior ranking DoF officer</p> <p>Members from: BFD, Coast Guard, Navy, Mongla and Payra Port Authorities, Tourism Board, and DoF Marine Fisheries Office and/or Joint Monitoring Cell (JMC)</p>



Existing Fishing Regulations in Bangladesh with relevance for the SoNG MPA

Protection and Conservation of Fish Act 1950

- Prohibits the manufacture, import, marketing, carrying, transporting, or processing of destructive fishing nets, traps, and gears
- DoF can order seasonal prohibitions for any prescribed species, as well as a minimum size below which no fish of any prescribed species shall be killed or sold
- 22-day ban on catching hilsa during their breeding season in October/November

Marine Fisheries Ordinance 1983 (repealed by the Marine Fisheries Act 2020)

- DoF has the power to enforce fishery rules
- Waters less than 40 m deep during high tide are reserved for small-scale fisheries using set-bag nets, hook and line, and drifting gillnets
- Industrial trawlers can only operate in waters more than 40 m deep

Note: The Marine Fisheries Act 2020 supercedes the Marine Fisheries Ordinance 1983. Until new rules under the Act are enacted, the Marine Fisheries Ordinance 1983 applies (see Marine Fisheries Rules 2023 & Directives on Marine Fisheries Management and Harvest 2023)

Protection and Conservation of Fish Rules 1985

- The use of estuarine set-bag nets (ESBNs) of any size, type, or mesh size in waters less than 10 m depth at high tide is prohibited year-around

Wildlife (Conservation and Security) Act 2012

- Guidelines for developing a management plan with proper demarcation for protected areas
- Regulations for improving habitat, protecting breeding grounds, and preventing disturbance during breeding for the protection of dolphins, whales, and porpoises through the control or prohibition of fishing activities or movement of watercrafts
- The Chief Conservator of Forest (CCF) can determine vulnerable, endangered, and critically endangered species and assign them to Schedule I, II, and III. Without special permissions, no one can remove these animals from their natural environment
- BFD can prohibit activities within two km from the border of an MPA
- The Government, after receiving inputs from the local community, can declare any public or private area outside the boundaries of an official protected area as a landscape zone, buffer area, or corridor for the movement and safe breeding of wild animals

Biological Diversity Act 2017

- Defines activities negatively affecting threatened animals or biological resources as punishable offences
- The Government can declare any species as vulnerable or endangered and take protection measures

Marine Fisheries Act 2020

- Regulates permits for fishing and fishing vessels, research, and reporting requirements of catches
- Enables the Government to declare MPAs where biodiversity is declining, or aquatic flora and fauna are threatened
- Empowers the Government to regulate or prohibit fishing or fishing gear in specific fishing areas/grounds and to impose bans on catching all or selected fish species
- 65-day fishing ban (May–July) to protect fish stocks in the Bay of Bengal (also in accordance with Marine Fisheries Rules 2023)

Marine Fisheries Rules 2023

- Director General (DG) of the DoF has the power to issue additional regulations, including on fishing gear specifications
- Do not regulate artisanal fishing gear
- The 22-day ban on catching hilsa during their breeding season, and the 65-day fishing ban (May to July) to protect fish stocks in the Bay of Bengal as authorized by Section 3 (1) (Ka)

Technical Directives on Marine Fisheries Management and Harvest 2023

- SBNs are allowed in 10-40 meters depths (as per the fishing chart), with minimum mesh-sizes of: (a) 45 mm at the cod end of shrimp trawling nets, (b) 60 mm for fish trawling nets, (c) 200 mm for large-mesh drifting gillnets, (d) 100 mm for small-mesh drifting gillnets, and (e) 45 mm at the cod end of set-bag nets
- Fisheries regulations issued through Statutory Regulatory Orders (SRO), for example SRO NO.93-Law-2013 banning ESN up to a depth of 10 meters, remain valid



Appendix B: Kick-off Workshop Concept

Workshop Objectives

1. Assemble a full set of stakeholders of the SoNG MPA, mutual introductions
2. Introduce planned activities for the project duration and for the workshop
3. Deliberate on impact of SoNG MPA on different (groups of) stakeholders, if implemented according to latest IMP draft
4. Jointly identify interests of different stakeholder groups and priorities for the development of socio-economic and governance indicators for monitoring SoNG MPA management and outcomes
5. Identify training/knowledge needs of prospective training participants (i.e., decision-makers and ministerial staff responsible for SoNG management and monitoring)

Workshop Format

- Two regional workshops to inform a final, centralized workshop
- Full day, including a long lunch break
- Mixed input and participatory methods for achieving workshop objectives
- Bangla translations (of materials and on-site) to be inclusive for all participants
- Invitees identified by GIZ BD and ZMT teams
 - Higher-level and regional decision-makers from ministries, government organizations, and local government; representatives of research organizations; representatives of affected fisheries as well as local and international NGOs working with small-scale artisanal fishers and fishing communities; private sector representatives
 - Specific workshop participants for each location (some participants may attend several workshops)

Locations and Dates

Regional workshop 1: CSS Ava Centre, Khulna, 24.11.2024
Regional workshop 2: Hotel Agrabad, Chattogram, 28.11.2024
Final workshop: Six Seasons, Dhaka, 03.12.2024

Implementation and Roles

ZMT staff took on the main part of moderating the workshop and facilitating discussions and exercises, with the support of GIZ staff present. GIZ staff and student helpers supported with translations where needed.

Workshop Methods

A. Consent form

The consent form served to ensure that participants have consented to the conditions of participation and are informed about their rights therein.

B. Arrival and exit surveys

Arrival surveys served to get a better idea of participants' backgrounds and their work relates to the SoNG MPA. It was further used as a basis for the introduction round.

Exit surveys were used to receive feedback for the kick-off workshops and to gather additional recommendations for trainings that may not have been mentioned during group work and discussions. Insights from the exit surveys in Khulna and Chattogram were presented in Dhaka.

For the kick-off workshop in Dhaka, the surveys were slightly adapted to better fit the participants there.

C. Presentations and materials

- Presentation of objectives and planned activities in the SoNG project (for all workshops)
- Summary handout of draft Integrated Management Plan for SoNG MPA (for all workshops)
- Presentation of SoNG integrated management plan draft (for all workshops)
- Presentation of results from previous workshops (for Dhaka)

D. Participatory Impact Mapping Exercise (for Khulna and Chattogram)

Method: Adapted from Participatory Impact Pathway Analysis (PIPA) by Douthwaite et al. (2007, 2020)

- Mix of work in small groups at separate tables and discussions in plenary
- Small groups according to similar background (BFD; DoF; artisanal fishers and NGOs; commercial fishers, boat owners, and tour operators; academia)

Phase 1 of work in small groups (Impact Identification)

- Facilitators listened and assisted at tables; discussants walked around to observe and take notes
- Lead question: If implemented according to the presented management plan draft, what impact⁵ will the SoNG MPA have? Which positive impacts are possible and would be good to achieve? Which negative impacts are possible and should best be avoided?
- Quiet, individual reflection followed by discussion with others at the table
- Collaborative mapping of impacts on a spectrum of positive impacts (to achieve) and negative impacts (to avoid)
- Presentation of results and discussion in plenary

Phase 2 of work in small groups (developing an Outcome Logic Model)

- Facilitators listened and assisted at tables; discussants walked around to observe and take notes
- Lead question: What needs to be known or done by which actors/institutions to avoid negative impacts and increase positive impacts when implementing the SoNG MPA?
- Discussion in small groups: “In order for impact XYZ to be achieved/avoided ...”
 - What is needed (knowledge, behaviour, attitudes, skills, technology, policy, etc.)?
 - Who needs to know what? (Who needs information?)
 - Who needs to do what? (Who is responsible?)
 - What could be challenges?
- Collaborative work on Outcome Logic Model table⁶
- Presentation of results and discussion in plenary

References:

Douthwaite, B., Alvarez, S., Cook, S., Davies, R., George, P., Howell, J., Mackay, R., & Rubiano, J. (2007). Participatory impact pathways analysis: A practical application of program theory in research-for-Development. *Canadian Journal of Program Evaluation*, 22(2), 127-159. <https://doi.org/10.3138/cjpe.22.007>

Douthwaite, B., Ahmad, F., & Shah, G. (2020). Putting theory of change into use in complex settings. *Canadian Journal of Program Evaluation*, 35(1), 35-52. <https://doi.org/10.3138/cjpe.43168>

⁵ Positive or negative effect on someone's life, on their community, on the environment, on different industries, etc.

⁶ Questions in Outcome Logic Model table were slightly adapted for clarity after the first kick-off workshop.

E. Brainstorming exercise (for Dhaka)

- Mix of work in small groups at separate tables and discussions in plenary
- Small groups according to similar background (BFD; DoF; armed forces; NGOs; academia)
- Question 1: What is your reaction (pros and cons) to the SoNG MPA Draft Management Plan? (Please think about responsibilities, capacities, coordination, obstacles, etc.)
- Question 2: What should be next steps for decision-makers in the Government of Bangladesh? (Please think about possible next steps for government decision-makers responsible for the SoNG MPA, other MPAs in Bangladesh, or for MSP)
- Collaboration in small groups, followed by presentation and discussion in plenary

F. Expert input

During all workshops, selected individuals were invited to observe small group exercises and discussions throughout the day. At the end of the workshops, they reflected on their insights.

In Dhaka, a diverse set of experts attending the workshop was invited to participate in a panel discussion. Representatives of BFD, DoF, University of Chittagong, Sylhet Agricultural University, Shahjalal University of Science and Technology, WCS, and GIZ reflected on the collective insights of all three workshops and possible next steps to advance effective and equitable management of the SoNG MPA and other MPAs in Bangladesh.

Appendix C: Kick-off Workshop Results

Results Khulna and Chattogram

The two regional kick-off workshops in Khulna and Chattogram identified six key topics of relevance for SoNG MPA stakeholders in these regions. These insights were presented during the Dhaka workshop. One cross-cutting recommendation is that any further revision of the SoNG MPA draft IMP should be undertaken as an inclusive face-to-face consultation process, followed by open access to the IMP draft document for all concerned ministries, agencies, departments, and SoNG MPA users.

1. Conservation

Issues and Positions

The conservation of marine biodiversity and resources was seen positively by all present parties. BDF officials identified biodiversity and wildlife protection as a key priority, whereas DoF officials emphasised how protection sustains the productivity of fisheries. Fishers also related conservation to an increased availability of fish. Tour operators see opportunities for responsible tourism related to conservation.

Marine wildlife and biodiversity are not only undermined by (unsustainable) fishery practices, but damage to fish other marine wildlife is also caused by military exercises. Ramphal and Matarbari coal power plant emissions further disturb the fish and undermine fishers' health (eye problems). Moreover, fishers perceive that waste dumping at sea is getting worse.

Way Forward

It is important to establish whether the armed forces can move their firing training sessions away from the SoNG MPA, since the species threatened with extinction will not be able to relocate.

Responding to fishers' complaints about waste dumping in the sea, improvements in waste management should be initiated.

2. Maps and Zoning

Issues and Positions

Discussions revealed that the distinction between the Swatch-of-No-Ground marine canyon, the SoNG fishing ground, and SoNG MPA is unclear to many stakeholders. Currently available maps are incomplete and at times even contradictory in terms of how much these three distinct locations overlap. Academic representatives are aware of available information to produce more accurate maps and should be consulted. According to the discussions, it could be possible that the SoNG MPA (with the currently declared coordinates and boundaries) overlaps with the customarily used SoNG fishing ground.

Commercial and small-scale fishers in both regions are keen to receive training on how to recognize the different MPA zones, as well as the protected species that are prohibited from being caught.

Workshop participants pointed out competing legal declarations of marine spaces in the SoNG area. Historically, in times before Bangladeshi independence, Mongla Port Authority has declared a large share (approximately 45%) of the SoNG MPA for port anchorage. Moreover, multiple areas in the SoNG MPA are declared for other uses, such as military firing exercises or gas drilling. These overlapping uses may contradict the MPA's objectives and generate conflict. Clarification is needed to address these issues and prevent/reduce conflict.

DoF representatives argue that three proposed zones in SoNG MPA (red *Fish Spawning and Nursery Zone*, yellow *Marine Wildlife Protection and Regulated Fishery Zone*, and green *Sustainable Fishery Zone*) are challenging to implement. Instead, they suggest two zones with internal gear-specific subdivisions:

- Combine the yellow and green zones into one sustainable fishing zone (unclear how exactly wildlife protection measures could work in such a combined zone)
- In this combined zone, artisanal and industrial fishers are instructed to fish in line with the 40 m depth line (as it is also customary outside of the MPA), to lower conflict levels between them

Way Forward

The official map of the SoNG MPA needs improvement, including all available validated data, and should be made available to all potential SoNG MPA users.

SoNG MPA zoning should be reviewed collaboratively and with representation of SSF and other fishers, in line with conservation and fisheries criteria. The potential additional pressure on artisanal fishers who cannot fish in the red zone, and how this pressure could be addressed, require further consideration.

3. Livelihoods of artisanal/small-scale fishers (SSF)

Issues and Positions

All participants consider SSF livelihoods to be negatively affected by the SoNG MPA.

Artisanal fishers in Khulna stressed their dependence on SoNG (fishing grounds), especially for fishing hilsa, and their vulnerability to fishing bans and weather extremes. Fishermen in Chattogram said they no longer catch enough fish and demand an effective stop to trawl fishing. NGOs call for the legal recognition of SSF, as well as stricter limitations for industrial fishing vessels.

Fisher representatives suggested gear modification instead of bans, and asked for support to employ alternative options such as turtle exclusion devices and artificial reefs.

Current approaches to support the livelihoods of SSF are seen as insufficient, and not reaching large numbers of fishers, for example Alternative Livelihood Generation (AIG), or rice rations for vulnerable groups during ban periods (VGF). In socio-economic assessments of MPA impacts, the impacts on women and children also need to be considered, as whole families are affected. Another unresolved issue is the question who is responsible for livelihood enhancement of 10.000 seasonal Dublar char fishers (BFD via license in Sundarbans or DoF via fishing registration)?

Way Forward

It is recommended that BFD, DoF, or other responsible government agencies provide promising livelihood enhancement trainings for fishers in the periods when they are unable to fish. These trainings should be based on research evidence (a dedicated study could be commissioned for this purpose).

Responsible, nature-friendly marine and coastal tourism could be one kind of alternative livelihood that benefits coastal fishing communities. One important first step should be to identify the actual number of artisanal fishers (including involved children and women) that are dependent on the SoNG area, and to assess their losses and access to alternative income options.

Further approaches to generate benefits for SSF who act eco-friendly in the SoNG MPA environment should be explored (many international examples are available). A pilot approach could combine sustainable fishing practices with eco-tourism activities that benefit SSF, to balance resource use and conservation and to provide a positive incentive and income when complying with bans and restrictions.

To avoid high interest informal loans (*dadondar, mohajon*) when addressing fishing ban-related livelihood needs, access to low interest loans should be improved. Additionally, ways to achieve a more adequate, transparent, and fair distribution of rice rations to SSF fishers during fishing bans should be explored. Transparent issuing of fishing permits and fisher identification cards needs may minimize fraud.

4. Collaboration and Coordination

Issues and Positions

All participants agreed that inter-agency collaboration between various authorities is crucial for effective management of the SoNG MPA, most importantly MoEFCC with BFD & DoE, MoFL with DoF, MoD with Navy, MoHA with Coast Guard, MoS with Port Authorities, and tourism authorities.

DoF remarked that they were insufficiently consulted in preparation of the draft IMP for the SoNG MPA, which was advanced by MoEFCC (BFD) with WCS support.

Legal ambiguities regarding mandates for governing marine protected areas in Bangladesh became apparent. Khulna's Conservator of Forests leads the SoNG MPA in line with Wildlife Conservation Act of 2012. On the other hand, the Marine Fisheries Act 2020 enables MoFL to declare an MPA where biodiversity is declining or aquatic flora and fauna are threatened. Out of the five MPAs in Bangladesh, three were declared under the Marine Fisheries Act (with DoF as lead agency), and two were declared under the Wildlife Conservation Act (with BFD as lead agency). DoF officials are concerned that BFD is the lead agency for implementing the SoNG MPA IMP when DoF is responsible for regulation of fisheries and other issues in the marine realm. They would prefer that the lead for the SoNG MPA is shared equally between BFD and DoF.

It is assumed that more than two hundred marine trawlers fish in the SoNG area, but only five of these trawlers come directly from Khulna. Presumably, a large number of trawl ships fishing in the SoNG area comes from Chattogram. For concerted implementation, BFD in Khulna needs to cooperate with DoF in Chattogram. Currently, field level collaboration between departments belonging to different ministries happens mostly when external projects enable this - and then stops again.

Way Forward

A legal harmonisation for application of the Wildlife Conservation Act and the Marine Fisheries Act to all MPAs in Bangladesh is recommended, for example in form of an umbrella document, or another law/act. A strong inter-ministerial platform on MPAs and fishing grounds should be established, potentially exploring and evaluating previous work (e.g., work on a National Framework for establishing and managing MPAs by IUCN in 2015).

Coordination is needed within and across ministries, departments, and regions. Inter-ministerial and inter-departmental cooperation (DoF and BFD across coastal regions) in line with the social-ecological characteristics of the SoNG area needs to be institutionalized and consistently funded.

Generating incentives for ecosystem users to comply with regulations can lower costs of enforcement and control. To this end, cooperation between SoNG MPA users and government agencies should be explored. Active platforms for discussion among stakeholder groups (GOB departments, NGOs, civil society) like this workshop could be a fruitful endeavour in this regard. Moreover, training and capacity building programs are needed for decision-makers at ministerial level, implementing staff at regional level, and different types of ecosystem users (including different categories of SoNG fishers but also tourism operators, power stations, marine transport sector, mineral extractors and other Blue Economy actors).

5. Monitoring, Control, Surveillance (MCS)

Issues and Positions

Discussions showed that neither BFD nor DoF can sufficiently control illegal activities (transboundary infractions, gear control, prohibited catch and bycatch, vessel speed, mining, anchoring, etc.) in MPA areas. Officials from both departments voiced the need for vessel and patrolling support from Navy and

Coast Guard. Generally, an improved MCS infrastructure, with tools that specifically address MPAs, is needed.

The Joint Monitoring Centre (JMC) under DoF operates real time pilot-level systems for industrial vessels (VTMS), and smaller scale boats (GSM). The Joint Monitoring Cell within JMC has wide membership from ministries/departments outside of MoFL, but does currently not involve agencies related to marine wildlife conservation (MoEFCC/BFD).

SMART patrols, which are established for monitoring wildlife and biodiversity in the Sundarbans, are also supposed to be adapted for monitoring of marine wildlife in the SoNG MPA. This will also involve community-led SMART patrols. At the moment, there is little information exchange between BFD and DoF about marine and community-led SMART patrols in the SoNG MPA and about respective JMC activities capacities and plans.

The vulnerability of SSF communities to changing environmental and socio-economic conditions was also addressed as an issue that requires dedicated monitoring efforts.

Way Forward

Navy and Coast Guard were often mentioned as important actors to support MCS activities. Yet, they have been closely involved in development of the IMP for the SoNG MPA. To further clarify their role, their perspective and capacities need to be assessed.

An integration of existing monitoring, control, and surveillance mechanisms and tools in BFD and DoF is needed for a coordinated approach in the SoNG MPA. An inclusion of BFD in the Joint Monitoring Cell within the JMC might be a first step. Installing devices (e.g., GPS loggers) in fishing vessels and linking them to monitoring equipment could further complement marine surveillance.

Safety at sea for artisanal fishers could be increased by including them into early warning systems for fishers at sea, for instance by enabling communication with the warning centre at the shore. A natural disaster insurance for boats and equipment could also add resilience. Protocols and training for safety at seas provided by government organisations and defence institutions could help SSF adapt to natural calamities and adverse weather situations. MCS infrastructure for the SoNG MPA should facilitate the formalisation of access to such trainings for SSF. Further strategies to support adaptation efforts in line with conservation and sustainability objectives should be co-developed with affected SSF and fish worker groups.

In addition to MCS, monitoring should also be understood in the context of assessing and evaluating socio-economic and governance indicators. Such indicators need to be further developed and integrated into monitoring efforts, to understand the long-term development of the SoNG MPA as a socio-ecological system. A comprehensive approach is needed to monitor livelihood impacts of marine conservation measures on SSF and fish workers. Women (especially from female-led households) need to be involved in consultations and socio-economic monitoring of MPA impacts.

6. Conflicts, Fairness and Chances of Success

Issues and Positions

Regarding fisheries laws, some NGO representatives think that the current system of legal recognition discriminates against SSF, while favouring industrial fishermen. Both fishermen and NGOs call for more effective control of bottom trawlers.

Some participants pointed out that existing (fishing) regulations are not always implemented fairly and gave examples of cases in which the cancellation of licenses for offending vessels or the enforcement of fishing time limitations was prevented by political interference and elite influence.

SSF and NGOs estimate that 30% of fishers do not have access to a fisher registration. Youth under 18 and female-headed households that derive their livelihood from SSF also lack access to fisher registration and therefore to benefits during fishing bans.

Participants further discussed the alignment of ban periods with neighbouring countries (India, Myanmar) to avoid transgressions and resource losses. The presence of foreign fishing vessels was considered a prominent issue by multiple stakeholders.

Way Forward

Fishing ban periods should be reviewed in interaction with local knowledge. Perhaps, aligning ban periods with species reproduction patterns in border regions makes more sense than a national average.

Without equity, systems do not function, no matter how strong the enforcement resource base. In line with up-to-date social science methods, recognitional, distributional, and procedural equity relating to the SoNG MPA and other MPAs should be assessed.

Results Dhaka

Group Work: Reactions to IMP & Next Steps

Participants consider the IMP as a “living document” than can (and should) be revised when needed. Along with the overall positive reactions to the IMP, multiple concerns and challenges were identified.

Several reactions were related to responsibilities for implementing the IMP and managing the SoNG MPA in general. Representatives of Navy and Coast Guard consider the MoEFCC as main implementing agency as appropriate but also call for a more prominent involvement of the MoFL, in line with numerous comments during the regional workshops. Both government and NGO representatives suggested a stronger involvement of fishing communities in MPA management, for instance by considering co-management arrangements with small-scale fishers (SSF), by reinforcing community-led monitoring and enforcement, or by implementing an Ecosystem Approach to Fisheries Management (EAFM) to establish fisheries management units (FMUs).

Representatives of BFD and DoF agreed that the proposed management structure might work but that the implementation will be a great challenge and that more conversations are needed to also consider challenges for future MPAs and marine spatial planning (MSP) efforts. Regarding MSP, government representatives propose to consider international expertise (from actors such as ZMT) and to include a broad range of departments and ministries (DoF under MoFL, BFD under MoEFCC, Port Authorities and Department of Shipping under MOS, Ministry of Tourism, MPEMR, MOD, MOFA), as well as the BFDC and NGOs. Echoing suggestions from the regional workshops, representatives of government and academia proposed to revise MPA zones.

A common demand across all workshops was to involve Navy and Coast Guard more closely into management activities (especially regarding monitoring, surveillance, and enforcement), as BFD and DoF have limited capacities for these activities. Representatives of Navy and Coast Guard also pointed to these challenges and the need to plan and increase monitoring capacities of maritime forces on the surface and in the air through modern sensors and gadgets. They further asked to be more closely engaged in coordinating operations, with an improved mechanism for inter-ministerial coordination. Legal frameworks for implementation should be developed under involvement of all affected ministries, so that departments and agencies can be tasked accordingly.

Several other reactions were also related to the need for effective coordination between responsible authorities and committees. Government representatives as well as NGO participants proposed the inclusion of the BFD in the Joint Monitoring Cell under the Joint Monitoring Centre as an important next step to foster inter-agency coordination and cooperation. NGO representatives further suggested to

increase education and outreach related to social, economic, and ecological aspects of the SoNG MPA, and to foster relationships between local governments and influential local actors such as boat owners. Information sharing was another dimension of this discussion, with ideas to establish a central data bank among government leaders that could be co-hosted by BFD and DoF (RIMS unit of BFD could be a start) by NGO representatives, and the proposal to put more emphasis on collecting evidence-based information from external research & education institutes by representatives from academia.

For inter-ministerial coordination, government representatives also consider a national management committee for all MPAs in Bangladesh as a useful way forward. This may require a law amendment, perhaps oriented at international examples. Representatives from academia also recommend bridging mechanisms IMP recommendations and existent laws for policy-making. Legal harmonization was also addressed from an international perspective. While the IMP's compliance with international conventions was commended by NGO representatives, government officials called for a thorough consideration of CMMs⁷ by those responsible for managing the SoNG MPA. The need for regional collaboration with neighbouring countries for transboundary law enforcement was mentioned by representatives of academia as well as Navy and Coast Guard, also discussing the involvement of the latter to address this issue.

Although the IMP accounts for a diversity of stakeholders in the SoNG MPA, including SSF, academia representatives argued that some stakeholder groups are not sufficiently considered. They propose that stakeholders in the SoNG MPA should be ratified and shortlisted, including local NGOs, local community organizations, and local government bodies responsible for supporting the livelihoods of fishers, fish workers, and their communities. Multiple stakeholders should be engaged in capacity building activities, and further field surveys should be conducted to identify suitable options for alternative livelihoods. NGO and academia representatives pointed out the need to define small-scale fishers as a legal entity to ensure their access to social benefits. They further recommended the duly adoption FAO voluntary guidelines for securing SSF by government departments, as well as a proper impact mapping on the social and livelihood conditions of SSF.

One ecological concern voiced by representatives from academia was that marine pollution should be addressed more clearly in the IMP. Finally, NGO and academia representatives stressed the need for sustainable financing mechanisms for MPA management and maintenance.

Panel Discussion: Way Forward

The panel discussion included representatives of BFD, DoF, Chittagong University, Sylhet Agricultural University, SUST, WCS, and GIZ. The discussion was later opened to all workshop participants.

The discussion picked up the topics that emerged during small group work in the first half of the day. Panellists and other participants shared their thoughts on MPA zonation, sustainable fisheries management, the involvement of SSF and coastal communities, monitoring and data needs, coordination and implementation, research and capacity building, as well as financial sustainability.

Throughout the workshop, the zonation of the SoNG MPA as proposed in the IMP was critically discussed. The difficulty of managing three different zones with specific gear restrictions and the mismatch of the zones with existing fishing practices along depth contour lines were pointed out. When finalising the IMP, zoning should be carefully reconsidered under involvement of relevant authorities (DoF, CU, WCS). To achieve sustainability goals, it was further suggested to think beyond individual MPAs and rather advance a network of MPAs in Bangladesh (SAU).

⁷ Conservation and Management Measures are internationally binding decisions relating to conservation and management measures, for example by the Indian Ocean Tuna Commission (IOTC) <https://iotc.org/cmms>

The coexistence of conservation and sustainable fisheries, and the role of MPAs therein, was also discussed. Several panellists advocated for responsible fisheries practices rather than complete fishing bans, and how MPAs could be a tool to both protect biodiversity and sustain productive fisheries (DoF, SAU, WCS).

Most panellists agreed that the impact on coastal communities (especially SSF) should be taken seriously and called for their inclusive involvement in marine conservation measures. They further discussed the need to identify those SSF who need support (e.g., through registration, ID card), to provide assistance and alternative livelihood options during ban periods, and to provide incentives and capacities to comply with fishing regulations (SAU, SUST, BFDC, WCS, IUCN, Navy).

To create capacities for effective monitoring, several proposals were made with regard to protocols as well as data and technology needs. This included a review and further identification of indicators required for monitoring, the adoption of cost-effective technologies (citizen science, satellite-based monitoring), access to real time data for zoning, infrastructure development in form of a monitoring platform or a data hub (perhaps under the Research Unit of the MPA Management Committee), as well as SOPs, devices, and networks for SMART monitoring in the SoNG MPA (CU, SUST, DU, KU, WCS).

In response to issues of policy, coordination, and implementation, contributions in the panel mostly reflected positions and proposals brought forward during the work in small groups. Numerous panellists stressed the topic of financial sustainability, including the idea to include provisions for sustainable resource management in the national government budget (SUST, WCS, GIZ, CU).

A final round of statements focused on capacity-building priorities. Panellists and other participants emphasised the need for training on OECMs, MSP, sustainable marine fisheries management, exclusive fisheries management, and MPA management in general (DoF), training on co-management approaches (BDF), and training marine biodiversity conservation with a specific focus on identifying and recording species for the protection of threatened megafauna (IUCN). The multifaceted training needs involving armed forces (MOHA, MOFA) were highlighted (WCS), as well as the importance of effective delivery and peer learning (perhaps via conservation fisheries officers). Importance was also given to developing capacities for data collection and management, as well as tools and platforms that allow the use of this data for decision-making (SUST, WCS).

Appendix D: Insights of FGDs and Expert Round

Results of the focus group discussions (FGDs) with small-scale fishers, fish workers, and boat owners by the SoNG local consultant were discussed with experts from WorldFish, Arannayk Foundation, FAO, IUCN, and Sher-e-Bangla Agricultural University in Dhaka, prior to the pilot training. These insights served to refine the pilot training modules.

Most focus group participants reported limited exposure to training programmes, with the exception of few who received training in gear handling and first aid. Participants further pointed **unequal access to trainings**, as these are usually conducted with the same few individuals (gate-keepers) in a community. Regarding training preferences, most participants would appreciate **hands-on sessions in a local language and incorporating interactive methods**. Some favoured training topics include sea safety, weather alerts, and modern fishing gear. Focus group participants were further interested to receive **long-term, practical trainings** that enable them to diversify their livelihood through supplementary income, for instance in fish drying, crab farming, and eco-tourism. Common barriers for pursuing these occupations include the absence of capital and limited technical know-how. Focus group participants had a limited understanding of current fisheries laws and conservation rules in Bangladesh and in their region. Many are confused about restricted zones and penalties for disregarding regulations, showing the need for broad legal awareness campaigns in accessible formats. Participants mentioned a lack of trust in short-term or one-off programmes, language and literacy limitations, as well as poor timing that conflicts with fishing seasons as barriers to effective training. They propose to **schedule trainings during off-season**, to **engage community facilitators and local leaders**, to **provide ongoing mentorship** instead of one-time events, and to **ensure follow-ups and evaluations of training programmes**. Governmental decision-makers and those implementing trainings are advised to develop SSF-specific content on laws, safety, and alternative livelihoods, to **incorporate local voices and peer educators** into trainings, and to design **inclusive and trust-building programmes**.

During the expert discussion, **livelihoods and socio-economics, MPA management and enforcement, and governance and participation** were identified as key challenges. Discussants noted that traditional fishing models are no longer sufficient. Many fishers lack official IDs and don't receive compensation or social services during fishing bans. There's a need to build resilience, diversify livelihoods beyond fishing, and provide alternative employment opportunities, especially for women and youth. The issue of high-interest loans from middlemen was also highlighted as a major problem for fishers. The group also discussed the difficulties with monitoring and enforcing rules in large marine areas. The current SMART monitoring system was deemed impractical and too expensive, with GPS monitoring suggested as a more effective alternative. A lack of awareness about MPAs among fishers is a significant issue, as is the misconception that MPAs are simply "no-fishing zones." The group noted that government agencies lack the capacity for proper enforcement. Another central theme was the need for stronger governance and true participatory management. Discussants stressed the importance of building the capacity of fishers' organisations so they can advocate for their rights. The discussion also covered how to make management systems more **inclusive**, ensuring that local communities, including women and diverse groups, have a voice and that their traditional knowledge is valued. There was a strong consensus on the **need to build capacity** not just for fishers, but also for fisheries managers and government agencies. This includes training on new technologies, improving enforcement capabilities, and raising awareness about the benefits of conservation. Suggestions were made to explore other "blue economy" opportunities, such as post-harvest processing, as alternative livelihoods and to provide stipends or support for education and professional development during fishing off-seasons. **Co-management models** were discussed as a promising approach, where communities and government agencies work together to govern resources. The importance of inter-departmental coordination was also emphasised. Recommendations further included developing **insurance policies** for fishers, improving early warning systems for climate change, and ensuring that government systems are owned and maintained by the government itself, rather than being project-dependent.