

Preserving the Bay of Bengal: A Legal Framework and Human Rights Probe of Bangladesh's Maritime Environment

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Abstract

The Bay of Bengal is a vital confluence of natural diversity and human lives, renowned for its vast area, strategic location and ecological significance. In the Bay of Bengal, the maritime environment and marine resources play a critical role in sustainable development and human rights, yet it faces significant problems due to maritime environmental deterioration and human rights violations. This research paper explores safeguarding Bangladesh's maritime environment in the Bay of Bengal while also protecting human rights in light of enormous challenges, along with the convoluted connection between international and national laws and maritime environmental protection measures, highlighting inadequacies in their application for sustainable management of marine resources and human rights. This paper examines environmental deterioration caused by pollution, rising sea levels, climate change and maritime conflicts, focusing on the impact on coastal populations and investigating humanity's dilemma. Protection gaps and barriers to legal enforcement are examined, exposing limits in realizing maritime human rights. Their rights to health, food security and water are jeopardized by climate change and unsustainable practices. In the current laws, a hiatus exists between legal principles and their practical application. This paper has an extensive proposal multifaceted approach and consolidating fragmented laws, defining jurisdictional borders, strengthening enforcement and harmonizing national legislation with international maritime environmental and human rights standards. This paper concludes that safeguarding the Bay of Bengal is not just an environmental imperative but also a human rights obligation. To ensure the Bay of Bengal thrives as an ecological richness of maritime activities and human rights, it is essential to align the balance in the field of protecting the maritime environment and human rights.

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Introduction

The Bay of Bengal is crucial for Bangladesh, providing resources like fish, a trade route for its ports and potential for future development. The northern part of the Indian Ocean, where the Bay of Bengal lies, is a substantial area for maritime environmental and human rights problems at sea. It is a natural source with millions of people relying on the abundant bio-diversified resources found there including fish, coral reefs, mangroves, oil, fossils, gasses and food security as well as economic growth. However, these resources are under heavy threat due to overuse, pollution, climate change and maritime disputes.¹ In consequence, the conservation of marine and maritime environments with cooperation and a sustainable management system is vital.

The Bay of Bengal is highly populated with refugees from Myanmar, which is especially a result of irregular human migration.² Such refugee seekers are often stranded at sea for insurmountable months with a lot of agony from maltreatment at their fate by the smugglers, basic food and water scarcity and extreme weather. Offshore hydrocarbons are an important source of energy. Gas hydrates and natural gas in the seabed provide clean energy. On the other hand, marine renewable energy such as waves and tidal and offshore winds have large potential and can be harnessed to generate electricity as well as freshwater using appropriate technologies. In Bangladesh, deep seabed mining holds immense promise for mineral resources such as polymetallic nodules and rare earths. Although the extraction of these resources is essential for the benefit of humanity, there are associated environmental impacts but these marine resources are underutilized mostly undiscovered.³ Bangladesh's deep seabed has polymetallic nodules and rare earth elements, promising natural potential. Although obtaining these resources is essential for humanity's growth, it raises environmental issues.

Marine resources in the region offer hope for sustainable development, but their potential is underutilized. Many refugees seek sanctuary in the Bay of Bengal, but they encounter new challenges at sea. This migration issue requires increased refugee protection and help, regional cooperation and government sharing.

¹ Hossain A, "Marine Environment Protection of the Bay of Bengal: A Key Issue for Regional Ocean Governance and Sustainable Blue Economy"

<<http://dspace.bpatc.gov.bd:8080/bitstream/handle/1200/945/Seminar%20Paper%20on%20Marine%20Environment%20Protection%20of%20the%20Bay%20of%20Bengal%2C%20%2012%20Sep%202022.pdf?sequence=2&isAllowed=y>>

² Faye M, "A Forced Migration from Myanmar to Bangladesh and beyond: Humanitarian Response to Rohingya Refugee Crisis" (2021) 6 Journal of International Humanitarian Action

<<https://doi.org/10.1186/s41018-021-00098-4>>

³ Majumder MdZH and others, "Marine Renewable Energy Harnessing for Sustainable Development in Bangladesh: A Technological Review" (2024) 11 Energy Reports 1342

<<http://dx.doi.org/10.1016/j.egy.2024.01.001>>

The Bay of Bengal is an important path for regional and international security. It joins Southeast Asia and South Asia and is a way to get to the Indian Ocean. Maritime security and the interests of regional and extra-regional powers like China, the USA, the UK and Japan are still things that could cause problems.⁴ This is true even though the maritime boundary disputes between India, Myanmar and Bangladesh have been settled peacefully through international arbitration. So, to improve maritime security, the people who need to have a dialogue and work together need to find a way to balance their different wants and needs in the Bay of Bengal.

Background

The Bay of Bengal, situated between the Indian Ocean and the South and Southeast Asian areas, is the biggest in the world. It is a vast expanse of blue sea abounding with life, spanning an area of 2.6 million square kilometers.⁵ The largest bay in the world, the Bay of Bengal is also a crucial geographical feature that has influenced the lives of about half a billion people living along its coastal belt. It is an epicenter of biodiversity and an essential source of regional food. For the countries that border the bay of Bangladesh, India, Myanmar, Sri Lanka and Thailand, its rich marine life has been the foundation of their way of life, culture and survival.⁶

Fish abound on coral reefs and mangrove forests provide bird refuge in the complex and colorful ecological structure of the Bay of Bengal. Bangladesh, having so much coastline, benefits from the bay's natural resources and uses it as a commercial center, a fish hatchery and a cyclone barrier. The bay is of great commercial relevance since its depths are home to a large number of marine species as well as important mineral and hydrocarbon deposits.⁷

But both nature and human activity seriously endanger this priceless marine ecosystem. The ecology of the bay has been deteriorated by pollution from industrial and sewage sources on land as well as maritime risks like oil spills. Climate change is looming big, endangering infrastructure, agriculture and freshwater supplies due to rising sea levels and coastal erosion.

⁴ "Maritime Security in the Bay of Bengal: Obstacles and Opportunities" (May 14, 2024)

<<https://www.orfonline.org/research/maritime-security-in-the-bay-of-bengal-obstacles-and-opportunities>> accessed June 13, 2024

⁵ Alam MdW, Bhuyan MdS and Xiangmin X, "Protecting the Environment from Marine Pollution in Bangladesh: A Brief in Legal Aspects with Response to National and International Cooperation's" (2021) 37 *Thalassas: An International Journal of Marine Sciences* 871 <<http://dx.doi.org/10.1007/s41208-021-00347-8>>

⁶ Fanchette S, "Delta Vulnerability Linked to Climate and Environmental Changes: Metropolization Challenges in Asian and Nile Deltas," *MIDDLE EASTERN CITIES IN A TIME OF CLIMATE CRISIS* (2022) <<https://books.openedition.org/cedej/8574?lang=en>>

⁷ "Bangladesh: Protecting The Environment And Natural Resource Management" (World Bank, October 14, 2016) < <https://www.worldbank.org/en/results/2016/10/07/bangladesh-strengthening-bangladeshs-environment-natural-resource-management> >

Contributing about 4% of the world's fish catch, the Bay of Bengal's fisheries are under pressure from habitat damage, illegal activities and overfishing. Along with upsetting the natural equilibrium, these problems jeopardize the coastal town's capacity to obtain food and maintain their economic stability.⁸

Threats to regional stability and the security of marine commerce routes include armed theft and piracy. Moreover, international tensions brought about by unresolved maritime conflicts over exclusive economic zones (EEZ) and territorial waters have hampered cooperative attempts to manage and develop the resources of the bay.



Fig. 1 Bay of Bengal⁹

Equally urgent is the Bay of Bengal human rights dimension. The Rohingya refugees' situation, they were forced to relocate to the unstable Bhasan Char Island, highlights how urgently enough freedom of movement, access to basic services and security against natural calamities is needed. Human trafficking also has its hub in the bay, hence strong systems are needed to stop this international crime.¹⁰

It is impossible to ignore the Bay of Bengal's historical importance as a commercial and cultural conduit. From 5000 BC, there has been extensive long-distance trade and cultural transmission, as the archeological record attests. The bay's continuing legacy is

⁸ Sakhuja V, "FISHERIES AND THE PLASTIC THREAT IN BAY OF BENGAL" (National Maritime Foundation, August 22, 2016) <<https://maritimeindia.org/fisheries-and-the-plastic-threat-in-bay-of-bengal/>> accessed June 13, 2024

⁹ "Bay of Bengal - World in Maps" (World in maps, November 29, 2021) <<https://worldinmaps.com/bays/bay-of-bengal/>>

¹⁰ "The Bhasan Char Relocation Project – Implications for Rohingya Refugees in Bangladesh - Bangladesh" (ReliefWeb, January 18, 2020) <<https://reliefweb.int/report/bangladesh/bhasan-char-relocation-project-implications-rohingya-refugees-bangladesh>> accessed June 13, 2024

highlighted by the Bay of Bengal Interaction Sphere concept, which clarifies its function in prehistoric world networks.¹¹

The solution to these complex problems must be human rights-centric. Integration of historical knowledge with current human rights concerns is crucial to promote a comprehensive comprehension of the complexity of the area. An approach of this kind will guarantee the protection and advancement of the human rights of those who depend on this important marine domain in addition to helping to maintain the ecological integrity and economic potential of the bay.

Finally, the Bay of Bengal is at a crossroads when its littoral states combined efforts, motivated by profound regard for human rights and historical background, can guide it toward a sustainable and just future. It is an appeal for regional collaboration, environmentally friendly management and a dedication to the human rights of all people who live in the Bay of Bengal.

Objective and Scope of the Paper

How can Bangladesh preserve its maritime environment in the Bay of Bengal while also protecting human rights in light of these enormous challenges? This research delves into this critical question, seeking answers that will ensure a future where the Bay continues to be a source of life and prosperity for generations to come.

This paper explores the legal framework for Bangladesh's maritime zone, focusing on and evaluating oceans, seas, bays, estuaries, lagoons, deep sea, oceanic trenches, ridges, islands, coastal areas, ships and boats, ports, oil drilling platforms, the air of the maritime zone and human rights safeguards. It looks for national laws and international instruments and pinpoints the hiatus and demand for implementation with regard to human rights and the enforcement of the law to ensure the sustainability of the maritime environment. In this paper, a procedure of recommendations is presented for animating the legal framework, enhancing the enforcement system and protecting the Bay's resources for present and future generations. Here is a method of research that is qualitative and interdisciplinary.

The paper is structured into four main sections, each focusing on a specific aspect of the research question. The first section looks at the existing law; the second section dredges into maritime environmental and human rights balance; the third critically

¹¹ Gupta S, "The Archaeological Record of Indian Ocean Engagements: Bay of Bengal (5000 BC-500 AD) of a Single Chapter of a Title in Oxford Handbooks Online for Personal Use (for Details See Privacy Policy and Legal Notice)" [2019] Allahabadmuseum
<https://www.academia.edu/38073444/The_Archaeological_Record_of_Indian_Ocean_Engagements_Bay_of_Bengal_5000_BC_500_AD_of_a_single_chapter_of_a_title_in_Oxford_Handbooks_Online_for_personal_use_for_details_see_Privacy_Policy_and_Legal_Notice>

assesses the implementation and enforcement of these laws; and the final section proposes suitable recommendations for the Bay of Bengal for a structural legal framework.

Navigating Bangladesh's Legal Seascape: Frameworks

International and Regional Instruments

A number of regional and international institutions are profoundly engrossed with Bangladesh's maritime rights, duties and bindings. The fundamental outline is set by the United Nations Convention on the Law of the Sea (UNCLOS). It supports another convention to provide safeguards for maritime environmental aspects, which is the International Convention for the Prevention of Pollution from Ships (MARPOL). These two conventions guard the maritime environmental principles and rights of resources framed, outlined and defined in maritime zones. UNCLOS and MARPOL were ratified by Bangladesh in the years 1981 and 2003.

The UNCLOS and MARPOL agreements help Bangladesh preserve its maritime environment from pollution, overexploitation and deterioration. Along with sovereignty over its maritime zones, such as the EEZ and continental shelf, where it may exploit natural resources.¹²

In 1994, Bangladesh pledged to conserve marine life in the EEZ by ratifying the Convention on Biological Diversity (CBD). The CBD convention obliges Bangladesh to protect its marine biodiversity, including endangered species, habitats and ecosystems. It also encourages fair and equitable sharing of genetic resource benefits.¹³

Furthermore, regional accords such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP) address maritime security and sustainable development issues separately. The BIMSTEC and ReCAAP accords improve Bangladesh's maritime security and collaboration with Bay of Bengal nations. They tackle piracy, armed robbery, illicit fishing, human trafficking, and terrorism. They promote regional economic and social growth through trade, investment, tourism and connectivity.

These approaches improve Bangladesh's maritime space management by expanding collaboration, protecting, managing and using Bangladesh's maritime environment and human rights. They also help Bangladesh coordinate with maritime sectors regionally and internationally.

¹²BDLex, "Marine Environmental Protection: A Legal Analysis in Bangladesh and Surrounding Regions" (<https://www.linkedin.com/>, December 27, 2023) <<https://www.linkedin.com/pulse/marine-environmental-protection-legal-analysis-bangladesh-ebekc>> accessed March 9, 2024

¹³Alam MdW, Bhuyan MdS and Xu X, "Protecting the Environment from Marine Pollution in Bangladesh: A Brief in Legal Aspects with Response to National and International Cooperation's" (2021) 37 *Thalassas: An International Journal of Marine Sciences* 871 <<https://doi.org/10.1007/s41208-021-00347-8>>

Domestic Laws and Policies

Bangladesh has appointed manifold policies, strategies and legislations to modulate its maritime activities and maritime environmental protection. Key environmental provisions include pollution control, marine scientific research, marine biodiversity conservation and the establishment of marine protected areas (MPAs).¹⁴

The Territorial Waters and Maritime Zones (Amendment) Act, 2021 updates the 1974 statute to comply with UNCLOS and maritime border conflicts with India and Myanmar. It specifies Bangladesh's internal waterways, territorial sea, contiguous zone, exclusive economic zone (EEZ) and continental shelf. It also gives Bangladesh the right to explore and exploit natural resources, prevent and control marine pollution, build and operate artificial islands and installations, and regulate marine scientific research in these zones. It also forbids garbage dumping, fishing, mining and military actions in marine zones and enforces and penalizes violators.

The Marine Fisheries Act, of 2020, controls Bangladesh's exclusive economic zone (EEZ) and continental shelf marine fisheries. Fishing licenses, permits and quotas for aquaculture, processing and marketing are regulated by it. It also promotes fish stock conservation by banning destructive fishing, creating marine protected zones and using precautionary and ecological techniques. The Marine Fisheries Advisory Council and Marine Fisheries Management Unit advise and support the government in developing and implementing marine fisheries policy. It also regulates fishing and imposes penalties for infractions.

The Environmental Protection Act, 1995 structured exclusive groundwork for environmental protection in Bangladesh, besides pollution of land, air and water. This law generates the Department of Environment as the principal regulatory agency, granting it the authority to set up environmental gauges, issue pollution control permits and initiate enforcement measures against polluters.

The Bangladesh Environment Court Act, of 2010 sets up a special type of court to handle environmental issues. This makes getting environmental justice faster and easier. This law gives people and groups who have been hurt by environmental damage a way to get help and it also supports environmental protection by speedy legal action.¹⁵

Lastly, Bangladesh is a developing nation, its laws and regulations govern maritime activities and protect the maritime environment, but inadequate maritime environmental sector and activities, limited resources and the need for public knowledge and community involvement in conservation environment and human rights persist.

¹⁴"The Importance of Marine Protected Areas (MPAs)"

<<https://education.nationalgeographic.org/resource/importance-marine-protected-areas/>>

¹⁵Sajal IA, "Bangladesh Environment Court Act 2010: A Critical Analysis" (Bangladesh Law Digest (BDLD), October 25, 2020) <<https://bdlawdigest.org/environment-court-act-2010.html>>

Advantages and Drawbacks

Bangladesh has ratified several international and regional instruments that aim to protect its maritime rights, interests and environment, such as UNCLOS, MARPOL, CBD, BIMSTEC and ReCAAP. These instruments provide a legal framework for Bangladesh to cooperate with other states and organizations on various maritime issues, such as pollution prevention, biodiversity conservation, security and development. Although respectively, these sets of rules and practices are confined and unreliable. Strengths include a comprehensive legislative outline and core covering maritime activities and environmental protection, specialized organizations such as the Department of Environment and the Coast Guard and participatory procedure in some guidelines.

Bangladesh has updated its national laws and policies to reflect its maritime obligations and aspirations, such as the Bangladesh's Territorial Waters and Maritime Zones (Amendment) Act, 2021 has pros and cons. It sets national legislation in line with international standards, primarily UNCLOS and claims sovereignty over maritime zones, which is essential for resource extraction. Criticism claims that the modifications may not adequately address marine governance's difficulties and could cause jurisdiction and enforcement disputes. Implementation and navigation of maritime law and international relations are key to the Act's success.¹⁶ The Marine Fisheries Act, 2020 regulates maritime resources to promote sustainability and comply with UNCLOS. Updates legislative framework for fishing activity, license issuance and enforcement. However, it has been criticized for not embracing globally known fisheries management principles like ecosystem-based and cautious management. The Act fails to address government agency capacity development and community engagement, essential for fisheries management and conservation. These deficiencies show that the Act needs improvement to safeguard marine life and benefit local communities.¹⁷

The Bangladesh Environment Court Act, 2010 and the Environmental Protection Act, 1995. These laws and policies regulate Bangladesh's maritime activities and protect its maritime environment and resources. They also establish the jurisdiction and authority of the High Court Division as the Admiralty Court and the Environment Court to hear and determine maritime and environmental disputes.

Bangladesh struggles to execute and enforce its maritime legislation due to capacity, coordination, awareness and compliance issues. Bangladesh lacks the infrastructure, equipment, manpower and finance to monitor and govern its extensive maritime zones to

¹⁶ Wahi CAMA, Talukder MdAMH and Ahad AJTA, "Territorial Waters and Maritime Zones (Amendment) Act, 2021: An In-Depth Analysis and Overview" (2024) 8 Bangladesh Maritime Journal (BMJ) <https://www.researchgate.net/publication/379958856_Territorial_Waters_and_Maritime_Zones_Amendm ent_Act_2021_An_In-Depth_Analysis_and_Overview>

¹⁷ Arif AA and Karim MS, "Marine Fisheries Act 2020 of Bangladesh: A Missed Opportunity for Sustainability and Collaborative Governance" (2022) 37 International Journal of Marine & Coastal Law/International Journal of Marine and Coastal Law 337 <<https://doi.org/10.1163/15718085-bja10075>>

prevent dumping, fishing, mining and piracy.¹⁸ Bangladesh's Ministry of Foreign Issues, Ministry of Environment, Ministry of Fisheries, Navy, Coast Guard and private sector struggle to coordinate maritime issues. Bangladesh must also raise awareness among the public and government on its maritime rights and duties and the pros and cons of maritime development. There must also be a guarantee that the maritime laws and regulations are compatible with its international responsibilities and that all parties enforce and comply with them.

Bangladesh has made progress in aligning its maritime laws and policies with international treaties, but it still struggles to execute and enforce them. The gap between the extensive statutory framework and enforcement capacity highlights the need for systemic changes. To simplify maritime governance, institutional capacity, inter-agency collaboration and community involvement must be strengthened. To protect Bangladesh's maritime interests and promote sustainable marine resource development, national legislation must satisfy international standards and be pragmatically enforced.

The Human Rights Probe of Bangladesh's Maritime Environment

Bangladesh, a country endowed with an extensive coastline and abundant marine resources, has a pivotal dilemma of how to achieve a harmonious balance between upholding human rights and preserving its maritime environment. Although the primary objective of maritime laws is to protect delicate ecosystems and valuable resources, they can inadvertently limit human livelihoods and fundamental freedoms and rights.¹⁹

Bangladesh's maritime environment laws, built upon international conventions like the UNCLOS, SOLAS, MARPOL and STCW are vital for several reasons. For conservation, these laws regulate activities like fishing, pollution discharge and seabed mining, preventing environmental degradation and ensuring the sustainability of marine resources. The regulations aim to maintain the safety and security of maritime traffic, prevent maritime piracy and smuggling and protect coastal communities from environmental hazards. The sustainable management of the maritime environment enhances economic potential by ensuring the health of fish stocks, encouraging ecotourism and exploiting offshore resources.

The inadequate implementation of these regulations and lack of covering the basic maritime grounds leads to affecting human rights, particularly for populations that are located along the coastline. Since Bangladesh's coastal people heavily depend on the sea for livelihood, restrictions on fishing techniques may have an influence on their income

¹⁸ Islam M, "Maritime Security Challenges for Bangladesh: Response Options" (2020) 40 Bangladesh Institute of International and Strategic Studies (BIISS)

<https://www.researchgate.net/publication/348714556_Maritime_Security_Challenges_for_Bangladesh_Response_Options>

¹⁹ Singh PA and Ort M, "Law and Policy Dimensions of Ocean Governance," Springer eBooks (2019) <https://doi.org/10.1007/978-3-030-20389-4_3>

and food security. These communities confront a variety of risks to their traditional way of life. The rights and means of subsistence of our coastal fishermen, who rely mostly on marine resources for their income, must be safeguarded immediately.²⁰

In order to combat maritime terrorism piracy and illegal activities might limit access to traditional fishing grounds or restrict movement at sea for the coastal peoples.²¹ Environmental protection efforts may lead to the relocation of communities living in ecologically sensitive coastal areas.²²

The balance between human rights and maritime environmental laws in Bangladesh is essential for achieving the SDGs 2030, Vision 2041 and Delta Plan 2100 through a combination of protecting the correct balance of rights, recognition of the rights of the environment, sustainable economic development, environmental protection measures and human rights.

Reasons of Human Rights Violations in Maritime Environment Aspect

The Bay of Bengal, pulsating with life and economic potential, also harbors a dark undercurrent of human rights violations inextricably linked to its maritime environment. Examining the causes of these violations necessitates a holistic approach, encompassing climate change, natural disasters, pollution, illegal fishing, maritime accidents and even border conflicts.

The Spectra of Climate Change

Human rights breaches are caused by climate change, which impacts the maritime environment and coastal and fishing populations. Coastal erosion, flooding, salinity, droughts, storms and cyclones result from climate change's temperatures, precipitation, sea levels and weather patterns.²³ The Intergovernmental Panel on Climate Change (IPCC) estimates a global mean sea-level rise of 0.3 to 0.6 per year by 2100, threatening low-lying coastal communities in Bangladesh and India.²⁴

²⁰ Marof MH, "Fishing Ban in Bangladesh Is a Bilateral Issue" (<https://www.thedailystar.net/>, May 29, 2023) <<https://www.thedailystar.net/opinion/views/news/fishing-ban-bangladesh-bilateral-issue-3331831>> accessed March 11, 2024

²¹ Ndc CMGRN, "ENHANCING MARITIME COOPERATION AMONG THE LITTORAL STATES IN THE BAY OF BENGAL REGION (BBR)" (2018) 17 NDC E-JOURNAL 134 <<https://ndcjournal.ndc.gov.bd/ndcj/index.php/ndcj/article/view/230>> accessed March 11, 2024

²² Ranjan R, "Protection of Coastal and Marine Environment in Bangladesh: A Critical Analysis under Domestic and International Law" (Journal of Legal Studies & Research, September 19, 2022) <<https://jlsr.thelawbrigade.com/article/protection-of-coastal-and-marine-environment-in-bangladesh-a-critical-analysis-under-domestic-and-international-law/>>

²³ Farukh O and Bindu Z, "Maritime Safety in Bangladesh, Legal Framework" (www.academia.edu, January 15, 2021) <https://www.academia.edu/44904320/Maritime_safety_in_Bangladesh_Legal_Framework>

²⁴ "Anticipating Future Sea Levels" <<https://earthobservatory.nasa.gov/images/148494/anticipating-future-sea->

Bangladesh recorded 14.12 million displacements between 2010 and 21 as a result of natural disasters.²⁵ The International Organization for Migration (IOM) has also highlighted Bangladesh's vulnerability to climate change, with estimates of future mass displacement of 13 to 40 million people due to sea level rise.²⁶ Displacement, salinization of agricultural land and loss of livelihoods are anticipated consequences, directly impacting the right to adequate housing, food security and work.

Increasingly frequent cyclones and storm surges wreak havoc on coastal settlements, causing mass displacement, loss of life and damage to infrastructure. The 2007 Cyclone Sidr in Bangladesh alone displaced 8.1 million people and caused an estimated Bangladesh Taka (BDT) 115.6 billion (US\$ 1.7 billion) in damages, a stark illustration of the human cost of climate-induced disasters.²⁷

As climate change and population growth put pressure on marine resources, competition for dwindling fish stocks intensifies. This can lead to conflicts between fishing communities, potentially violating the right to life and security of human life in Bangladesh.

Pollution's Damage

Pollution, a major cause of human rights violations, impacts the maritime environment and the health of coastal and fishing communities. It comes from industrial, agricultural, urban and maritime activities, releasing pollutants like chemicals, pesticides, fertilizers, plastics, oil and waste into water, air and soil. These pollutants affect the quality and quantity of natural resources, crucial for food security and livelihoods.²⁸

Marine Pollution: Industrial waste, agricultural runoff and plastic debris contaminate the Bay's waters, posing serious health risks to fishing communities and impacting the

levels#:~:text=6)%2C%20the%20IPCC%20expects%200.3,sea%20level%20rise%20by%202100.&text=A%20host%20of%20competing%20factors,to%20regional%20and%20local%20scales>

²⁵ Rakin-Uz-Zaman, "Natural Disasters Caused 14m Displacements in Bangladesh in 2010-21" (The Business Standard, September 19, 2022)

<<https://www.google.com/amp/s/www.tbsnews.net/bangladesh/environment/natural-disasters-caused-14m-displacements-bangladesh-2010-21-499434%3famp>>

²⁶ "Policy Architecture to Address Disaster and Climate Change Induced Displacement in Bangladesh - Researching Internal Displacement" (Researching Internal Displacement, March 9, 2023)

<https://researchinginternaldisplacement.org/short_pieces/policy-architecture-to-address-disaster-and-climate-change-induced-displacement-in-bangladesh/>

²⁷ "Cyclone Sidr in Bangladesh: Damage, Loss, and Needs Assessment for Disaster Recovery and Reconstruction - Bangladesh" (ReliefWeb, April 30, 2008) <<https://reliefweb.int/report/bangladesh/cyclone-sidr-bangladesh-damage-loss-and-needs-assessment-disaster-recovery-and>>

²⁸ Jazeera A, "European Companies Dumping Toxic Ships on Bangladesh Beaches, HRW Says" (Al Jazeera, September 28, 2023) <<https://www.aljazeera.com/news/2023/9/28/european-companies-dumping-toxic-ships-on-bangladesh-beaches-hrw-says#:~:text=News%7CEnvironment-,European%20companies%20dumping%20toxic%20ships%20on%20Bangladesh%20beaches%2C%20HRW%20says,workers%20who%20pull%20them%20apart>>

right to safe food and water. A 2015 study by the World Bank estimated that the economic cost of marine plastic pollution in Bangladesh alone could reach \$1.3 billion per year by 2025. Bangladesh's coastlines send out a total of 0.12 to 0.31 million metric tons of plastic waste every year.²⁹

Offshore drilling and oil tanker accidents may devastate marine ecosystems and coastal populations. Human rights breaches from oil spills are being highlighted.

Unregulated Maritime Seascape

In Bangladesh, illegal, unreported and unregulated (IUU) fishing in the Bay of Bengal has serious consequences for human rights, notably for local fishing communities. Bangladesh's coastal waters are rich in marine life and fishing provides a vital source of income and sustenance for millions of people. However, IUU fishing has depleted fish supplies, jeopardizing the food security and economic stability of many communities.³⁰

The presence of foreign vessels engaged in unlicensed fishing activities has raised serious concerns. These vessels frequently employ destructive fishing practices, which not only take fish indiscriminately but also harm the marine ecosystem.³¹ Local fishermen, who rely on traditional and sustainable fishing practices, face competition from these large-scale companies. Thus, their harvest and income have fallen, plunging many into poverties.

Furthermore, illegal fishing gangs operating in the Bay of Bengal are known to use intimidation and violence, endangering the safety and well-being of indigenous fishermen. Such activities violate these people's core human rights, including the right to life, health and a safe workplace. The absence of reliable data on IUU fishing incidences in the Bay of Bengal makes it difficult to address these concerns effectively.

Maritime events such as fires, groundings and collisions at sea compound the issue by inflicting environmental damage and possibly fatalities.³² These deaths demonstrate the necessity of marine safety legislation and enforcement in protecting seafarer's rights and ensuring workplace safety.

²⁹ Chowdhury GW and others, "Plastic Pollution in Aquatic Systems in Bangladesh: A Review of Current Knowledge" (Science of The Total Environment, March 1, 2021) <<https://doi.org/10.1016/j.scitotenv.2020.143285>>

³⁰ Mozumder MMH and others, "Governance of Illegal, Unreported, and Unregulated (IUU) Fishing in Bangladesh: Status, Challenges, and Potentials" (2023) 10 Frontiers in Marine Science <<https://doi.org/10.3389/fmars.2023.1150213>>

³¹ Azad AK and Pamment C, "Bangladesh Overfishing: Almost All Species Pushed to Brink" BBC (April 16, 2020) <<https://www.bbc.com/news/world-asia-52227735>>

³² Chowdhury J, "Bangladesh Has a Key Role in Combating Maritime Threats in Bay of Bengal" (South Asia Monitor, January 17, 2017) <<https://www.southasiamonitor.org/spotlight/bangladesh-has-key-role-combating-maritime-threats-bay-bengal>> accessed June 13, 2024

Bangladesh has fought to improve marine resource management and implemented seasonal fishing restrictions to enable fish stocks to recover in response to the effects of IUU fishing. To properly counter IUU fishing and safeguard the rights and way of life of Bangladesh's native fishing communities, more regional collaboration and law enforcement is required.

Conflict on Maritime Boundary

One more derivation of human rights curtails is the border in future terror or conflicts, which puts the security of the dignity of the coastal community at risk. Bangladesh, India and Myanmar are in dispute over maritime boundaries and fishing rights.³³

Due to these disputes, the fishing and coastal community is derived from the maritime resources and sustainability at its peak. Moreover, these people get killed, harassed, imprisoned, tortured and massacred by the neighboring coastal state forces due to the dispute.³⁴

Ultimately, human rights breaches have occurred in Bangladesh's Bay of Bengal due to environmental degradation, resource constraints, and political upheaval. Climate change increases the frequency and intensity of natural catastrophes like cyclones and floods, causing extensive destruction and displacement. The Mahanadi Estuary's habitat deterioration and water quality decline contribute to livelihood loss and food insecurity, making populations vulnerable.³⁵

Bangladesh faces resource constraints, especially clean water. Despite the country's extensive river systems, pollution and saline intrusion have left a considerable percentage of the population without safe drinking water. This scarcity affects people's health, economic possibilities and well-being, especially in rural and coastal areas, making it a human rights issue as well as an environmental one.

Environmental and resource issues often spark political turmoil. Conflicts over few resources and environmental degradation-induced displacement can strain fragile political regimes. The Rohingya crisis, when refugees were relocated to Bhasan Char,

³³ Ahmad O, "Bangladesh Bans Sea Fishing for All, Affecting Half a Million People" The Third Pole (January 4, 2021) <<https://www.thethirdpole.net/en/nature/bangladesh-bans-sea-fishing-for-all-affecting-half-a-million-people/>>

³⁴ WATSON S, "The Bangladesh/Myanmar Maritime Dispute: Lessons for Peaceful Resolution | Asia Maritime Transparency Initiative" (Asia Maritime Transparency Initiative, October 19, 2017) <<https://amti.csis.org/the-bangladeshmyanmar-maritime-dispute-lessons-for-peaceful-resolution/>> accessed June 13, 2024

³⁵ Pati SS and others, "A Comprehensive Study of the Estuary Sea Environment in the Bay of Bengal, near the Mahanadi River Confluence" (2023) 3 Discover Water <<https://doi.org/10.1007/s43832-023-00044-y>>

aroused worries about their safety and human rights due to the island's monsoon vulnerability and poor infrastructure.³⁶

The Bay of Bengal crisis shows how environmental issues and human rights are interwoven. Environmental conservation, sustainable resource management and political stability must be considered together to protect and promote human rights in Bangladesh. Environmental deterioration has a direct impact on the human rights of marginalized populations, as revealed by the complicated side of the Bay of Bengal ecosystem and its numerous interdependencies.

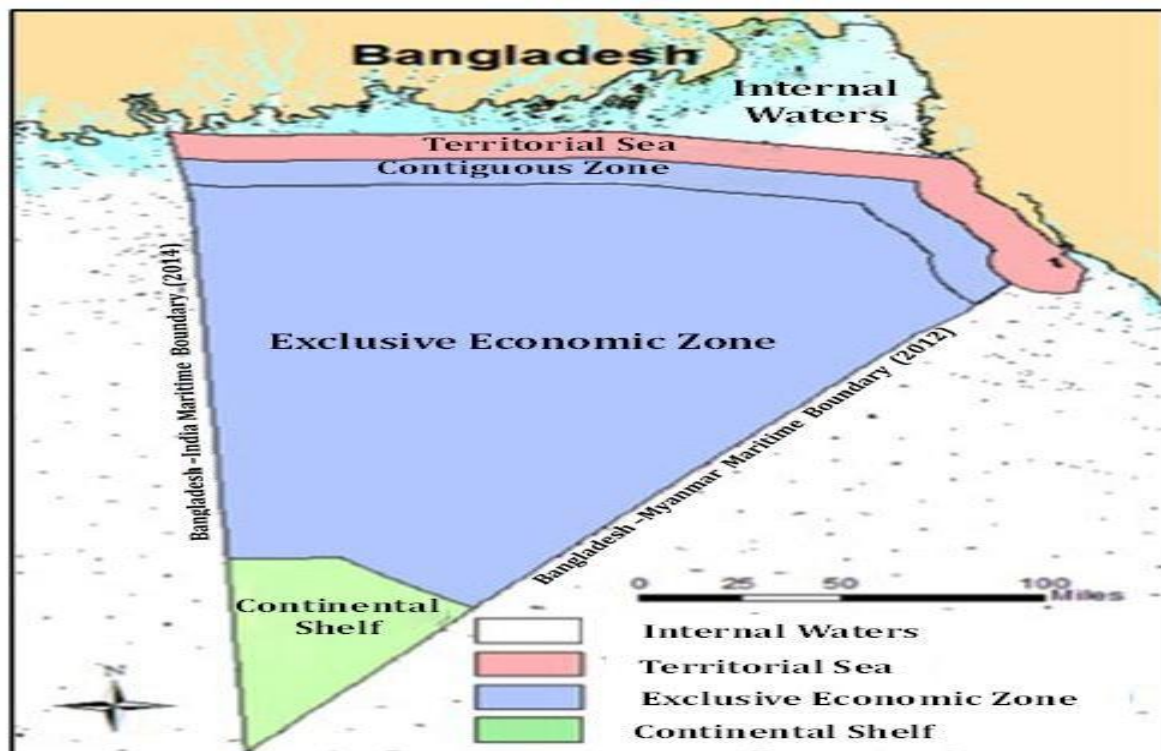


Fig. 2 Maritime Area of Bangladesh³⁷

Limitations in Enforcing the Legislation

Several bottlenecks impede the protection and promotion of human rights in the maritime environment. Maritime human rights preservation and promotion face several obstacles such as affected groups, mainly rural fishing villages or slum residents near coastal areas, are unaware of their legal rights and remedies.³⁸

³⁶“An Island Jail in the Middle of the Sea” (2023) <<https://www.hrw.org/report/2021/06/07/island-jail-middle-sea/bangladeshs-relocation-rohingya-refugees-bhasan-char>> accessed June 13, 2024

³⁷ Hussain MG and others, “Major Opportunities of Blue Economy Development in Bangladesh” (2017) 14 Journal of the Indian Ocean Region 88 <<http://dx.doi.org/10.1080/19480881.2017.1368250>>

³⁸ Strating R, Rao S and Yea S, “Human Rights at Sea: The Limits of Inter-State Cooperation in Addressing Forced Labour on Fishing Vessels” (2024) 159 Marine Policy 105934 <<https://www.sciencedirect.com/science/article/pii/S0308597X23004670>>

Environmental and human rights breaches are harder to remedy due to this information gap.³⁹ Marginalized communities typically struggle to navigate the judicial system. Limited legal assistance, high litigation expenses and complex procedural procedures hinder justice, especially for socioeconomically vulnerable people.

Even though there is a comprehensive legislative framework in place, which includes the Marine Fisheries Act, of 2020 and the Environmental Conservation Act, of 1995, the actual execution is still insufficient. Bangladesh is obligated to implement internationally recognized principles and measures of fisheries management, the country's Marine Fisheries Act, 2020 has been criticized for failing to do so.⁴⁰ Notable gaps from the statute comprise of essential for long-term viability, ecosystem-based fisheries management is not entirely embraced by the Act. Important for avoiding future damage to fish populations and ecosystems, the precautionary principle is not considered or implemented.⁴¹ Community participation and the capacity development of relevant government agencies are not being discussed, despite their importance for collaborative governance and the inclusion of all stakeholders in fisheries management.

An important milestone in protecting Bangladesh's environment was the passage of the Bangladesh Environment Conservation Act, of 1995. However, it has been criticized and found to have loopholes that could make it less effective, as are many laws. Criticisms have pointed out several holes, such as:

The Act has been criticized for delegating exceptionally broad powers to the Director General (DG) of the Department of Environment, without precisely spelling out the technical qualifications for the officers. It has been determined that the Act's sanctions for certain environmental violations are insufficient. One major concern is that the Act's clauses about "national interest" and "good faith" could be taken advantage of. At the planning, executing, and monitoring stages of developmental action agendas, numerous environmental concerns are not integrated, which is a major challenge.⁴²

These laws' lack of clarity frequently causes misunderstanding and makes it more difficult for them to be enforced. It is difficult for authorities to take prompt action against offenders due to procedural complications. Weak accountability systems let some offenders get away with crimes.⁴³

³⁹ "Bangladesh: Shipping Firms Profit from Labor Abuse" (Human Rights Watch, September 28, 2023) <<https://www.hrw.org/news/2023/09/27/bangladesh-shipping-firms-profit-labor-abuse>>

⁴⁰ Supra 17

⁴¹ *ibid*

⁴² Khan B, "Efficacy & Implementation Gaps in the 'Core Environmental Laws' of Bangladesh: An Overview" (2022) 33 Dhaka University Law Journal 73 <<https://doi.org/10.3329/dulj.v33i1.61510>>

⁴³ Sarwar MG, "Making a Case for Environmental Rule of Law in Bangladesh" <https://www.thedailystar.net/> (June 8, 2021) <<https://www.thedailystar.net/law-our-rights/news/making-case-environmental-rule-law-bangladesh-2106989>> accessed March 11, 2024

The presence of accountability and impunity is infrequent in the face of significant repercussions for environmental misconduct.⁴⁴ Even though violations have been recorded, people still cannot get immediate and effective solutions. Long-term repercussions on income and health are frequently not sufficiently covered by legal compensation, and environmental restoration strategies are ineffective.⁴⁵

Maritime Human Rights Issues and Challenges

Bangladesh's fishermen and coastal communities confront several human rights concerns that impair their social, economic life. Several fundamental human rights are at risk impacting their well-being and dignity. The factors that cause violation of human rights in this Bay are discussed:

Climate change amplifies dangers to coastal and fishing communities, including cyclones, floods, landslides, sea level rise and storm surges, affecting their right to life.⁴⁶ Additionally, marine incidents including boat capsizing, collisions, fires and explosions pose a danger of death or injury.⁴⁷ They also suffer from violence and insecurity caused by border conflicts, particularly with India and Myanmar, over fishing rights and territorial disputes.⁴⁸

Limited access to good drinking water, sanitation, hygiene and health care facilities makes coastal and fishing populations vulnerable to health issues such as waterborne illnesses, malnutrition, skin infections, respiratory infections and mental stress.⁴⁹ In addition, environmental risks such as pollution, salinity, arsenic and heavy metals negatively impact their physical and mental health.⁵⁰

⁴⁴ Shaheen M and Chowdhury, "Study Report on Child Labour in the Shipbreaking Sector in Bangladesh" (ResearchGate, June 19, 2019)

<https://www.researchgate.net/publication/342834624_Study_Report_on_Child_Labour_in_the_Shipbreaking_Sector_in_Bangladesh>

⁴⁵ Faroque S and South N, "Law-Enforcement Challenges, Responses and Collaborations Concerning Environmental Crimes and Harms in Bangladesh" (2020) 66 International Journal of Offender Therapy and Comparative Criminology 389 <<http://dx.doi.org/10.1177/0306624x20969938>>

⁴⁶ Islam MdM, "Impacts and Responses of Bangladesh Coastal Fishing Communities to Climate Change: Implications for Policy and Scaling-Up" [2021] Springer Climate 157 <http://dx.doi.org/10.1007/978-3-030-75825-7_9>

⁴⁷ "Protection of the Marine Environment" [2023] The Development of the Law of the Sea by UNCLOS Dispute Settlement Bodies 154 <<http://dx.doi.org/10.1017/9781108980296.007>>

⁴⁸ Rahman CROS-EIICFMIBAKA, "COUNTRY REPORT ON SOCIO-ECONOMIC ISSUES IN COASTAL FISHERIES MANAGEMENT IN BANGLADESH" (<https://www.fao.org>) <<https://www.fao.org/3/bm213e/bm213e.pdf>> accessed December 31, 2023

⁴⁹ Ashrafuzzaman M, Gomes C and Guerra J, "The Changing Climate Is Changing Safe Drinking Water, Impacting Health: A Case in the Southwestern Coastal Region of Bangladesh (SWCRB)" (2023) 11 Climate 146 <<http://dx.doi.org/10.3390/cli11070146>>

⁵⁰ Mitra S and others, "Impact of Heavy Metals on the Environment and Human Health: Novel Therapeutic Insights to Counter the Toxicity" (2022) 34 Journal of King Saud University - Science 101865 <<http://dx.doi.org/10.1016/j.jksus.2022.101865>>

Since coastal people depend on marine resources for food and income, these people face another food rights issue. They confront dwindling fish populations, overfishing, illegal fishing and habitat degradation from climate change, pollution, and humans.⁵¹ The absence of infrastructure, markets and social protection makes food access, price and availability difficult.

Water shortages and pollution in coastal and fishing communities are exacerbated by climate change, including sea level rise, saltwater intrusion and drought. Without infrastructure, regulation and management, they struggle with water availability, quality, and price.⁵²

Coastal and fishing villages depend on the maritime sector for revenue and jobs.⁵³ However, climate change, pollution, overfishing, illegal fishing and competition reduce productivity, profitability and sustainability. Lack of legal legitimacy, social security and representation lead to exploitation, discrimination and marginalization.

Lastly, the right to culture is another significant challenge for these communities, as they face threats of erosion, displacement and assimilation due to climate change, natural disasters, development projects and migration.

Case Studies: Bangladesh's Maritime Environment

The complicated web of Bangladesh's maritime environment intersects with the vitalities of countless individuals, knitting portrayals of both resilience and vulnerability. To completely apprehend the human dimensions of environmental degradation, this excerpt delves into specific case studies, each showcasing the lived experiences of communities grappling with the consequences of a changing Bay of Bengal.

Sundarbans Oil Spill Incidence

On December 9, 2014, a cargo ship and an oil tanker collided on the Shela River in the Sundarbans, a mangrove forest in Bangladesh that is both nationally protected and a UNESCO World Heritage Site. Approximately 358,000 liters of furnace oil from the ship seeped into the river. An expanse of the Sundarbans, including more than 60km-long (37 miles) of rivers, has been affected by the oil leak.⁵⁴

⁵¹ Islam MdS, "Perspectives of the Coastal and Marine Fisheries of the Bay of Bengal, Bangladesh" (2003) 46 *Ocean & Coastal Management* 763 <[https://doi.org/10.1016/s0964-5691\(03\)00064-4](https://doi.org/10.1016/s0964-5691(03)00064-4)>

⁵² "Trading Lives for Profit" (Human Rights Watch, September 29, 2023) <<https://www.hrw.org/report/2023/09/28/trading-lives-profit/how-shipping-industry-circumvents-regulations-scrap-toxic>>

⁵³ Unb/dc, "The Bay of Bengal and Bangladesh: Potentials of Blue Economy Lucre vs. Looming Ecological Disasters" (<https://dhakacourier.com.bd/>) <<https://www.dhakacourier.com.bd/m/news/Column/The-Bay-of-Bengal-and-Bangladesh:-Potentials-of-Blue-Economy-lucre-vs-looming-ecological-disasters/3421>>

⁵⁴ "SUNDARBANS OIL SPILL ASSESSMENT" (Joint UNEP/OCHA Environment Unit 2014) <<https://www.undp.org/bangladesh/publications/sunderbans-oil-spill-assessment-report>> Accessed on December 31, 2023

The Sundarbans, the largest uninterrupted wetland on Earth, is home of Ganges River & Irrawaddy dolphins, crocodiles and Bengal tigers, who are considered to be gorgeous creatures. The Sundarbans exhibit high levels of biodiversity and are already susceptible to damage as a result of human activities and climate change; the occurrence of this oil spill exacerbates the situation further. Moreover, the leakage not only puts animals at risk but also poses a significant hazard to millions of humans who reside in the forest.⁵⁵

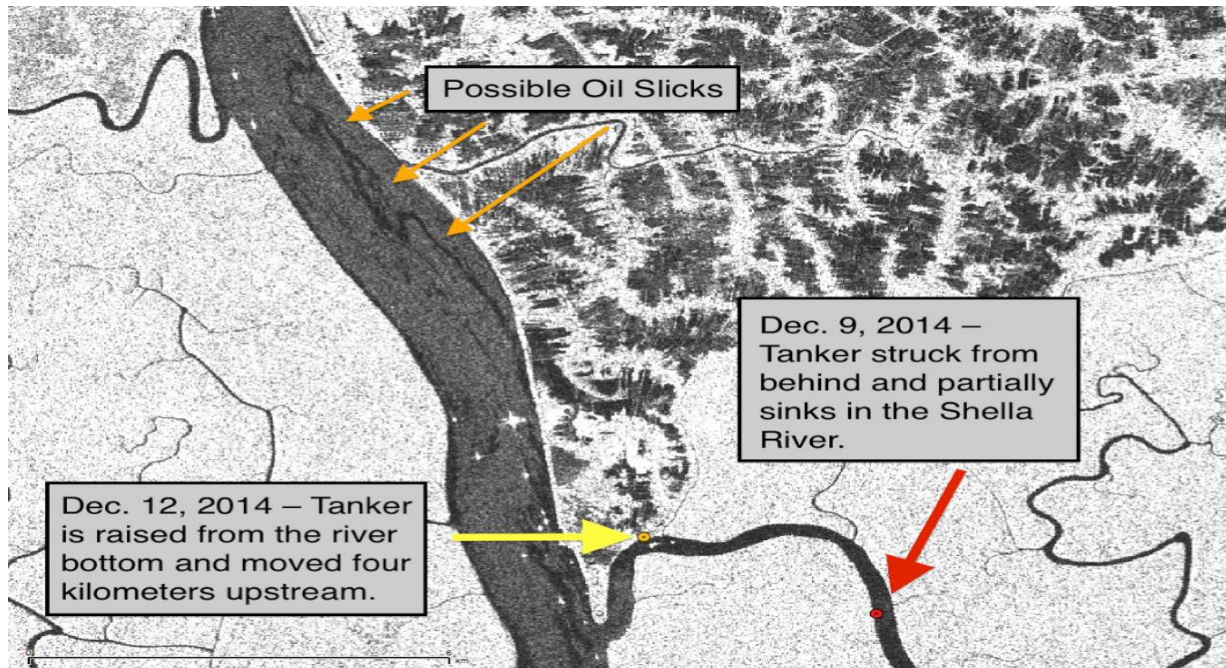


Fig. 3 Oil Spill in the Sundarbans Area⁵⁶

Saint Martin's Island under Threat

The government's insufficient management has placed Saint Martin's Island in Bangladesh, the sole coral reef island, in a precarious state. Coral reefs, which occupy a mere 1% of the ocean, provide as a refuge for around 25% of marine species, rendering them a remarkably diverse and mutually beneficial ecosystem. These habitats support around sixty-six unique coral species, which undergo a process of calcification to produce solid coral rock by developing calcium carbonate shells. Fossilized corals are the initial and most basic forms of dead coral, commonly found inside certain rock formations.⁵⁷

Coral reefs are essential in the process of climate change mitigation since they collect carbon dioxide gas, which is utilized in the formation of coral skeletons and prevents it from accumulating in the atmosphere. This process continues until the coral dies, making coral reefs a serious worldwide concern. In addition, they provide significant

⁵⁵ "The Sundarbans" (UNESCO World Heritage Centre) <<https://whc.unesco.org/en/list/798/>>

⁵⁶ Manthos D, "[UPDATED] Bangladesh – Oil Spill in the Sundarbans National Park" (SkyTruth, December 28, 2022) <<https://skytruth.org/2014/12/sunderbans-spill/>>

⁵⁷ Sun D, "Coral Reefs of St. Martin under Threat" (daily-sun, December 30, 2023) <<https://www.daily-sun.com/printversion/details/410993>>

safeguarding against marine calamities, mitigating coastal erosion, inundation and harm to shoreline infrastructure. Coral reefs also function as a cost-efficient natural barrier against floods, obviating the need for costly man-made water management infrastructure.

Coral reefs are vital for several marine species, serving as their habitat, food supply and breeding site, therefore playing a crucial role in the ecosystem. Nevertheless, the corals of Saint Martin Island are presently encountering perilous circumstances due to human activities, such as the accumulation of marine debris, unanticipated development projects and the discharge of human waste, notably plastic. The over-exploitation of fish over the coral substrate has resulted in a depletion of the interaction between fish and coral, posing a threat to the ecosystem.

Roughly 67% of the corals in Saint Martin have already encountered adverse effects, and the remaining corals will likewise be impacted if these risks are not resolved. In order to guarantee the conservation of Bangladesh's sole coral island, the government must promptly and effectively implement measures.⁵⁸

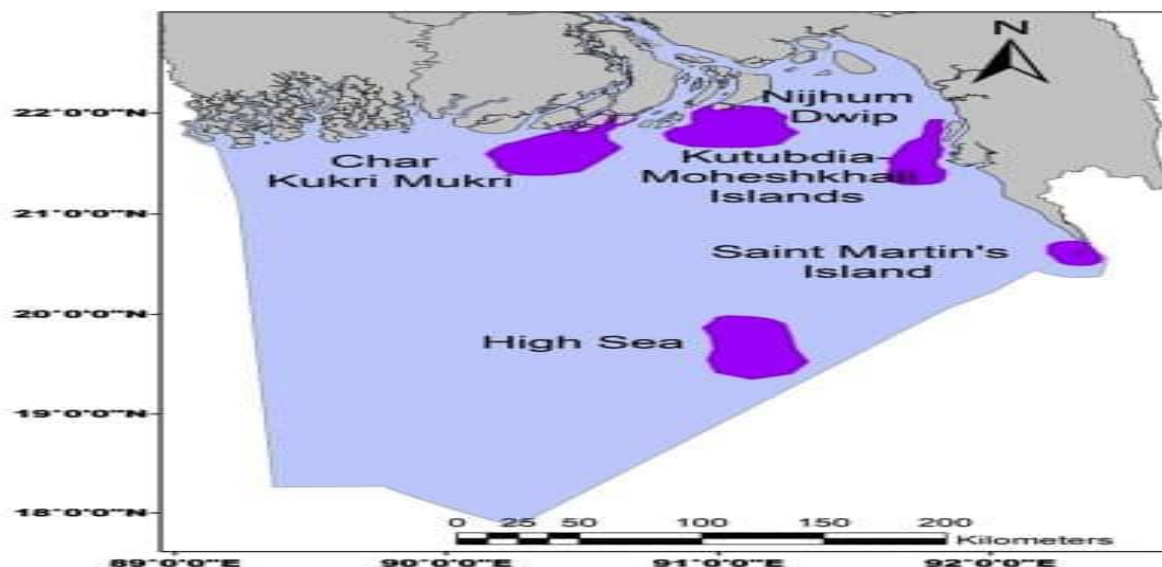


Fig: 4 Marine Protected Area in Bangladesh⁵⁹

Sustainable Recommendations and Reflections on the Bay of Bengal

The human rights of dependent people, the legislative framework of Bangladesh and the country's maritime environment are all intertwined in this research. Through this research, mapped out the complex structure of regional and international regulations, weighed their relative merits and learned about the realities faced by communities coping with the fallout of environmental degradation. Several fronts must be addressed head-on in order to reach a fair and sustainable Bay of Bengal, as shown in the research:

⁵⁸ Ibid

⁵⁹ NirvikBD Desk, "Marine Protected Area in Bangladesh" <https://nirvikbd.com> (December 10, 2022) <<https://nirvikbd.com/marine-protected-area-in-bangladesh/>> accessed March 11, 2024

- a. Although Bangladesh has embraced most international conventions and laws addressing maritime pollution, it lacks a national maritime environmental protection law of its own which can be enforced as is substantial to maritime issues. The creation of such a policy might offer a thorough framework for dealing with problems related to maritime pollution.⁶⁰
- b. The Territorial Waters and Maritime Zones (Amendment) Act, 2021 declared Bangladesh's maritime areas and sovereignty rights. New environmental issues could be addressed with further restrictions under this statute such as the Act could enhance Bangladesh's control over resource exploration and exploitation within its EEZ, promoting economic development, combating piracy and providing a clear legal framework for maritime activities.⁶¹
- c. To make Bangladesh more globally responsible and to protect its maritime communities, local laws must be in line with international human rights and environmental standards like the United Nations Guiding Principles on Business (UNDP) and the Universal Declaration of Human Rights (UDHR). Maintaining international standards and safeguarding maritime communities need effective enforcement and community involvement.
- d. National bodies like the Ministry of Shipping, Ministry of Environment, Department of Shipping, Department of Environment, Bangladesh Coast Guard, Ports Authority, Bangladesh Navy should play a vital role in protecting the maritime environment. Bangladesh can enforce environmental rules, promote sustainable maritime practices and conserve the maritime environment while monitoring and controlling ecosystem-impacting activities in collaboration with national bodies.
- e. Environmental education and legal training will empower coastal communities to recognize their rights and apply for restitution.
- f. Establishing separate environmental courts with streamlined processes and expanded legal aid services would enable equal access to justice for all socioeconomic groups.

⁶⁰ "ENHANCING OPPORTUNITIES FOR CLEAN AND RESILIENT GROWTH IN URBAN BANGLADESH COUNTRY ENVIRONMENTAL ANALYSIS 2018" (www.worldbank.org, 2018) <<https://documents1.worldbank.org/curated/en/585301536851966118/pdf/129915-CEA-P161076-PUBLIC-Disclosed-9-16-2018.pdf>> accessed December 31, 2023

⁶¹ Voice R, "Environmental Protection Laws Need Stricter Enforcement" (The Daily Star, September 26, 2023) <<https://www.thedailystar.net/opinion/readers-voice/news/environmental-protection-laws-need-stricter-enforcement-3388361>>

- g. Promoting community engagement in environmental governance and decision-making would improve the state people social compact.⁶²

As this research demonstrate, human rights, legal frameworks and maritime environmental preservation are interdependent in Bangladesh. It stresses the significance of national bodies in implementing environmental regulations, the necessity of aligning national laws with international standards and the necessity of a thorough national statute to handle maritime pollution. A sustainable and equitable approach to maritime governance in the Bay of Bengal can be achieved through community engagement, environmental education and legislative reforms.

Conclusion

The Bay of Bengal is bestowed with biodiversity and economic growth and development, yet violations of human rights and environmental degradation plague it. This research explores Bangladesh's maritime zone legal hiatus and complexity, coastal people's lives, climate change, pollution and unsustainable activities for a symphony of rights and sustainability in the Bay of Bengal.

Our findings show that increasing sea levels, pollution and resource depletion threaten coastal people's rights to life, health, food and security. These issues are mostly aggravated by legal ignorance, weak enforcement and community disengagement in environmental governance.

Bangladesh has average regulations on maritime environmental preservation, maritime pollution and fishery management. But reconciling legal instruments with practical reality demands coordinated action. There must be a standard defining jurisdictional borders, increasing enforcement and complying with national rules with international human rights and environmental laws are essential.

Equally essential is coastal people empowerment. Environmental education and accessible legal aid will help them defend their rights and participate in environmental decisions. This Bay of Bengal sustainability path needs constant commitment from governments, environmental organizations and international aid.

Protecting the Bay of Bengal is a human rights issue as well as an environmental one. We safeguard millions of human lives and livelihoods by protecting the Bay's health. We must equilibrium environmental conservation with economic development and empower coastal communities to assure the Bay of Bengal flourishes as a symphony of natural richness and human rights.

⁶² Ghosh A and Aaron, "Bay of Bengal: Depleted Fish Stocks and Huge Dead Zone Signal Tipping Point" (The Guardian, January 31, 2017) <<https://www.theguardian.com/environment/2017/jan/31/bay-bengal-depleted-fish-stocks-pollution-climate-change-migration>> accessed December 31, 2023

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