

A Study on the Marine Environment, Conservation Measures, and Compliance of Policy in Bangladesh Perspective

Captain Chowdhury, M Rezaul Karim¹

Captain Mohammad Abdullah Abu Sayed^{1*}

Captain Md Nasir Uddin²

Captain Mohammad Mostafa Kamal³

Dr, Captain Mohammed Ismail RusstamSuhrah⁴

¹Research Scholar, Department of Maritime Studies, Universiti Malaysia Terengganu, Malaysia;

²Ex Audit & Training Superintendent, PACC Tanker Management, Singapore, 1 Kem Seng Promenade, Singapore,

³Assistant Professor, Faculty of Maritime Studies, King Abdulaziz University, Jeddah, K.S.A.

¹Research Scholar, F.C.T. Nova, Industrial Engineering, Costacaparica, Portugal

⁴Faculty of Maritime Studies, University Malaysia Terengganu.

*Corresponding author email: m.sayed@campus.fct.unl.pt

Abstract

580 km of Bangladesh's Bay of Bengal coast. India is covered by the Ganges, Brahmaputra, and Meghna deltas. More than one-fifth of the country consists of four raised blocks, including the Madhupur and Barind tracts in the center and northwest and 3,300-foot-high hills in the southeast and northeast. Monsoon rain, heat, and humidity hit Bangladesh. Hurricanes, cyclones, and floods occur. Sea and ocean ecosystems are the world's largest and most diverse. Only salty seas have them. Freshwater is saltier. Marine seas provide 97% fresh water and 90% livable space. The average seawater salinity is 35 ppt. Marine salinity varies. Depth and coastline characteristics divide marine ecosystems. Customary law solves marine environmental problems. Customary law didn't address maritime environmental concerns. Collaboration and regulation were emphasized internationally. In the last 30 years, global treaties, resolutions, and declarations have protected the maritime environment. Customary maritime pollution rules are based on international treaties, resolutions, and declarations. Bangladesh lacks maritime environmental rules. Bangladesh has ratified the Marine environmental agreements signed in 1982 by the United Nations Convention on the Law of the Sea. As of yet, there has been no enabling legislation. Territorial Waters and Maritime Zones Act of 1974 of Bangladesh and Environmental Conservation Act, 1995. NOSCOP. It is a plan to avert and control oil and chemical leak catastrophes at sea. This paper examines international marine pollution laws. Marine protection law is discussed. Bangladesh's laws are criticized. The study suggests preventing marine Pollution.

Keywords: Marine Environment, Marine Conservation, Policy Compliance, Bangladesh.

1 Introduction

Oceans support life, Marine ecosystems govern the climate, prevent erosion, and absorb carbon dioxide. Oceans and seas support biodiversity. Moreover, three-quarters of Earth's surface and ninety percent of its biosphere are covered in water. Oceans sustain life. Non-binding mechanisms and international agreements have developed the global legal framework for maritime environment preservation in the past 50 years. Customary law and its legal framework prevent maritime Pollution. Recent advances have highlighted the need to address anthropogenic impacts like habitat loss and marine biodiversity loss. 2 Marine issues are contradictory. Borders don't limit marine ecology. The ocean affects everyone. After WWII, international maritime pollution regulation began. The first multilateral oil pollution convention was in 1954. The Convention is ineffective. 1958 T.S.C. and

C.S.L.C. No ocean safeguards. The High Seas Convention addressed Marine Pollution. Oil tankers contaminated 1967's Torrey Canyon. This accident highlighted vessel-source Pollution. The High Seas Oil Pollution Intervention Convention was adopted in 1969. 6 In the same year, the Oil Pollution Convention was adopted. 1973 witnessed the International Maritime Organization's Ship Pollution Convention. This Convention was revised in 1978. MARPOL 73/78 is the Convention's 1978 Protocol. 8 Regional treaties protect oceans. Maritime legislation prioritizes environmental protection. This article explores the current and future international marine environment law regime. This paper discusses maritime pollution law. This study examines marine Pollution and international and national laws and treaties. This study examines Bangladesh's water. This paper examines international maritime environmental law in Bangladesh and weak home laws. It provides solutions. This study investigates Bangladesh's compliance with international maritime law. This study covers 1970-2017 international and Bangladeshi law. Marine environmental law's history is studied first. It examines international law, marine pollution, and international legal action. Pollutant sources review international pollution control requirements. International treaties require national action and national laws to implement policies. This study examines national laws and practices to implement international agreements.

2 Study objectives

This research aims to identify major marine pollution sources that threaten the ocean environment, analyze relevant provisions of UNCLOS and other international laws and policies, and examine the major strengths and weaknesses of implemented international and local instruments for saving the marine environment.

3 Methodology

This qualitative study uses primary and secondary sources. Principles, policies, programs, and laws are key sources. These fueled the research. This study project examines Bangladesh's compliance with the international legal framework for protecting maritime habitats. This inquiry employed primary and secondary sources. Materials came from official papers, published articles, books, and studies, as well as informal discussions and meetings with researchers. The research relied on UNEP and I.M.O. publications and instruments. These materials are supplemented by researchers in international maritime law and ocean governance. The investigation will focus on these books and records. I've analyzed data by reading laws, rules, and norms and comparing the results to other studies. I then researched the books to study the laws and conventions and used scholarly journals to deepen my investigation. This research examines the historical history and current State of attempts to protect the maritime Environment and Bangladesh's perspective on these problems.

4 Literature Review

Few publications cover Bangladesh's compliance with international marine environmental law. "International law for the protection of the seas and its resources covers large substantive areas of regulation, principally measures against pollution and for fisheries management, preservation of marine species and habitats," states P Sands in Principles of International Environmental Law 9. There are regulatory loopholes in ocean governance, especially for marine species beyond national

power.' M H Rahman says about the Marine Environment in the Bay of Bengal¹⁰ that changing atmospheric composition, ozone layer degradation, marine pollution, and rapid population expansion are causing an alarming imbalance between people and resources. Environmental degradation is being stopped globally. Stockholm's 1972 U.N. Conference for Environment established international environmental "soft law." UNCLOS compels governments to safeguard the ocean environment also about resources. In Y Tanaka's book 'the International LOS,'¹¹ he contends that international law limits nations' discretion in managing marine Pollution. Poor international law governs land-based Marine Pollution. Institutionalize maritime environmental treaties, not reciprocity. Julian Roberts says in 'Marine Environment Protection and Biodiversity Conservation'¹² that while traditionally initiatives to safeguard the marine environment concentrated on Pollution, it is now widely acknowledged that they must address the complete range of anthropogenic impacts causing deterioration. Environmental Conservation Act (1995), Merchant Shipping Ordinance (1983), and Environmental Pollution Control Ordinance (1977). Conservation rules¹⁶ include water quality standards (W.Q.S.), Environmental Impact Assessment (E.I.A.) guidelines for companies 1997, and Environment Court Act 1999. I've found a few papers on compliance with Bangladesh's maritime environment and marine environmental law. Bangladesh's Bay of Bengal shoreline is beautiful and diversified. Bangladesh's population and lack of land resources will force it to rely on its sea area. Therefore, we must improve the current system.

Constitution, laws, and contracts are legal frameworks. Legal frameworks explain enterprises', governments', and citizens' rights and responsibilities. Law, policy, and contracts are legal documents. Living (people, animals, flora and fauna, and microbes) and nonliving (matter, geography, energy, historical, cultural, and aesthetic) factors interact in the environment. The marine environment is defined by the ocean, animals, and genes. In 1970, the seabed and ocean floor, and their subsoil outside the bounds of state sovereignty, were declared by the United Nations General Assembly in a declaration of principles (General Assembly Resolution 2749 (XXV))., as well as area resources are the common heritage of humanity" and "shall be open to using exclusively for peaceful purposes by all states." Heritage formalisation. Peaceful oceans. Enjoy the ocean.

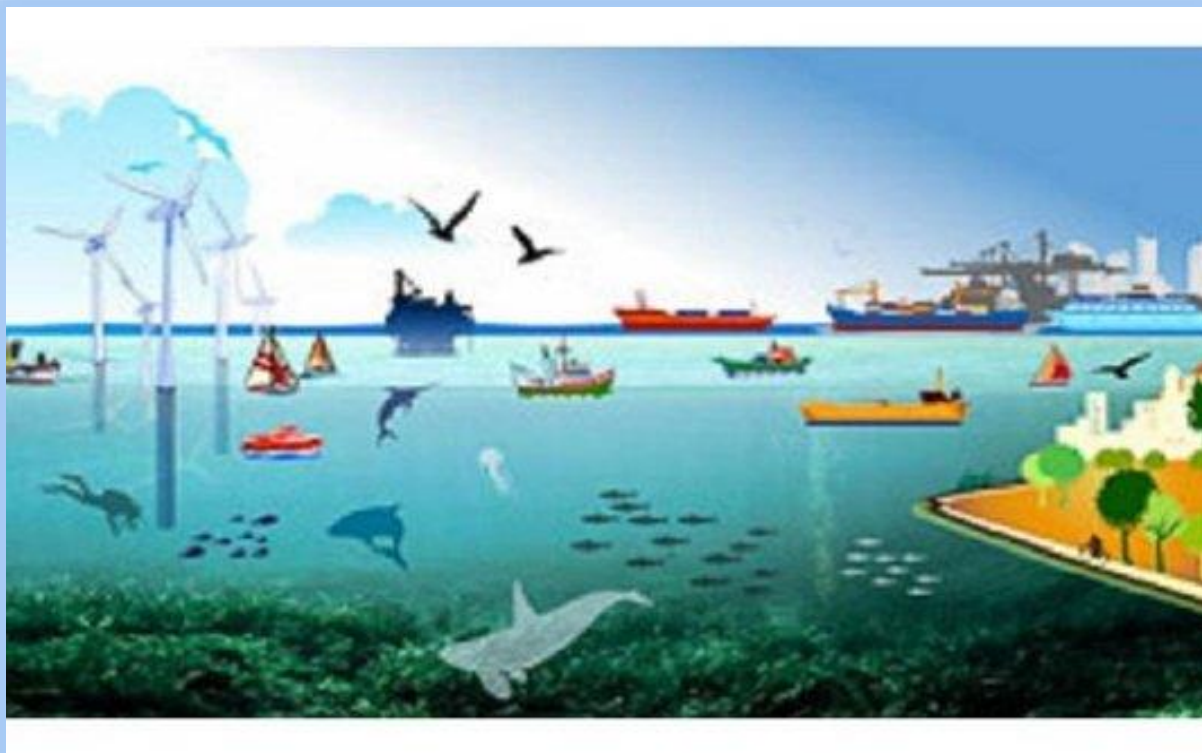


Figure-1 Marine Expected Environment.(Sources BSS).

"Marine pollution" is the introduction by man of substances or energy into the Marine environment, including estuaries, that harms living resources and marine life, endangers human health, hinders marine activities, including fishing and other legitimate uses of the sea, degrades sea water quality, and reduces amenities²⁰. Marine pollution sources include existing and developing sources. Include dangerous materials or energy. Marine Pollution can be limited. 'Living resources and marine life' explains that the marine environment' comprises marine creatures. Marine conservation protects species. Protecting the marine environment requires regulating pollution-fighting operations. Ocean acidification is caused by land-based causes, oil spills, sewage, siltation, invasive species, and hazardous substances. In 1990, GESAMP. warned about coastal contamination. Human settlement of coastal zones caused habitat deterioration, eutrophication from fertilizers and sewage, overfishing, and hydrological sediment flow alterations. 23 2001 GESAMP report unaltered. GASLAMP. identified deteriorating oceans. States have adopted worldwide steps to prevent marine contamination since 1972. Treaties and customs are international environmental law. Customary law concerns marine Pollution only. In 1949, the I.C.J. ruled that nations cannot use their territory to damage other states' rights. In the 1941 Trail Smelter arbitration, the panel ruled that 'no state can harm another with its territory.' Customary jurisdiction rules are considered weak and inadequate to combat marine Pollution, especially in liability regimes. Accords limit ocean pollution. Three treaty approaches. Source-specific. This controls vessel pollution. Convention of London MARPOL The second way reduces Marine Pollution. Gulf of Aden, Red Sea, North Atlantic. (Quasi-)global accords limit marine pollution. Source- and region-specific. Convention on Land-Based Marine Pollution, 1974. This

Convention restricted North-East Atlantic land-based marine pollution. UNCLOS and MARPOL protect the ocean. Second, UNEP and OSPAR³² accords. Stockholm Earth Summit. Stockholm's first environmental conference. 33 Stockholm Conference addressed Pollution, population increase, and resource depletion. 34 Declaration, 109-point Action Plan, and Resolution were adopted. UNEP³⁶ and the "Stockholm Declaration" were founded in Stockholm. The Stockholm Declaration outlines environmental law and marine conservation concepts. Principle 7 requires states to "avoid ocean contamination." Stockholm 21 and 22. Principle 21 concerns "the sovereign right of states to exploit their resources according to their environmental policies" and the need to ensure that actions under their authority or control do not harm other states or non-national areas. Principle 22 mandates pollution accountability and reparation. U.N. Conference on Human Environment was the first global environmental summit. Since then, nations have created environmental laws, accords, and institutions. International acts protect the Marine environment. Customary law is soft law. Population growth and technological advances prompted states to expand national jurisdiction. They crashed coasting. The U.N.'s International Law Commission sets water restrictions. Working on Pollution led to conventions. Four treaties were approved at the 1958 Law of the Sea Conference. High seas resource observation, territorial sea, contiguous zone, continental shelf, fisheries. Since the four Conventions weren't complete, later international accords replaced them. 1960s Second Law of the Sea Conference failed. From 1973 until 1982, UNCLOS convened twice yearly. UNCLOS entered effect on November 16, 1994, with 168 parties. Some provisions became customary international law 12 years before UNCLOS's implementation. UNCLOS regulates oceans. Seventeen divisions contain 320 sea-related articles. Environmental Treaty. Marine contamination is addressed internationally. Summit In 1954, the U.N. addressed Marine Pollution. The following are international instruments. 1954 Convention sought to prevent oil tanker water contamination. It banned oil tankers from coasts. In 1969 and 1971, Convention modifications established strict operational discharge criteria and new building regulations. It's outdated. The Geneva Convention on the High Seas requires states to prevent marine contamination. The contract expired on September 30, 1962. Sixty-three states approved it by 2013. Nepal, Pakistan, and Sri Lanka comprise South Asia. Bangladesh isn't a signatory. The 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties permits coastal governments to intervene outside their territorial sea in cases of ship oil pollution. Protocol 1973 covered non-oil chemicals. Eighty-nine state parties in October 2016. 45 Parties include Bangladesh, India, Pakistan, and Sri Lanka. The C.L.C. develops a liability framework for oil tanker environmental harm. Except in war and revolt, the shipowner is accountable for oil pollution damage without proving carelessness or fault. Convention replaced the 1992 Protocol. 47 Bangladesh, Pakistan, India, and Sri Lanka didn't join. The Fund Convention, replaced by the 1992 Protocol, tried establishing a fund for marine pollution victims. It pays even when no C.L.C. damage liability occurs, or the shipowner can't pay C.L.C. responsibilities. Convention started on May 30, 2006. One hundred eleven states signed by May 2013. Bangladesh declined. The 1972 Convention on the Prevention of Marine Contamination by the Dumping of Wastes and Other Matter restricts the intended dumping of certain chemicals at sea, including oily wastes, dredging, and land-generated wastes, omitting ship discharges and land-based contamination. delegates (89 as of 2017). Afghanistan and Pakistan belong. Bangladesh declined. The 1973 MARPOL. Convention attempts to avoid maritime oil pollution. Flagged and controlled ships must comply. Sri Lanka, Bangladesh,

India, Maldives, and Pakistan signed. Underdeveloped countries lack the money and technology to deploy MARPOL 73/78. Another factor is unwillingness. Fifty-four thousand one hundred fifty-four states represented 98.7% of global maritime cargo in April 2016. UNCLOS is a comprehensive environmental treaty. Many call it "the constitution for oceans" for its regulatory role. First ocean law framework. It sets environmental obligations, responsibilities, and powers. States pay for maritime pollution damages. I.M.O. and U.N. have a framework Convention. UNEP-related 1982 convention. UNCLOS is popular because it recognizes ocean space's interconnectedness. One hundred sixty-seven states and the E.U. have ratified. 56 Members include all South Asian coast states. UNEP's 1985 Montreal Guidelines aim to "prevent, reduce, and regulate" land-based Pollution. Basel Convention tried to restrict the transit of hazardous waste between nations, especially between developed and less developed (L.D.C.s). The Convention aims to reduce waste volume and toxicity, encourage environmentally sound management close to the source, and allow L.D.C.s to handle hazardous wastes. Convention dates: March 22, 1989-May 5, 1992. One hundred eighty-four states and E.U. joined in November 2016. OPRC. recommends oil pollution emergency plans for ships, offshore platforms, ports, and oil handling facilities. State parties have joined since April 2016. Pakistan, Bangladesh, and India signed. The H.N.S. Convention addresses dangerous substances. It increases ship owners' responsibility and limits. Insurance and certificates are required. H.N.S. addresses pollutants and fire/explosions. South Asia hasn't signed. The signatories haven't ratified the Convention. Parties must prohibit or restrict damaging antifouling devices on ships flying their flag, under their control, and entering their port, shipyard, or offshore terminal. The Convention bans organotins in antifouling paints. South Asia hasn't signed. The 2001 London Convention began on September 17, 2008. Seventy-four states approved it by October 2016. The 2004 Ballast Water Management Convention inhibits aquatic organism spread. BW/S management. Foreign ships must follow ship-specific ballast water and sediment plans. 65 38-party Convention hasn't begun. The Maldives signed. The Hong Kong International Convention for the Safe and Recycling ships in a manner that does not harm human health, safety, or the environment is the goal of Environmentally Sound Ship Recycling. There are provisions in the Convention to deal with asbestos and other harmful substances such as heavy metals, hydrocarbons, and ozone-depleting substances. Convention hasn't started. South Asia hasn't signed.



Figure-2: Bangladesh Marine Conservation Zone .

(Source actascientific.com).

Regional Seas Programme, created in 1974 after the 1972 U.N. Conference on the Human Environment in Stockholm, is one of UNEP's greatest successes in the last 35 years. The Regional Seas Programme aims to address the growing degradation of the world's oceans and coastal areas through sustainable management and use of the marine and coastal environment. Neighboring engaging countries in particular activities to conserve their common marine environment. It fostered Regional Seas initiatives that mandate environmental management for water-sharing countries. Over 143 nations engage in 13 UNEP Regional Seas programs: Black Sea, Caribbean, East Asian Seas, Eastern Africa, South Asian Seas ROPME Sea Area, Mediterranean, North-East Pacific, Northwest Pacific, the Red Sea and the Gulf of Aden, South-East Pacific, Pacific, and Western Africa. UNEP oversees six programs. UNCLOS established a global marine protection framework. Part XII protects oceans. Three UNCLOS provisions protect marine environments. UNCLOS protects oceans. States must prevent marine Pollution. Article 192 mandates ocean protection. Obligation. 'Marine environment' includes the entire ocean, despite sovereignty. 192 features high seas. Article 192 expands sic utere tuo ut alienum nonland. UNCLOS regulates Marine Pollution.

Principle 21 of the Stockholm Declaration allows governments to use natural resources sustainably. Article 192 prioritizes the Environment over Principle 21.72. UNCLOS unifies pollution rules. Harmonize maritime environmental norms. Referencing takes care. Article 210(6) requires governments to adopt effective dumping limitations to avoid, mitigate, and regulate Pollution. The 1972 and 1996 London Dumping Conventions set global rules. One State cannot preserve the marine ecosystem since Pollution can swiftly cross artificial boundaries. In 2001, In its statement, "The obligation to cooperate is a basic idea in the prevention of marine pollution under Part XII of the Convention and general international law," the International Tribunal for the Law of the Sea (ITLOS)

emphasized the importance of international cooperation. The UNCLOS forbids maritime Pollution. Rules, norms, planned practices, and processes for protecting and sustaining the maritime environment must be implemented "globally, directly or through competent international organizations."

There are numerous ways in which the ocean is becoming polluted. The situation is exacerbated by regional agriculture. Eighty percent of marine pollution results from untreated sewage, herbicides, and runoff. D.D.T., BHC, Endrin, and Dieldrin are among the pesticides and insecticides used in agriculture and healthcare that have been linked to human health issues, as well as the petrochemical compounds that come from the oil exploration and refineries of oil tankers and ships. Some sea Environment pollutants include wastewater, pesticides, non-biodegradable debris (including paper), heat, detergent, and solid items. The land is the primary source of Pollution in the world's oceans. Pollutants from industrial, agricultural, and urban runoff and waste from the river and air. Transport-related emissions pollute the oceans by dispersing pollutants into the atmosphere. Land-based sources pollute constrained waters. By UNCLOS, worldwide land pollution is prohibited. Contamination is addressed under UNCLOS 194(1). Pollution prevention is mandated by 194(2) of the Clean Water Act. Article 207 of the UN Charter requires governments to 'avoid, reduce, and regulate land-based marine contamination.' States must consider internationally agreed rules, standards, recommended practices and procedures, regional features, developing countries' economic capacity and need for economic development, and the need to "minimize the release of toxic, harmful, or noxious substances, especially persistent ones" These notions are regional and global. International law is 207. Their work is global or regional. UNCLOS (1982), Paris (1974), O.S.P.A.R. (1992), 4 UNEP Regional Seas Protocols, and Baltic (1992). 1995: 108 states and E.C. approved G.P.A. The G.P.A. drew on Agenda 21, the Rio Declaration, and the 1985 Montreal Guidelines (1985 Montreal L.B.S. Guidelines). The G.P.A.O. helps nations meet Washington Declaration commitments. It aims to "prevent marine environment degradation from land-based activities by facilitating States' duty to preserve and protect the marine environment" and to help states "take actions individually or jointly within their respective policies, priorities, and resources" to prevent, reduce, control, and eliminate marine environment degradation and promote its recovery. G.P.A. strengthens international institutions, capabilities, and funding. G.P.A. supports a global, legally-binding framework to tackle organic Pollution. Recommends sewage, organic pollutants, radioactive substances, heavy metals, hydrocarbons, nutrients, sediment, litter, habitat destruction, and alteration goals and solutions. Global limits on land-based Pollution seem impossible due to economic, technological, and geographical variations. Regional limits reduce land pollution. Land and marine pollutants are regulated regionally. Land-based marine pollution protocols. 1974's Paris Convention reduced land-based Marine Pollution. 1992 O.S.P.A.R. Land-based marine pollution is considered maritime area contamination. O.S.P.A.R. wants land-based Pollution eliminated, including accidents. Land-based supplies enter by water, air, or coast. Any non-offshore disposal under the seabed accessible by tunnel, pipeline, or other means in a contractual party's maritime region. O.S.P.A.R. parties improved garbage disposal. In 2000, the O.S.P.A.R. Commission required parties to assess extant authorizations for radioactive substance discharges or emissions from nuclear reprocessing plants to implement dry storage. Athens, Quito, Kuwait, and Black Sea Protocols address land-based Pollution. The four Protocols safeguard the 1974 Paris Convention's concept and framework, obliging parties to reduce

Pollution through programs and measures, including emission guidelines and usage norms. Because of their toxicity, persistence, and bioaccumulation, Annex I 'blocklist' substances must be restricted. 96 Grey list substances must be discharged after analyzing waste characteristics, composition, discharge site, receiving marine environment, waste technology availability, and potential damage to marine ecosystems and seawater use. Each Protocol defines land-based Pollution similarly and provides guidelines, standards, systematic assessment of pollution levels, review of policies, the sharing and coordinating of data from many fields, the provision of technical aid to developing nations, collaboration in areas where watercourses pass through two or more jurisdictions, and consultations on land-based pollution are all examples of this.

Before UNCLOS, I.M.O. handled ship pollution. UNCLOS referenced I.M.O. ship rules. 1948: I.M.O. supported safer shipping and cleaner waterways. Preventing ship pollution. First I.M.O. marine pollution treaty: O.I.L.P.O.L. Tanker-related. I-IV banned oil spills. O.I.L.P.O.L. didn't cover marine Pollution. After "Torrey Canyon"99, the I.M.O. formed MARPOL. The 1983 Convention succeeded O.I.L.P.O.L. 1973 MARPOL. Applies to ships under a party's flag or jurisdiction but not to warships, naval auxiliary ships, or state-owned non-commercial ships (article 3). April 2016 saw 154 newcomers. 100. MARPOL. Annexes go beyond oil pollution. Six: contaminated oil, bulk liquid, packaging, and sewage. Garbage, Pollution. Separate ratifications are possible for Annexes III, IV, V, and VI. Annexation. None. O.I.L.P.O.L. reduces oil pollution. Annex V prohibits dumping rope, plastic, and fishing nets. Articles 4, 5, and 6101 mandate MARPOL.

Article 5 mandates flagged ship inspections before licensing. I.O.P.C. certifies oil tankers after a five-year inspection. 103. UNCLOS governs ship pollution. Article 211(1) compels nations to adopt international rules and standards to avoid, mitigate, and manage boat pollution and promote routing systems to reduce pollution accidents. Article 211 lets coastal governments restrict vessel-source Pollution in territorial seas (4). Not foreign ships. Where a vessel is voluntarily at a port or offshore terminal of a State, that State may institute procedures for any infringement of its vessel-source pollution rules and regulations 'when the violation occurred within that State's territorial sea or exclusive economic zone'¹⁰⁵. Article 218 makes port State a global safety and environment institution. Port Enforcement is difficult. Optional port-state jurisdiction. Port state jurisdiction is limited. This system analyses foreign ships' paperwork, safety, living, and working conditions. Port State Control ignores Article 218 infractions. Offshore lawbreaking Includes detention and administrative verification. UNCLOS 218 separates port-state control. 1969: I.M.O. Oil Pollution Casualties Convention (hereafter the High Seas Intervention Convention). Article I(1) of this Convention authorizes Parties to "take such high seas measures as may be necessary to avoid, alleviate, or eliminate grave and urgent risk to their coastline or connected interests from oil pollution or threat of pollution following a marine accident or related acts."

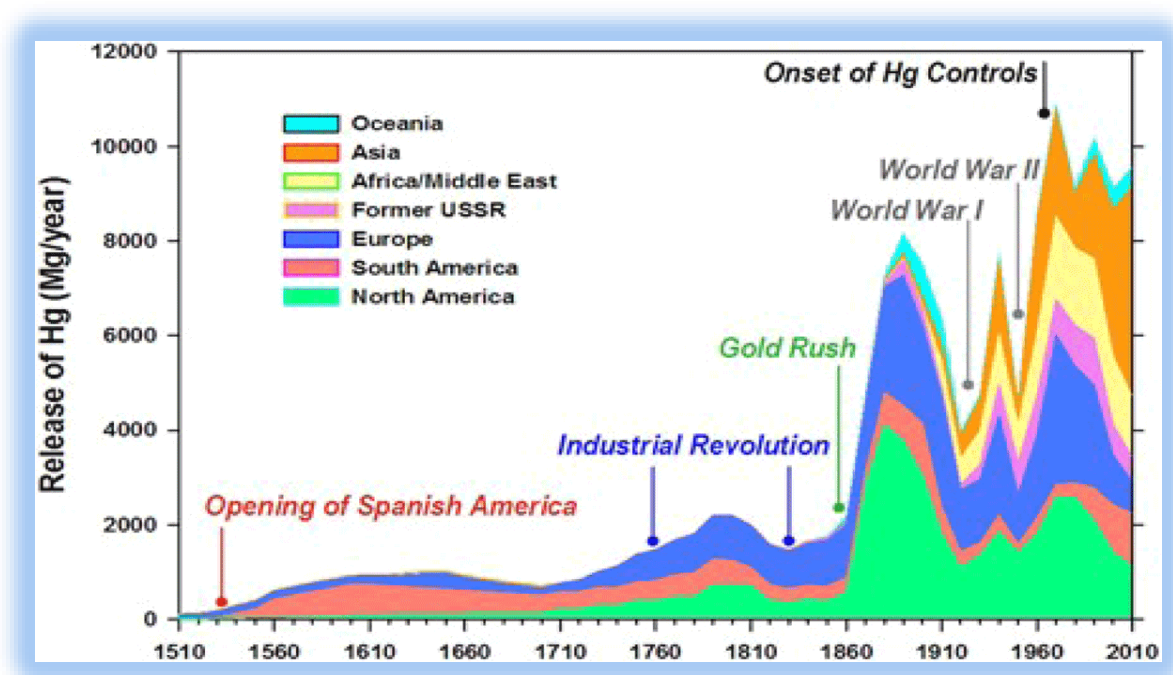


Figure-3 Human health and Ocean pollution.

(Source: Global health.com)

Dumping pollutes the ocean by 10%. There are two global and six regional treaties. UNCLOS regulates ocean dumping. Article 210(1) restricts marine dumping. 210(3) prohibits unauthorized dumping. Article 210(5) prohibits dumping in the territorial sea, EEZ, or continental shelf. Unmentioned are internal waterways. Dumping requires state permission. Banner Article 216(1)(b) mandates pollution enforcement. Article 216(1)(c) compels nations to prevent Pollution at offshore ports. UNCLOS doesn't outlaw dumping but mandates maritime pollution control. Utilizes black/greylists. This makes three trash piles. Article IV prohibits banned deposits (1). Halogen-organ. Radioactive wastes, mercury, cadmium, persistent polymers, and crude oil. Annex II and other wastes need a license (c). London Protocol introduced 'reverse listing' Confined or semi-enclosed waterways are dumped. Regional accords and conventions limit dumping at sea in the North-East Atlantic, Baltic, Mediterranean, Black Sea, Red Sea, and South Pacific. Regional bans exist. The Protocol employed black/grey list to prevent Mediterranean Sea pollution from ships and aircraft. 1995 saw the implementation of the Protocol for Preventing and Eliminating Mediterranean Sea Pollution by Ships and Aircraft or Incineration at Sea. UNCLOS Article 208(1) compels coastal states to prevent, mitigate, and regulate artificial island, installation, and structure pollution. Conventions protect and remove Pollution. Finlandaise. Article 12 bans seabed and subsoil contamination. UNCLOS XI regulates environmental protection. Article 209(1) of the UNCLOS states that Part XI must implement international rules to prevent, reduce, and regulate maritime Pollution from Area operations. Control maritime pollution from vessels, installations, structures, and other equipment. This means following Article 209's global standards of procedure as the United Nations prescribes (1). (1). International rule enforcement is governed by UNCLOS Part XI. The Assembly enacts maritime protection laws following approval by the Council and the Legal and Technical Commission. Several devices control pollutants in the maritime environment or harm liabilities. The

1992 International Convention on Civil Liability for Oil Pollution Damage and the 1992 International Convention on Establishment of a Fund for Compensation for Oil Pollution Damage are three of the most important international treaties regarding oil pollution liability (2001 Bunker Oil Convention). Responsibility and compensation are a requirement of the 1972 London convention and UNEP Regional Seas framework conventions. There is a better chance of preserving marine biodiversity in M.P.A.s compared to surrounding places. Multiple eventualities are covered under "M.P.A. "s" scope. A multi-sectoral marine protected area (MPA) can be open or closed to extractive activities, and it can protect biodiversity. M.P.A.s can be sectoral or multi-sectoral. A.B.N.J. To become a Master of Public Administration, one must work hard. Research is being conducted by the international community on how to ensure that the legislative framework of the A.B.N.J manages regional fragmentation correctly.



Figure -4: To beware of Pollution

(Source: daily asianage.com)

Norms for seaworthiness. The registration, nationality, crew, safety, construction, collisions, accidents, casualties, wreckage, and salvage are all included in this policy.

An M.S. Ordinance established Shipping Department, Mercantile Marine Department, Shipping Offices, and Surveyors. This law does not affect aquatic life. However, the M.S. Ordinance integrated the International Convention for the Safety of Life at Sea and the International Load Lines Convention. Bangladesh established MARPOL. in 2002, following the M.S. Ordinance of 1983. Despite revisions, MARPOL L. implementation was never addressed. This does not match the methods of M.S.'s surveys and certifications. Pollution is included in the Marine Fisheries Ordinance of 1983. It is a crime to put explosives, poison, or other harmful substances in water. It is possible to designate any Bangladeshi fishery as a marine reserve to safeguard the local fauna and vegetation.

In 1994, Bangladesh's government established a Coast Guard. C.G. Act). The Bangladesh Coast Guard Act of 2016 is a new law. 156 This law grants the Bangladesh Coast Guard jurisdiction over

the country's territorial waters, contiguous zone, and conservation area. The Coast Guard is tasked with upholding and enforcing international treaties. Pollution from ships is avoided because of port-related regulations in the Port Act of 1908, Sections 6, 14, and 21 safeguard port glasses of water against chronic oil spills and the discharge of ballast, trash, and bunker water from ships. There were not enough fines for the Port Act violations. Rule 2 of the 1966 Port Rules applied to dangerous cargo and ballast. As a result, certain petroleum was deemed harmful. 160 Chittagong and Mongla are Bangladesh's two major seaports. It is illegal to violate the Chittagong Port Authority Ordinance 1976 and be fined 100,000 Taka (1 U.S. Dollar = 68.30 Taka). Similar language can be found in the 1976 Mongla Port Authority Ordinance. This punishment may reduce minor infractions, but it will not reduce oil pollution. Bangladesh does not recognize international oil pollution accords, nor does it have a national statute like the United States. I.M.O. is not implemented in Bangladesh's port laws. A few hundred-year-old laws are out of date. The Bangladesh Environment Conservation Act 1995 (E.C. Act) can safeguard marine life in Bangladesh. It safeguards the country as environmental law. By doing so, it established a Department of Environment (DoE) tasked with protecting and enhancing environmental quality and Reducing Pollution. Environment Conservation Rule 1997 ensures that the E.C. Act is properly implemented (EC Rule). As defined by the Environmental Protection Agency (E.P.A.), Pollution is defined as 'the contamination or alteration of the physical or chemical or biological properties of air or water or soil' including changes in temperature and taste or odor and density, or any other characteristics, or such other activity that by discharging liquids and gases, solids and radioactive substances into the air and water harms or damages public health and property.'. The E.C. Act covers vessel-source Pollution. No, this isn't a treaty signed by the I.M.O. on marine environments.



Figure -5: Ocean Pollution Scenario.

(Source: Mediterranean Blue economy stakeholder platform)

C.Z.P. 2005 aspires to ensure a participative and integrated approach to coastal zone management and development, eliminate resource conflicts and increase potential. People, plants, and animals all live in the coastal zone. The Bay of Bengal in Bangladesh is home to the world's largest beach and many wildlife. More than half of Bangladesh's 720-mile coastline comprises islands, and 168 of them are inhabited. It is a valuable environment because of its renewable resources, aesthetic beauty, and scientific interest. Without land, Bangladesh will have to rely on the sea. Fosters state emergency response. 134 India, Pakistan, and Bangladesh authorized O.P.R.C. 135 To help states ratify and implement the Convention, UNEP's South Asia Regional Seas Action Plan highlighted "National and Regional Oil Spill Contingency Plans" in 1995. The Contingency Plan integrates country responses to marine Pollution in their territorial sea, coasts, and related interests.

BOBP-IGO grew from F.A.O.'s Bay of Bengal Programme. At the 24th B.O.B.P. Advisory Committee meeting in Phuket, Thailand, the BOBP-IGO was adopted. The BOBP-IGO Agreement was signed on April 26, 2003. Using appropriate fishing methods and environmental management initiatives promotes the long-term growth and use of Bay of Bengal coastal fisheries. BOBP-IGO could help the Bay of Bengal. Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka, and Thailand work on the B.O.B.L.M.E. Project to improve environmental and fisheries management. The Bay of Bengal has large marine ecosystems. Maldives, India, Sri Lanka, Bangladesh, Myanmar, Thailand, Indonesia, and Malaysia agree to manage the Bay of Bengal's Environment and fisheries regionally. P.S.C. allows port states to investigate foreign-flagged ships entering their ports for safety, Pollution, and other infractions. M.O.U.s reduce marine Pollution. Indian Ocean P.S.C.M. ended in October 1997 and June 1998. From June 5, 1998, until January 22, 1999, the Memorandum was signed in Goa, India. First M.O.U. Committee met on Jan. 20-22, 1999, in Goa. Eritrea, South Africa, Sudan, and Tanzania signed the M.O.U. Iran, Kenya, Maldives, Oman, Yemen, France, Bangladesh, Comoros, Mozambique, and Seychelles later joined. In March 2017, 18 nations signed. Improves maritime safety, working and living conditions, and Marine Environment. Article 18A of the Constitution of Bangladesh, 1972 was updated in 2011 to safeguard and promote the environment and biodiversity for present and future citizens. This and 20 additional clauses (articles 8-26) are unenforceable. They should be used to make laws, interpret the Constitution, and guide State and citizen action. Including such measures in the Constitution strengthens the government's commitment to environmental protection¹⁴⁵.

Bangladesh's first law to define maritime boundaries and prevent marine Pollution was the T.W.M.Z. Act of 1974. This law contradicts international law. ¹⁴⁶ Under this Act, the government can create sea conservation zones to preserve life. ¹⁴⁷ The Act also authorizes preventing and managing marine Pollution and preserving water quality. The 1974 Act passed 1977's Territorial Waters and Maritime Zones Rules. According to this Rule, foreign ships that pass Bangladesh's territorial seas and pollute threaten the country's security or interests. The T.W.M.Z. Rules limit the country's maritime zones and don't implement MARPOL. Concerned departments can adopt MARPOL MARPOL. Bangladesh's shipping is regulated by the Merchant Shipping Ordinance 1983¹⁵⁰. It covers survey, registration, and Standardized seaworthiness.

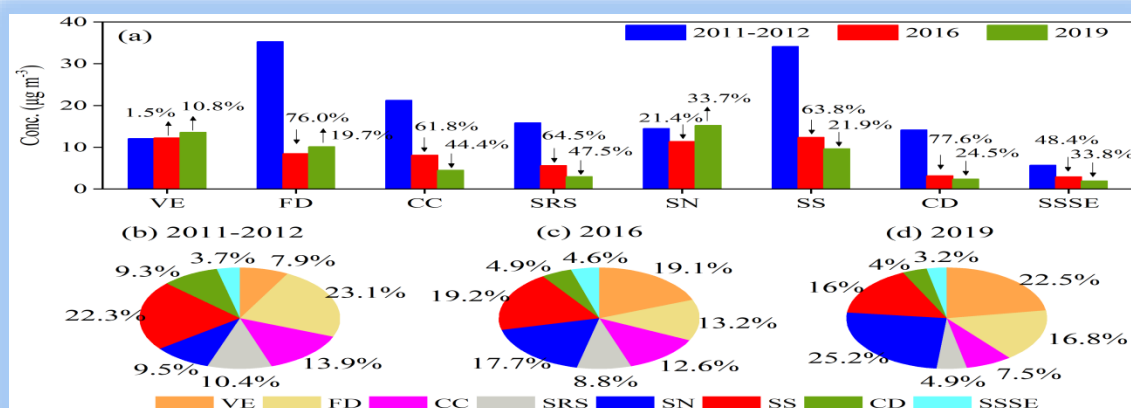
Covers registration, nationality, crew, safety, construction, collisions, accidents, casualties, wreckage, and salvage. M.S. Ordinance formed Shipping, Mercantile Marine, Shipping Offices, and Surveyors. This ordinance excludes boats. The MS Ordinance included the International Load Lines Convention

(1966) and the Safety of Life at Sea Convention (1974), but not MARPOL. Bangladesh passed MARPOL. in 2002 after M.S. in 1983. Changes never addressed MARPOL. Implementation. M.S.'s survey and certification methods aren't MARPOL. Marine Fisheries Ordinance 1983 discuss Pollution. Explosives, poison, or other dangerous substances in water are illegal. 154 Bangladesh fisheries water can be a marine reserve to safeguard flora and fauna. In 1994, Bangladesh founded a Coast Guard. (C.G.L.) 155 2016 is a new year. 156 The Coast Guard has jurisdiction over Bangladesh's territorial seas, contiguous zone, conservation zone, economic zone, and continental shelf. 157 It enforces international law. Port policies prevent ship pollution. Port Act 1908¹⁵⁹ protects port water against chronic oil spills, ballast, debris, and bunker water outflow. Poor Port Act penalties. 1966's Rule 2 concerned dangerous cargo and ballast. Some petroleum was deemed dangerous cargo. 160 Chittagong and Mongla are Bangladesh's seaports. The Chittagong Port Authority Ordinance 1976,¹⁶¹ penalties polluters 100,000 Taka. Similar language is in the 1976 Mongla Port Authority Ordinance. Small infractions may diminish, but not oil pollution. Bangladesh hasn't recognized international oil pollution conventions or enacted a national law. Bangladesh doesn't implement I.M.O. 100-year-old statutes are outdated. The Bangladesh E.C. Act 1995¹⁶³ can preserve the Marine environment. It safeguards the nation's ecology. It founded a Department of Environment to conserve the environment, improve environmental standards, and manage Pollution. 164 The 1997 E.C. Rule assures the Act's proper execution (EC Rule). E.C Environmental pollution includes a wide range of activities that involve discharging gaseous, liquid, solid, or radioactive substances into the environment to cause harm to the environment's natural resources or human health and well-being. Pollution is defined by the Clean Air Act as any activity that causes harm to the environment by contaminating or altering any of these natural resources or human well-being. or harms public health or domestic, commercial, or industrial property. E.C. Act covers vessel pollution. This isn't an I.M.O. marine environment Act. C.Z.P. 2005 aspires to establish a participative, integrated approach to coastal zone management and development, avoid resource conflicts, and maximize potential. Coastal zone activities encompass land, water, and people. Bangladesh's Bay of Bengal features the world's largest beach. Complexity characterizes Bangladesh's 720-km shoreline. It has renewable resources, aesthetic beauty, and scientific interest. Large population and lack of land force Bangladesh to rely on the seas. Population growth and biodiversity loss are worries. Bangladesh has signed or approved 35 international accords (I.C.T.P.s). The government followed these I.C.T.P.s: Few I.C.T.P.s have made significant progress. The Ministry of Environment & Forests (M.O.E.F.), formed in 1989, is the principal actor in I.C.T.P.s in Bangladesh. 182 These institutions have limited resources to execute I.C.T.P. One small department handles I.C.T.P.s. Bangladesh's sectoral policies recognize the need for a legislative and administrative framework to prevent vessel-source Pollution. One of the government's maritime goals is to "prevent internal and external actions hurting the coastal and marine environment," according to the 1992 National Environment Policy. The National Coastal Zone Policy¹⁸³ considers the EEZ coastal. According to international accords Bangladesh signed, ship bilge water discharge and oil spills will be addressed. National Maritime Policy goals include shipping security, environmental preservation, and port and shipping sector efficiency. This new strategy didn't achieve much. MARPOL 73/78 dictates domestic law. National authorities and enforcement mechanisms vary by country. Port state measures vary. Four countries have laws. Illegal oil discharges might result in a £250,000 punishment on summary conviction or unlimited fines on

indictment. The Australian Maritime Safety Authority administers the 1983 Protection of the Sea Act. The Act covers 3 nm of Australia's EEZ (200 nm).

Japan ratified M.A.R.P.O.L. in 1983, revising its Marine Pollution Prevention Act from 1970.

187 The Japan Coast Guard Act authorizes administrative and judicial enforcement of "marine pollution prevention." Coast Guard compliance steps include issuing defects, detaining substandard vessels, and prohibiting vessels if arrested more than three times a year. The Supreme Court of Bangladesh has ruled that international instruments are not enforceable in Bangladesh unless incorporated into national law. 190 This shows that Bangladesh should establish municipal legislation, including international instruments on marine Pollution, not just sign or ratify them. Bangladesh ratified MARPOL 73/78. There's no domestic M.A.R.P.O.L. law. Bangladesh has signed and approved M.A.R.P.O.L. and other I.M.O. Conventions but hasn't implemented them. Bangladesh is a port under State control. M.O.U. Member.



Graph-1 is an Example of the Coastal Environment changing between 2011 to 2020

(Source: Pubs as .org)

Bangladesh is a signatory to UNCLOS and the Oil Pollution Convention (London, 1990). Bangladesh has reduced marine and environmental Pollution. Bangladesh joined Basel in 1993. It hasn't ratified the Basel Ban Amendment or Compensation Protocol. Basel Convention Article 4(4) compels parties to comply. Bangladesh's E.C.A. and E.C.R. implement Basel obligations. Hazardous material can harm the environment by creating, storing, disposal, or unregulated transit. 192 The E.C.A. enables the government to establish the Department of Environment, headed by a Director General¹⁹³ who can advise or issue directives on "the environmentally sound use, storage, transportation, import and export of a hazardous material or its components." 194 Bangladesh has also issued Medical Waste Management Rules, 2008. Bangladesh Import Policy Order 2009–2012 Annexure specifies local products. Waste imports are banned. Due to public uproar over serious human rights violations in shipbreaking yards, the Supreme Court of Bangladesh ordered the Ministry of Environment and Forests to frame rules and regulations for proper handling and to manage hazardous materials and trash. 196 Shipbreaking and Hazardous Waste Management Rules 2010 were passed. Ballast water stabilizes unloaded ships in modern shipping. However, Adopted in 2004, it regulates ships' bilge water and sediments to minimize aquatic species spread. B.W.M. Convention begins September 8.



Figure: 6- Ships Emission regulation to be implemented

(Sources: Maritime Executive.com)

Bangladesh's port laws prevent ship-source Pollution. Port Act 190889 (P Act) sections 6, 14, and 21 protect port waterways from chronic oil spills, ballast, rubbish, and bunker water discharge. Insufficient penalties under the P Act. 1966 Port Rules Rule 2 concerned dangerous cargo and ballast. Some petroleum was deemed dangerous cargo. Time to examine risk for evidence-based, data-driven choices and management strategies in line with the 2004 I.M.O. International Convention for the Control and Management of Ships' Ballast Water and Sediments. Bangladesh controls more than 70% of the ship-breaking business. 198 Bangladesh led ship recycling from 2004-2009. 2012 saw Bangladesh demolish 270 ships. Bangladesh disassembled 210 ships in 2013, making it the third-largest shipbreaker¹⁹⁹. This sector is blamed for increasing marine Pollution. Bangladesh Environmental Lawyers Association (B.E.L.A.) vs. Minister for Environment and Forest, and 18 other officials, 2010 39 C.L.C. As a coastal community, we can't allow shipbreaking to damage our waterways. Final approval was given to the 2011 Shipbreaking and Recycling Code. On December 12, 2011, a Bangladeshi court ordered the country's Ministry of Industry to publish the Rules. Workers' safety, authority, and hazardous waste are all covered by this rule. This rule does not specifically address marine Pollution, although it can be inferred from parts dealing with the prevention of hazardous waste.

The shipyard owner must submit an environmental clearance certificate and a hazardous materials inventory when importing a vessel. The yard's owner must submit a Ship Recycling Plan and a Plan²⁰². A violation of environmental regulations shall be dealt with by the 1995²⁰³ Environment Conservation Act and the Environment Court Act of 2010. The ship recycling convention has yet to be approved by Bangladesh despite Bangladesh's support when it was first adopted. Legislation

addressing marine contamination is currently in place. Bangladesh's Department of Environment fined DV Chittagong \$6,200 in May 2012 for relocating illegally. 2.52 million Farnese oil from MV Hiper Link sank in the Bay of Bengal. 205 In Bangladesh, it's a lot. Sun Man Textile Ltd. was fined \$2,000 for dumping trash in the Bay of Bengal. K.I.Y. Steel was fined \$37,500 for similar breaches in 2010. Bangladesh is enforcing international legislation on maritime Pollution. M.E.P.A. tries this. The draught Marine Environment Protection Act protects Bangladesh's oceans. It's based on modern foreign legislation. It's a "framework" for protecting the marine environment. 207 It includes general rules that don't change often and leaves details to the government. It's referenceable. The idea helps Bangladesh implement international treaties and future agreements. The Act can be used to make rules in multiple areas.

Bangladesh's coast is industrialized. Tannerie, textile, paper, fertilizer, shipbreaking, etc. waste may pollute Bangladesh's coast. Contaminated surface water threatens marine life. The coastal city has sewage treatment. Surface drains connect these systems to canals or rivers. Bangladesh used 18,080 MT of insecticides in 2003, up from 3,985 in 1984. (2004) Bangladesh's pesticide use has quadrupled in 20 years (nearly six times from 1984). Coastal crop areas use nearly a quarter of Bangladesh's pesticides. Mangroves deteriorate less than forests, says UNEP. People are the primary cause of most forest loss. Deforestation is fueled by shrimp farming, land clearing, and human settlements. Gas, oil, minerals, algae, and other aquatic life are abundant in Bangladesh (snails, fishes, amphibians, mammals, reptiles, etc.). Concerns about overfishing exist. There is great potential for tourism along Bangladesh's coast and in its waters. St. Martin's island, Cox's Bazar, Patuakhali (Patuakhali district), and Cox's Bazar are some of the most popular destinations for coastal and marine tourism in Bangladesh (a coral island). Is a polluter. Protecting the oceans and coastal areas includes:

Oil spills are prevalent in the Sundarbans estuaries of the Bay of Bengal. Oil from ships contributes to Bangladesh's marine pollution²¹⁵. Oil leaks in the Sundarbans are alarming, given recent industry mishaps. Five thousand oil tankers and transport boats sail the country's coast annually, according to August 2015 government figures. On December 9, 2014, a ship carrying 3.8 million liters of furnace oil collided in the Sela River. This accident threatens the Bangladesh Forest. The department sued one billion takas. The third ship to sink in three years. A rail car derailed and drowned in Bangladesh's Boalkhali canal on June 19, 2015. Railcar. Furnace oil spilled into the river, harming the environment. A cargo ship carrying 510 tonnes of coal drowned in the Sundarbans in October 2015. The MV GR Raj sank after a keel fracture.

Bangladesh's Environment Department created a national oil spill response plan in 2016.²²⁰ This will assist the country in avoiding further large-scale harm and work with regional nations to face such disasters. S.A.C.E.P. and I.M.O. supported a project to produce a South Asian Regional Oil Spill Contingency Plan in 1989 to preserve the marine environment. ²²¹ Bangladesh, India, Pakistan, Sri Lanka, and the Maldives signed an MoU in 2010. NOS-COP and the assignment of oil and chemical spill response duties to Bangladesh's Ministries and Departments. It specifies risk management roles and obligations. Sri Lanka²²³ and India²²² have oil spill preparations. Suppose a Bangladeshi port illegally discharges. The port authority/DoE will decide whether prosecution is appropriate under MARPOL 73/78, national laws, or both. The owner, captain, or person in control of a marine vessel, the person responsible for moving oil and chemicals in Bangladesh's seaports or maritime environment, and oil and chemical transportation officials must report oil spills to national authorities.

Oil and chemical spilling coastal companies are owners. Article 4, Oil Pollution Reporting Procedures, Section (10) (a) of O.P.R.C. and Protocol I of MARPOL 73/78 require ship masters and owners to inform the nearest shore or territory of a marine pollution emergency. If a private ship or device owners are at fault, the Bangladeshi government will find and punish them. The 1992 Protocol of the International Convention on Civil Liability for Oil Pollution Damage²²⁵ makes the owner of a ship transporting persistent oil in bulk strictly accountable for pollution damage in Bangladesh's territorial waters, seabed, coasts, beaches, and ecology. Includes post-spill liabilities. Cleanup expenses. Bangladesh need not prove the ship was polluted.

Bangladesh may claim the 1992 Protocol of the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage if cleanup costs exceed the ship owner's limited obligation. M.P.A.s protect marine resources from destructive activities and reduce extinction risk. M.P.A.s assist preserves biodiversity, managing marine and coastal ecosystems, and sustainably utilizing marine resources. Bangladesh built 1738 sq km M.P.A.s at the Swatch of No Ground (SoNG-MPA) for the long-term preservation of cetaceans (dolphins, whales, sharks, and turtles) (dolphins, whales, sharks, and turtles). ²²⁷ Bangladesh must increase M.P.A. coverage to at least 10% of coastal and marine areas per Aichi Target 11. ²²⁸ The relevant entities should expand M.P.A.s.

6. Recommendation:

Bangladesh's Environment Conservation Act 1995²²⁹ protects the environment. This Act may protect waterways. No maritime environmental regulation exists. Agenda 21's maritime environment goals include preserving environmentally sensitive areas, developing and enhancing marine life resources, monitoring and enforcing fishing operations, and improving coastal people's living conditions. Bangladesh is a party to UNCLOS and MARPOL 73/78, but it hasn't implemented enabling legislation. The Supreme Court of Bangladesh ruled in several cases that international instruments are not enforceable in Bangladesh unless incorporated into national laws. Bangladesh should enact municipal legislation, including international marine pollution agreements. Sixty worldwide and regional conventions and treaties protect the Marine environment. General international law gives states the right to use their resources according to their environmental policies, but they must also conserve the Marine environment. This work safeguards the ocean. Part XII of UNCLOS is the highest level of global command for maritime environment conservation. It affected international environmental legislation. State protection of the marine environment is mandated by several international and regional conventions (for example Basel convention; the Convention on the Prevention of Marine Pollution by dumping of wastes and other matters; the Convention on the Biological Diversity; Regional Seas Convention; International Convention on the Control of Harmful Anti Fouling Systems on Ships, 2001; 1973 MARPOL.Convention; The Ballast Water Management Convention; etc.).Several agreements offer innovative strategies to prevent land-based activities from degrading the Marine environment. Bangladesh's compliance with international law for marine environment protection was reviewed. Bangladesh has reduced marine and environmental Pollution. Plan B, Draft M.E.P.A. The draught law protected Bangladesh's marine environment and prevented Pollution. This draught enables MARPOL 73/74, the Ballast Water Management Convention, and A.F.S. The Marine Environment Protection Act delegated legislation to implement seven international marine conventions. Bangladesh's sea, coast, and EEZ are protected under the National

Oil Spill Contingency Plan. The policy, coordinated by the Bangladeshi Government, describes the organizational and procedural methods needed to address spills. Immediately install this NOSCP.



Figure : 7 Way to Save the Ocean (Sources: National Ocean Service).

7. Conclusion:

Bangladesh gained 1,18,813 sq km of seas, including the territorial sea, exclusive economic zone, and irrefutable sovereign rights in the seabed after delimiting its maritime boundary with Myanmar²³³ and India²³⁴. Marine pollution protection is a current demand. Here's an idea. The Territorial Waters and Maritime Zones Act 1974 (T.W.M.Z. Act) allows the government to prevent and control marine Pollution and preserve the marine environment on high seas adjacent to territorial waters. ²³⁵ This Act is insufficient to protect the marine environment, especially for implementing MARPOL. Bangladesh Environment Conservation Act 1995²³⁷ safeguards the environment. This Act may protect waterways. No maritime environmental regulation exists. Marine environment protection laws must be updated. Bangladeshi law regulates shipping (M.S. Ordinance). This ordinance is marine-free. Bangladesh drafted Merchant Shipping Ain in 2017 recently. This law addresses marine ecology. These laws don't protect the ocean. Marine protection laws need updating. Protecting the Bangladeshi delta's ecology and key resources is vital to public health, safety, and economic prosperity. NOS-COP assigns ministry and department duties. It outlines risk management. Sri Lanka²³⁹ and India²³⁸ have oil spill plans. Finalize and implement the NOS-COP for coastal and sea conservation. Sri Lanka's 2008 Marine Pollution Prevention Act. This law creates M.E.P.A. Sri Lanka's marine pollution authority to prevent, control, and manage Pollution. Bangladesh should pass regulations to prevent, control, and manage marine Pollution. Bangladesh should create a Marine Environment Protection Authority to control marine Pollution. The Ports Act of 1908 should also include I.M.O. conventions. The new Act should clarify port authorities' power to manage vessel-sourced Pollution to avoid overlap. M.E.P.A. shall conform with MARPOL., the Ballast Water Management Convention, and the International Convention on the Control of Harmful Anti-Fouling Systems on Ships. Ratify C.L.C. Secondary enforcement should tighten Bangladesh's port state

control. Inspections, certificate checks, technical surveys, and administrative enforcement should be adequately funded. Global marine Pollution. Its consequences spread to adjacent countries' coasts. Bangladesh should sign pollution-fighting agreements with advanced maritime nations. All major ports can get facilities. Bangladesh ratified MARPOL 73/78. There's no domestic MARPOL. Law. Bangladesh's failure to adopt IMO. Conventions after signing MARPOL. Is disappointing. Currents and winds can transport marine Pollution past artificial limits. Ships' Pollution can easily cross marine delimitation lines as they roam. Marine pollution regulation demands global cooperation.

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