Page 784 - 793 **DOI:** *https://doij.org/10.10000/IJLMH.116136*

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 6 | Issue 6

2023

The Exordium of Marine Pollution in India & It's Laws

REENU DUTT[1]

ABSTRACT

Marine pollution is a significant global issue that affects both India and the rest of the world. It involves the contamination of marine ecosystems, including oceans, seas, and coastal areas, due to human activities. The major sources of marine pollution include industrial discharges, untreated sewage, agricultural runoff, oil spills, plastic waste, and ship-generated waste. In India, several laws and regulations address the issue of marine pollution and aim to protect the country's coastal and marine environments. By delving into the sources, impacts, and consequences of marine pollution, this paper seeks to raise awareness about the critical state of India's coastal and marine ecosystems. The author aims to shed light on the various legal frameworks in place, including the Water (Prevention and Control of Pollution) Act, the Coastal Regulation Zone (CRZ) Notification, and the National Green Tribunal (NGT) Act, among others, which are instrumental in safeguarding India's marine environments. The author intends to emphasize the significance of stringent environmental regulations, effective enforcement mechanisms, and concerted efforts in combatting marine pollution and preserving the invaluable marine biodiversity for current and future generations.

Keywords: *Pollution; Marine Ecosystem; Environment; Sustainable Development; National Green Tribunal.*

I. INTRODUCTION

Marine pollution, an escalating global concern, poses significant threats to the aquatic ecosystem, human health, and the economy. India, a country with an extensive coastline, faces mounting challenges due to the detrimental effects of marine pollution. The history of marine pollution in India is intertwined with the country's economic and industrial development. India's long coastline, abundant marine resources, and significant population density have contributed to a complex interplay of factors leading to the deterioration of its marine environment. Before independence in 1947, marine pollution was not a major concern due to limited industrialization and population density along the coastline. Traditional practices and local activities, while not entirely benign, had relatively localized impacts on the marine ecosystem. Following

[1] Author is an Assistant Professor at School of Legal Studies, Babu Banarasi Das University, Lucknow, India.

 [ISSN 2581-5369]

independence, India embarked on a path of rapid industrialization, resulting in increased coastal urbanization, industrial activities, and agricultural development. These changes brought about significant alterations in land use patterns, waste disposal methods, and an influx of untreated industrial and domestic effluents into water bodies. During the 1960s and 1970s, India began to recognize the impacts of pollution on its environment. The formation of the Central Pollution Control Board (CPCB) in 1974 marked an initial step towards addressing various types of pollution, including marine pollution. However, in the early years, the focus was primarily on air and water pollution in inland areas, and the issue of marine pollution received comparatively less attention. In the 1980s and 1990s, as industrial activities expanded and the urban population increased, concerns regarding marine pollution escalated.

II. THE SOURCES OF MARINE POLLUTION

Marine pollution in both India and abroad stems from various sources. Industrial activities, including manufacturing, chemical production, and waste disposal, often lead to the release of pollutants such as heavy metals, chemicals, and toxins into water bodies that eventually find their way into the ocean. Pesticides, fertilizers, and other agricultural chemicals can be carried into rivers and streams and then flow into the oceans, causing water contamination and harmful algal blooms. Improperly treated or untreated sewage and wastewater from cities, towns, and industries can contaminate water bodies and eventually reach the oceans, leading to the spread of diseases and harming marine life. The massive influx of plastic waste into the oceans is a global concern. Discarded plastic items, microplastics from various sources, and improper waste management contribute significantly to the pollution of marine ecosystems. Accidental oil spills from shipping accidents, offshore drilling, and transportation of oil through tankers can have devastating effects on marine environments, harming marine life, ecosystems, and coastal areas. Discharge of ballast water, which can carry invasive species, as well as the release of pollutants from vessels and maritime operations, contribute to marine pollution. Airborne pollutants, including nitrogen, sulphur, and other contaminants from industrial activities, vehicles, and other sources, can be deposited into oceans through rain or atmospheric fallout. Deliberate dumping of waste materials, including hazardous substances and litter, directly into the ocean or coastal areas contributes to marine pollution. In India specifically, the Ganga and other major rivers carry significant amounts of untreated sewage, industrial waste, and agricultural runoff into the seas. The country's rapidly growing population, urbanization, and industrialization contribute to these issues. The coastal areas, especially around highly populated cities and industrial zones, are particularly affected.

 [ISSN 2581-5369]

III. MERCHANT SHIPPING ACT, 1958

The Merchant Shipping Act of 1958 in various countries, including India, is a comprehensive legislation governing various aspects of shipping, vessel operations, safety, and pollution prevention in maritime environments. The Act is a crucial legal framework designed to regulate and manage merchant shipping, including provisions aimed at preventing and controlling maritime pollution. The Merchant Shipping Act of 1958 serves as a foundational legislation addressing a wide array of matters related to shipping. It covers the registration of ships, safety and navigation, qualifications and responsibilities of the crew, standards for vessel construction and maintenance, as well as addressing legal aspects of shipping such as liability, salvage, and more. Of specific relevance to maritime pollution, the Act contains sections and provisions that aim to prevent and control pollution caused by ships in oceanic waters. These sections often address the prevention of oil pollution, waste disposal, and other substances harmful to the marine environment.

Provisions for Maritime Pollution Prevention: -

- **Prevention of Oil Pollution:** The Act includes regulations that aim to prevent oil pollution from ships. It typically mandates ships to comply with international conventions such as MARPOL (International Convention for the Prevention of Pollution from Ships), which set standards for the discharge of oil, chemicals, sewage, garbage, and ballast water.
- **Waste Disposal:** It sets guidelines for the disposal of various forms of waste from ships, including solid waste, sewage, and other hazardous materials. The Act often requires proper waste management practices to minimize the impact of ship-generated waste on marine environments.
- **Ballast Water Management:** Ships often discharge ballast water, which can carry invasive species. The Act may include provisions regarding the treatment of ballast water to minimize the spread of harmful aquatic organisms.
- **Pollution Response and Liability:** The Act may include provisions on reporting and responding to marine pollution incidents, as well as establishing liability for pollution damages. It typically outlines the responsibilities and liabilities of shipowners and operators in the event of pollution incidents.

The Merchant Shipping Act, 1958, plays a crucial role in preventing and controlling maritime pollution through several mechanisms:

 [ISSN 2581-5369]

- **Regulatory Framework:** It provides a legal framework for enforcing regulations and standards that aim to prevent and control maritime pollution, aligning with international conventions and guidelines.
- **Ship Safety and Maintenance:** Regulations within the Act ensure that ships maintain safety standards and appropriate maintenance, reducing the likelihood of incidents that could lead to pollution.
- **Pollution Response Mechanisms:** The Act often includes measures for timely reporting and addressing pollution incidents, establishing responsibilities and liabilities to ensure swift responses to pollution events.
- **International Compliance:** By adhering to international conventions and standards, the Act contributes to global efforts to minimize maritime pollution, emphasizing shared responsibility among maritime nations.

IV. THE WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974

The Water (Prevention and Control of Pollution) Act, 1974, is a seminal environmental legislation in India. It aims to prevent and control water pollution by establishing central and state pollution control boards. These boards oversee matters related to water quality, prescribe standards for the prevention and control of water pollution, and lay down guidelines for the treatment of pollutants.

The Act empowers authorities to take measures to prevent pollution, including conducting surveys, setting water quality standards, and regulating the discharge of pollutants into water bodies. It outlines penalties for contravention of its provisions, allowing for the prosecution of offenders who violate the standards or fail to comply with the Act's regulations.

The Act is relevant to the issue of marine pollution in several ways:

- **Regulation of Discharge:** The Act regulates the release of pollutants into water bodies, including rivers, which are major pathways for pollutants to reach the oceans. By imposing standards and regulations on effluent discharge, it indirectly addresses the issue of marine pollution at its source.
- **Quality Standards:** The Act establishes standards for water quality, which indirectly benefits marine ecosystems. Controlling pollution at the point of entry into rivers and other water bodies contributes to maintaining better water quality in the oceans.

 [ISSN 2581-5369]

- **Centralized Control:** The Act's establishment of central and state pollution control boards provides a framework for centralized monitoring and regulation of pollution. This structure facilitates a more organized approach to tackle issues that impact marine environments.
- **Legal Measures:** The Act includes provisions for penalties and legal actions against offenders who violate the regulations. This acts as a deterrent, encouraging compliance and responsible waste management practices, thereby reducing the potential for marine pollution.

Challenges and Future Directions:

While the Water (Prevention and Control of Pollution) Act, 1974, is a critical step in addressing water pollution, including its impact on marine environments, challenges remain.

- **Enforcement and Compliance:** The effective enforcement of the Act and ensuring compliance with its regulations pose challenges. Resources, infrastructure, and capacities for regular monitoring and enforcement need improvement.
- **Technological Advancements:** Advancements in pollution treatment technologies are crucial for the effective implementation of the Act. Innovation in waste treatment and disposal methods can help mitigate the impact of pollutants on marine environments.
- **Public Awareness and Participation:** Enhancing public awareness and participation in environmental conservation is vital. Citizen engagement and education can encourage responsible behaviour and support the Act's objectives.
- **Global Cooperation:** Addressing marine pollution requires global cooperation. India and other countries must collaborate, sharing best practices, research, and strategies to tackle this transboundary issue effectively.

V. THE ROLE OF NATIONAL GREEN TRIBUNAL

The National Green Tribunal (NGT) is a specialized judicial body in India established under the National Green Tribunal Act, 2010. The NGT has been instrumental in addressing a wide range of environmental issues, including concerns related to marine pollution. Its role in addressing and mitigating marine pollution is significant, given the grave environmental consequences and threats it poses to marine ecosystems, coastal areas, and public health. The NGT was formed with the primary objective of expeditious disposal of cases related to environmental protection, conservation of forests, rivers, and other natural resources, and prevention and control of pollution. It has the authority to hear and adjudicate cases related to

 [ISSN 2581-5369]

environmental laws, including those concerning marine pollution.

***The Tribunal has heard and passed judgments on cases involving**:*

- **Industrial Pollution:** Cases related to industries discharging waste and effluents directly into rivers or coastal areas, causing pollution in marine environments.
- **Coastal Zone Management:** Cases related to violations of coastal regulations and encroachments in coastal areas affecting marine ecosystems.
- **Oil Spills and Shipping Activities:** Instances of oil spills, accidents, and violations related to shipping and maritime activities leading to marine pollution
- **Waste Disposal:** Cases involving improper waste disposal and dumping in coastal areas that lead to marine pollution.

The NGT plays a pivotal role in addressing marine pollution through several key mechanisms:

- **Adjudication and Legal Action:** The Tribunal hears cases related to marine pollution, conducts inquiries, and passes judgments, often imposing penalties and directions to prevent further pollution and restore affected areas.
- **Policy and Guidelines:** The NGT has the authority to set guidelines and standards for preventing and controlling marine pollution. It issues directives to concerned authorities, industries, and stakeholders to comply with environmental norms.
- **Environmental Compliance:** The Tribunal ensures compliance with environmental laws, standards, and regulations related to marine pollution. It holds violators accountable and orders corrective measures to be taken.
- **Public Awareness and Advocacy:** The NGT contributes to raising public awareness about the importance of preserving marine ecosystems and the adverse impacts of pollution. It encourages public participation in environmental conservation efforts.

The National Green Tribunal has played a vital role in addressing marine pollution by hearing cases, passing judgments, and issuing directives aimed at preventing and controlling pollution in India's marine ecosystems. However, it faces challenges in enforcement, scientific expertise, and capacity building. Through continued efforts in collaboration, enforcement, and public engagement, the NGT can further strengthen its role in preserving marine environments, ensuring sustainable use of coastal areas, and safeguarding the health and biodiversity of India's marine ecosystems.

 [ISSN 2581-5369]

VI. COASTAL REGULATION ZONE NOTIFICATION, 2011

The Coastal Regulation Zone (CRZ) notification of 2011 in India is a significant legal framework designed to regulate and manage activities along the coastal areas to protect the coastal environment and ensure sustainable development. It defines the permissible activities in different zones along the coast and aims to preserve coastal ecosystems, prevent degradation of the coastline, and safeguard the livelihood of coastal communities.

Regarding marine pollution in India, it's a prevalent issue resulting from various sources such as industrial discharge, shipping activities, oil spills, untreated sewage, and agricultural runoff. This pollution significantly affects marine ecosystems, marine life, and the overall health of coastal areas. The Indian government has taken measures to address marine pollution, including legislation, regulatory frameworks, and initiatives to control and reduce pollution in its seas and coastal areas.

VII. SUSTAINABLE DEVELOPMENT REGIME: THE ANNIHILATION OF MARINE POLLUTION

Sustainable Development and Marine Pollution within the framework of the United Nations' Sustainable Development Goals (SDGs) constitute a critical global initiative to address environmental degradation, particularly in marine ecosystems. The SDGs provide a comprehensive blueprint for addressing various social, economic, and environmental challenges, including marine pollution, with the aim of achieving sustainable development worldwide. Sustainable development refers to meeting present needs without compromising the ability of future generations to meet their own needs. It emphasizes a balanced approach between economic development, social progress, and environmental protection. Marine pollution, a significant environmental concern, directly affects the sustainability of our oceans and coastal areas.

Marine pollution occurs due to various human activities, including industrial waste disposal, oil spills, untreated sewage, plastic pollution, and more. These pollutants threaten marine life, disturb ecosystems, deteriorate water quality, and impact human health and livelihoods that depend on marine resources. Sustainable development seeks to mitigate these adverse effects and conserve marine ecosystems for future generations.

The United Nations has recognized the importance of addressing environmental issues such as marine pollution within a global framework. Goal 14 of the SDGs specifically focuses on Life Below Water, aiming to "conserve and sustainably use the oceans, seas, and marine resources

 [ISSN 2581-5369]

for sustainable development."

Key aspects of SDG 14 related to Marine Pollution include:

- **Reducing Pollution:** Target 14.1 aims to prevent and significantly reduce marine pollution of all kinds, including marine debris and nutrient pollution, by 2025.
- **Sustainable Management**: Target 14.7 emphasizes the importance of sustainable use of marine resources and efficient management to minimize their adverse impacts, including addressing ocean acidification and regulating harvesting.
- **Protecting Ecosystems:** Target 14.2 stresses the need to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, such as preserving coral reefs and mangroves.
- **International Cooperation:** The SDGs call for increased international cooperation to address issues related to marine pollution and promote sustainable practices in marine environments (Target 14.4).

The SDGs have significantly contributed to raising global awareness and commitment to tackle marine pollution:

- **Policy Formulation:** The SDGs have inspired governments to create policies and action plans focused on marine pollution, emphasizing the need for better waste management, pollution control, and sustainable development of coastal areas.
- **International Cooperation:** The SDGs foster international collaboration, encouraging countries to work together to address global issues like marine pollution. They facilitate the sharing of knowledge, resources, and best practices among nations.
- **Public and Private Partnerships:** The goals encourage partnerships between governments, private sectors, civil society, and academia to jointly address marine pollution challenges. This collaboration allows for greater innovation, implementation of effective solutions, and increased awareness among the public.
- **Accountability and Monitoring:** The SDGs establish a framework for measuring progress and holding nations accountable for their commitments to address marine pollution. Reporting mechanisms enable the tracking of efforts and progress towards achieving these goals.

The United Nations' Sustainable Development Goals offer a comprehensive framework for addressing marine pollution and promoting sustainable development. SDG 14, in particular,

 [ISSN 2581-5369]

emphasizes the critical need to conserve and sustainably use oceans, seas, and marine resources for sustainable development.

While progress has been made, more concerted efforts are needed to address challenges in enforcement, technological innovation, public awareness, and international collaboration. Through continued commitment, cooperation, and innovative solutions, the SDGs can play a pivotal role in mitigating marine pollution and preserving the health and biodiversity of our oceans, ensuring their sustainability for future generations.

VIII. CONCLUSION

To address marine pollution in India effectively, a strategic four-fold approach is crucial. First, comprehensive reforms in legislation and policy are imperative. Reviewing and updating existing environmental laws, such as the Water (Prevention and Control of Pollution) Act, 1974, and the Environment (Protection) Act, 1986, to cover emerging pollutants and challenges is essential. Strengthening enforcement and implementing stricter penalties for non-compliance can significantly deter polluting activities. Moreover, introducing specific laws targeting prevalent issues like plastic waste and oil spills is necessary to comprehensively combat marine pollution.

The second essential facet involves the promotion of sustainable practices and waste management. Encouraging industries to adopt responsible waste disposal methods and invest in advanced treatment technologies for industrial effluents is crucial. Addressing plastic pollution through regulations, incentivizing recycling, and promoting eco-friendly alternatives will aid in reducing the strain on marine ecosystems. Additionally, focusing on proper management of urban waste and sewage treatment is fundamental to prevent pollutants from reaching water bodies.

Creating public awareness and fostering a sense of responsibility among citizens constitutes the third pivotal aspect. Engaging communities through educational campaigns, workshops, and participatory initiatives can instill a sense of environmental responsibility. Involving the youth and local communities in clean-up drives, conservation efforts, and beach cleaning activities will not only raise consciousness but also prompt collective action against marine pollution.

Lastly, fostering research and technological innovation is indispensable. Encouraging and funding research on advanced pollution control technologies and establishing better monitoring systems to detect and prevent pollution at its source is critical. Collaboration with global entities for information sharing, research, and technology exchange can further enhance India's capabilities in combatting marine pollution.

 [ISSN 2581-5369]

IX. REFERENCES

- Merchant Shipping Act, 1958.
- The Water (Prevention & Control of Pollution) Act, 1974.
- Territorial Waters Continental Shelf. Exclusive Economic Zone and Other Maritime Zones Act, 1976.
- J.R.D. Tata, An Approach to Ecology and Economic Growth, Industry and Environment, U.N. Environment Programme: Special issue No. 3, 1982, Paris, France.
- National Green Tribunal Act, 2010.
- Coastal Regulation Zone Notification, 2011.

*****

 [ISSN 2581-5369]