



Addressing Cross-Border **Plastic Pollution** in Bangladesh's Bay of Bengal

ISSUE

Bangladesh's coast and the Sundarbans mangrove face severe plastic pollution originating primarily from 18 transboundary rivers flowing through neighboring countries. An estimated 15,345 tonnes of single-use plastic enter Bangladesh's waters daily from upstream sources in India, Myanmar, Nepal, and others. The Ganges-Brahmaputra-Meghna river system alone discharges billions of microplastic particles into the Bay of Bengal, making Bangladesh a downstream hotspot for riverine plastic waste. This transboundary flow complicates national efforts, requiring regional cooperation to address upstream mismanaged plastic waste that overwhelms Bangladesh's marine ecosystems and coastal communities.



IMPACTS

Environmental: The Bay of Bengal is projected to receive five times more plastic waste in 2025 than in 2010. In the Sundarbans, over 56 tons of plastic waste were found immediately after Cyclone Amphan in 2020. Microplastics have been detected in beach sediments at Kuakata Beach, indicating widespread contamination.

Economic: The Bay of Bengal produces approximately 6 million tons of fish annually, contributing nearly 4% of the global catch. Plastic pollution threatens this vital resource, impacting food security and local economies.



Health: Microplastics have been found in shrimp species like *Penaeus monodon* and *Metapenaeus monoceros*, which are integral to local diets and exports. Additionally, microplastics have been detected in salt produced for human consumption in Bangladesh.

GOVERNANCE GAPS

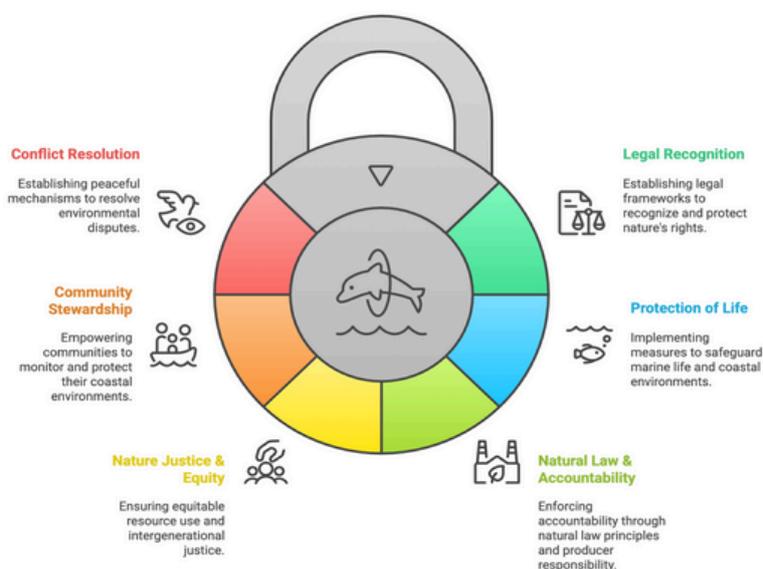
Effective management of plastic pollution in the Bay of Bengal faces significant governance challenges, both at national and regional levels. Despite the transboundary nature of plastic flows through rivers shared by multiple countries, existing regional institutions and agreements lack the necessary binding mechanisms to address plastic pollution comprehensively.

Regional bodies such as the South Asian Association for Regional Cooperation (SAARC) and its environmental arm, the South Asia Co-operative Environment Programme (SACEP), have made limited progress in developing enforceable policies on marine plastic waste. Political tensions among member countries, notably between India and Pakistan, have hindered coordinated environmental action, leaving plastic pollution largely unregulated across borders. Similarly, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), which includes Bangladesh, India, Myanmar, and other coastal nations, has prioritized trade, connectivity, and energy cooperation over environmental concerns. Consequently, BIMSTEC lacks a dedicated framework or binding agreements specifically targeting plastic waste management or riverine pollution control.

Other regional projects, such as the Bay of Bengal Large Marine Ecosystem (BOBLME) initiative led by UNDP and the Global Environment Facility, focus on fisheries, habitat protection, and nutrient pollution but do not explicitly address plastic waste. Additionally, several international conventions relevant to marine pollution—such as the United Nations Convention on the Law of the Sea (UNCLOS) and MARPOL Annex V (ship-generated garbage)—provide some standards but fall short of covering land-based plastic sources that dominate the Bay’s pollution profile.

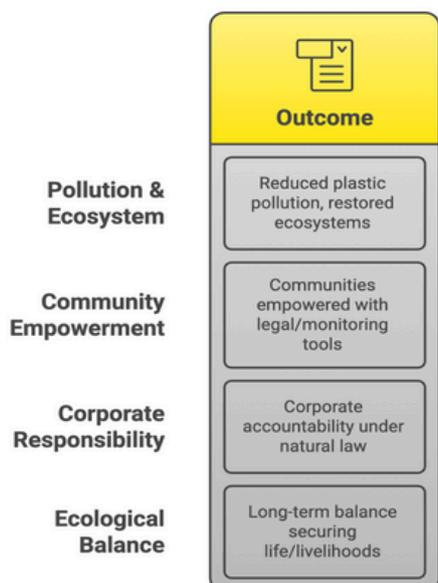
At the national level, Bangladesh has implemented some plastic control measures, including bans on plastic bags since 2002, but lacks comprehensive marine litter legislation. Enforcement remains inconsistent, and capacity gaps exist among local authorities. A critical limitation is the absence of robust data infrastructure; monitoring and quantifying plastic pollution, especially from transboundary rivers, is fragmented and underfunded. Without reliable data, policymaking and enforcement become reactive rather than proactive.

Framework for Natural Rights Led Governance (NRLG) for Ocean Protection



Integrating Natural Rights Led Governance (NRLG) into Plastic Pollution Management

Outcomes for Marine Environment Protection



Made with Napkin

Addressing cross-border plastic pollution requires a governance paradigm that respects the intrinsic rights of nature and ensures justice for communities dependent on marine ecosystems. The Natural Rights Led Governance (NRLG) framework offers a transformative approach by recognizing ecosystems as legal entities with inherent rights, enforcing accountability beyond states to include corporate polluters, and empowering local communities as custodians of their environment. Grounded in principles of natural law, equity, and social harmony, NRLG provides a holistic foundation for sustainable plastic management that protects life, livelihoods, and the health of the Bay of Bengal’s coastal waters.



POLICY RECOMMENDATION

1. Polluter Accountability

Target: National Government, Regulatory Bodies, Plastic Producers & Corporates

Action: Implement and enforce Extended Producer Responsibility (EPR) schemes requiring full life-cycle tracking of plastic products, especially in coastal and shipping sectors. Hold corporations financially and legally responsible for plastic waste management.

Time Frame: Initiate within 1 year; full implementation within 3 years.

2. Ban Single-Use Plastics

Target: National Government, Regional Bodies, International Partners

Action: Enact and enforce a comprehensive ban on single-use plastics nationwide, complemented by positive incentives (subsidies for alternatives) and penalties to curb production and consumption.

Time Frame: Policy drafting and stakeholder consultation within 6 months; phased ban enforcement within 2 years.

3. Legal Rights for Nature

Target: Parliament, Judiciary, Environmental Agencies

Action: Legally designate ecologically critical marine zones (e.g., Sundarbans, coral reefs, estuaries) as Natural Rights Sites with legal personhood status, enabling ecosystems to be represented in court and strengthening legal protection.

Time Frame: Legislative proposal within 1 year; enactment and pilot enforcement within 3 years.

4. Strengthen Legislation and Enforcement

Target: Ministry of Environment, Local Authorities, Law Enforcement

Action: Pass a Marine Litter Prevention Act with clear provisions; ban hazardous plastics near ECAs and fishing zones; require pollution impact assessments for plastic-heavy industries; increase enforcement capacity with adequate resources and penalties.

Time Frame: Drafting and consultation within 1 year; enactment and operationalization within 2 years.

5. Community Empowerment and Inclusion

Target: Local Governments, NGOs, Coastal Communities, Women & Youth Groups

Action: Build capacity and provide tools (mobile apps, SMS systems) for real-time monitoring and reporting of marine litter; formally recognize artisanal fisherfolk's rights to a plastic-free environment; ensure at least 50% participation from women and youth in stewardship programs.

Time Frame: Program design and piloting within 1 year; scale-up over next 3 years.

6. Innovate Waste Management Systems

Target: Municipalities, Waste Management Authorities, Private Sector

Action: Invest in riverine plastic interceptors, modernize recycling infrastructure, formalize informal waste collectors, and promote biodegradable alternatives like jute or cellulose bags.

Time Frame: Feasibility studies and pilot projects within 1 year; phased nationwide roll-out within 4 years.

7. Data and Monitoring Infrastructure

Target: Environmental Research Institutes, Government Monitoring Agencies, Academia

Action: Establish a national plastic pollution monitoring network using satellite/drone technology and citizen science; centralize data management; provide funding for microplastic research in marine species.

Time Frame: Network design within 6 months; operational launch within 18 months.

8. Regional Cooperation and Diplomatic Engagement

Target: Ministry of Foreign Affairs, BIMSTEC, SAARC/SACEP Representatives

Action: Lead negotiations for a regional plastic waste pact; initiate joint riverine monitoring and data sharing with neighbors; actively participate in global Plastics Treaty processes to secure upstream accountability and financing.

Time Frame: Diplomatic strategy formulation within 6 months; initial agreements within 2 years.

9. Integrate Climate Finance and Nature-Based Solutions

Target: Climate Finance Agencies, Environmental Ministries, Project Developers

Action: Link plastic mitigation with climate resilience projects (e.g., mangrove restoration with plastic cleanup); prepare funding proposals for Green Climate Fund, Adaptation Fund, and others; emphasize ecosystem-based adaptation benefits.

Time Frame: Proposal development within 1 year; project launches within 2–3 years.

10. Promote Equity and Circular Economy Principles

Target: Policymakers, Industry, Civil Society

Action: Ensure circular economy initiatives distribute benefits equitably, avoiding monopolies; apply intergenerational justice frameworks in plastic policy design to safeguard future generations; support inclusive recycling cooperatives.

Time Frame: Policy framework within 1 year; implementation alongside waste management improvements over 3–5 years.

Conclusion

Plastic pollution in Bangladesh's coastal waters is a transboundary crisis demanding urgent, coordinated national and regional action. Legal reforms, corporate accountability, empowered communities, and regional diplomacy must work together to protect ecosystems, livelihoods, and health. By embedding natural rights and justice principles in policy, Bangladesh can lead a transformative approach to plastic pollution—protecting the Bay of Bengal for current and future generations.



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