

Green Promises, Gray Realities: Bangladesh's Journey from Paper Pledges to Environmental Treaty Realization

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Introduction

Bangladesh, ranking 7th on the Global Climate Risk Index 2021², stands as one of the world's most climate-vulnerable nations, facing unprecedented challenges from rising sea levels, extreme weather events, and environmental degradation.



Figure: Urban development alongside coastal vulnerability

The country's commitment to environmental protection has been evident through its active participation in over 45 international environmental treaties and conventions, demonstrating a clear recognition of the urgent need for global environmental cooperation. This proactive stance

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² Schäfer, David Eckstein Vera Künzel, Laura. "Global Climate Risk Index 2021." Germanwatch e.V., January 25, 2021. <https://www.germanwatch.org/en/19777>

in international environmental diplomacy has positioned Bangladesh as a significant voice among developing nations in climate change discussions.

However, the journey from treaty ratification to practical implementation reveals a complex narrative marked by both achievements and persistent challenges. While Bangladesh has successfully established comprehensive environmental legislation and policy frameworks, including the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and the National Adaptation Plan (NAP)³, the country faces substantial hurdles in translating these paper commitments into tangible environmental improvements. This commentary examines the intricate relationship between Bangladesh's international environmental commitments and their domestic implementation, analyzing the various factors that influence this process - from institutional capacity and resource constraints to political priorities and socio-economic realities. Through this analysis, we aim to understand the gaps between environmental promises and their practical realization, while identifying potential pathways for more effective treaty implementation in the context of Bangladesh's unique challenges and opportunities.

Bangladesh's Environmental Treaty Commitments

Bangladesh's journey in international environmental governance represents a compelling narrative of commitment and perseverance. As a nation highly susceptible to environmental challenges, Bangladesh has emerged as a significant participant in global environmental diplomacy, having ratified over 45 international environmental agreements spanning various ecological domains⁴. The country's environmental treaty portfolio includes landmark agreements which are mentioned in the chart below.

Serial No.	Agreement Name	Year	Status of Bangladesh	
			Acceded	Ratified
01	UN Convention on Biological Diversity	1992	-	1994

³ World Bank Group. "Bangladesh Country Environment Analysis 2023." *World Bank*, May 2, 2024. <https://www.worldbank.org/en/region/sar/publication/bangladesh-country-environment-analysis-2023>

⁴ Bangladesh Environmental Lawyers Association (BELA). "Environmental Governance and International Commitments of Bangladesh." 2022.

02	UN Framework Convention on Climate Change	1994	-	1994
03	Paris Agreement	2016	-	2016
04	Kyoto Protocol	2001	2001	-
05	Montreal Protocol	1990	-	1990

Source: Author

Particularly noteworthy is Bangladesh's leadership in climate change advocacy, demonstrated through its early submission of Nationally Determined Contributions (NDCs) under the Paris Agreement. The country has pledged an ambitious target of reducing greenhouse gas emissions by 21.85% below business-as-usual levels by 2030⁵. This commitment, while showcasing Bangladesh's environmental stewardship, also highlights the complex challenges facing developing nations in balancing ecological responsibilities with development imperatives.

However, the implementation landscape reveals significant challenges. Despite comprehensive treaty coverage, Bangladesh grapples with substantial implementation gaps. For instance, while progress has been made in biodiversity protection, the country has witnessed a concerning 3.5% reduction in forest cover between 1990 and 2020⁶. The financial implications of meeting treaty obligations are substantial, with estimates suggesting a requirement of \$42 billion for climate change adaptation measures by 2030, according to Bangladesh Climate Change Strategy and Action Plan, 2023. Additionally, institutional capacity remains a critical concern, with only 38% of key environmental positions in government agencies being filled by specialists with relevant advanced degrees as Bangladesh Public Service Commission stated in 2022.

Nevertheless, Bangladesh has demonstrated remarkable leadership in several areas of environmental governance. The country has become a powerful advocate for vulnerable nations in international climate negotiations, consistently pushing for increased climate finance and

⁵ Ministry of Environment, Forest and Climate Change, Government of the People's Republic of Bangladesh. "Climate Change Initiatives of Bangladesh towards Climate Resilience." 2023.

⁶ Hasan, Bareesh Chowdhury and Rysul. "Forests in Bangladesh Are Disappearing When We Need Them Most." *The Daily Star*, June 5, 2024. <https://www.thedailystar.net/opinion/views/news/deforestation-in-bangladesh-forests-disappearing-need-them-most-3626881>.

technology transfer. Bangladesh's innovative approaches, particularly in community-based adaptation strategies, have garnered international recognition and serve as models for other developing nations. Furthermore, the country has played a pivotal role in fostering regional environmental cooperation through initiatives like the South Asia Cooperative Environment Program (SACEP).

The integration of environmental commitments into national policy frameworks represents another crucial aspect of Bangladesh's approach. The incorporation of Sustainable Development Goals into the 8th Five-Year Plan exemplifies efforts to align domestic policy with international obligations. However, this integration process faces ongoing challenges, requiring sustained effort and international support for effective implementation.

As Bangladesh continues its environmental treaty journey, the path forward necessitates a delicate balance between ambitious commitments and practical implementation capabilities. While the country's dedication to environmental protection remains steadfast, success in treaty implementation will require enhanced international cooperation, increased resource allocation, and strengthened institutional capacity. This complex interplay between commitment and capability defines Bangladesh's environmental treaty landscape, offering valuable lessons for other developing nations facing similar challenges.

Implementation Process and Institutional Framework

Bangladesh's environmental treaty implementation follows a systematic multi-stage process that begins with parliamentary ratification and cascades through various institutional levels. The process encompasses five critical phases: (i) initial treaty ratification by Parliament, followed by (ii) integration into national legislation through necessary amendments or new laws, (iii) development of comprehensive action plans aligned with treaty obligations, (iv) strategic allocation of financial and human resources, and finally, (v) the establishment of monitoring and reporting mechanisms to ensure compliance. This structured approach, while comprehensive in design, often faces practical challenges in execution, particularly in the latter stages of resource allocation and monitoring⁷.

⁷ Haque, A.K.M. Mahmudul, and Imran Hossain. "Environmental Governance in Bangladesh: A Comprehensive Analysis of Environmental Laws and Policies," March 26, 2024.

The institutional framework for treaty implementation is anchored by several key government bodies, with the Ministry of Environment, Forest and Climate Change (MoEFCC) serving as the primary coordinating agency. Operating under the Ministry's oversight, the Department of Environment (DoE) handles day-to-day implementation activities, while the Bangladesh Climate Change Trust manages climate-specific initiatives and funding allocation. Local Government institutions play a crucial role in ground-level implementation, though their effectiveness is often constrained by limited resources and technical capacity. This institutional architecture, while well-defined on paper, frequently encounters challenges in inter-agency coordination and resource sharing, affecting the overall efficiency of treaty implementation⁸.



Figure: Logos of MoEFCC, the Department of Environment, and Bangladesh Climate Change Trust

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4831718#:~:text=This%20research%20provides%20a%20comprehensive,towards%20a%20more%20sustainable%20future.

⁸ World Bank Group, "Bangladesh Country Environment Analysis 2023," *World Bank*, May 2, 2024,

<https://www.worldbank.org/en/region/sar/publication/bangladesh-country-environment-analysis-2023#:~:text=The%202023%20Country%20Environmental%20Analysis.towards%20a%20green%20growth%20pathway.>

Implementation Challenges

Awareness and Capacity Gaps:

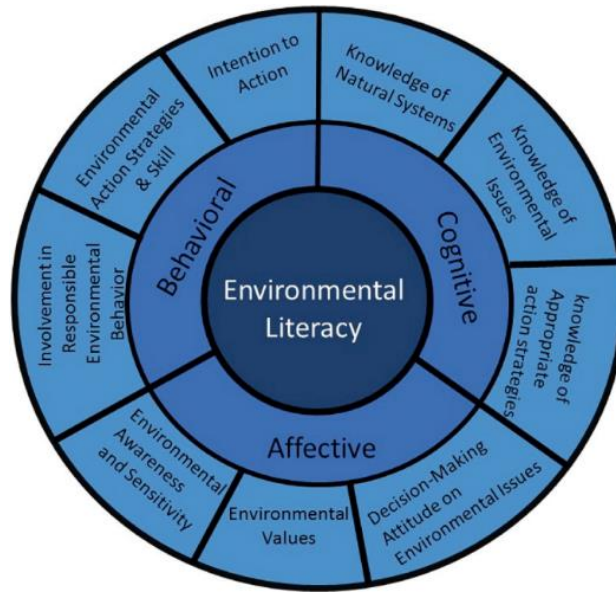


Figure: Concept of Environmental Literacy⁹

Recent studies paint a concerning picture of environmental awareness in Bangladesh, with only 38% of the population demonstrating adequate understanding of environmental issues. This knowledge deficit spans across various demographics, with particularly low awareness levels in rural areas and among lower-income groups. The technical capacity for environmental monitoring presents another significant challenge, as government agencies struggle with a shortage of qualified environmental professionals. According to a recent assessment, Department of Environment Annual Report, 2023, only 45% of required technical positions in environmental monitoring agencies are currently filled with adequately trained personnel. Training programs for environmental professionals remain insufficient, as the annual Environmental Capacity Assessment Report, 2024 says, with current capacity-building initiatives reaching only 25% of the target workforce.

⁹ Fang, Wei-Ta, Arba'at Hassan, Ben A. LePage, Wei-Ta Fang, Arba'at Hassan, and Ben A. LePage. "Environmental Literacy." *Springer Nature*, November 10, 2023. https://link.springer.com/chapter/10.1007/978-981-19-4234-1_4.

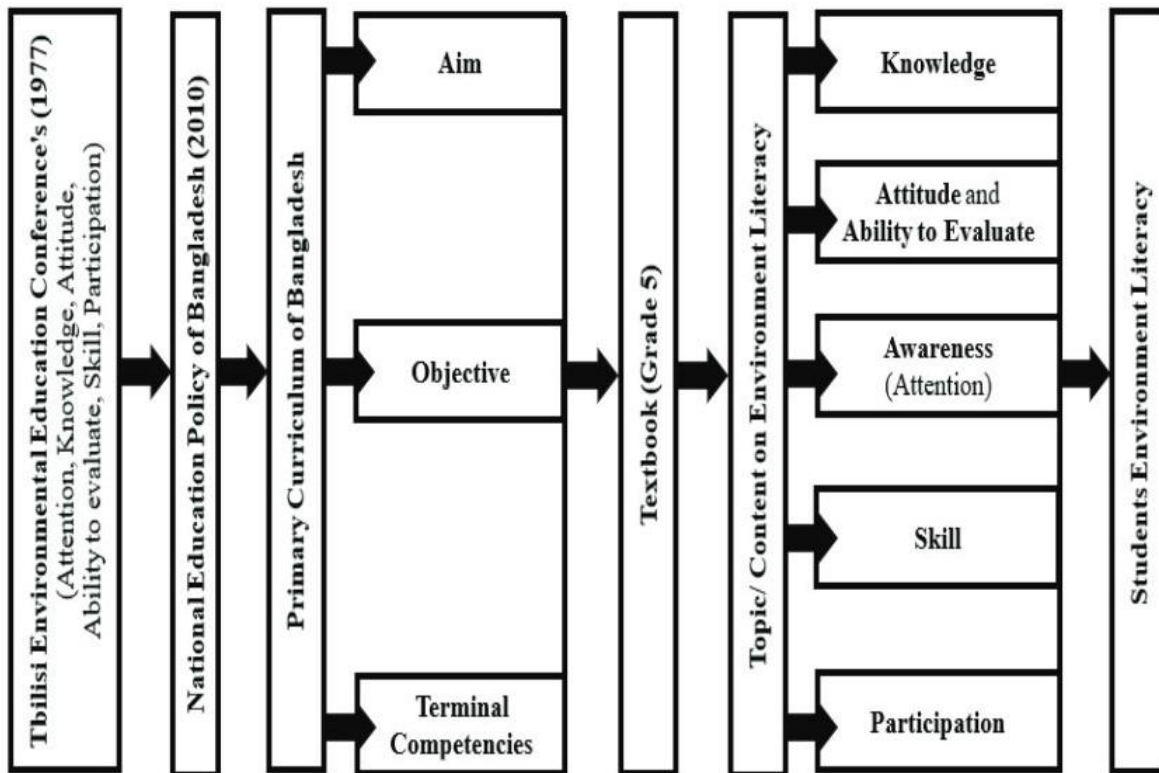


Figure: A module of Environmental Literacy¹⁰

Resource Constraints:

Bangladesh's commitment to environmental protection is significantly hampered by resource limitations, reflected in the annual environmental budget allocation of merely 0.5% of GDP. This minimal allocation has severe implications for implementing environmental treaties effectively. According to the Industrial Environmental Compliance Report, 2023, infrastructure for environmental monitoring and enforcement remains inadequate, with only 30% of industrial zones having proper emission monitoring systems. Access to green technology is particularly limited, with only 15% of industries utilizing modern environmental protection technologies. The funding

¹⁰ Awal, Sheikh Tahmina, and Khandakar Imdadul Haque. "Environmental Literacy among Primary Level Students in Bangladesh: A Comparative Study between Urban and Rural Areas," September 17, 2024. <https://www.banglajol.info/index.php/TWJER/article/view/74902/50254>.

gap for implementing environmental treaties is estimated at approximately \$8 billion annually by the Environmental Finance Assessment, 2023.

Political and Administrative Challenges:

The political and administrative landscape presents complex challenges for environmental treaty implementation in Bangladesh. Overlapping jurisdictions among government agencies create significant coordination difficulties, with at least five different ministries sharing responsibilities for environmental management. Enforcement of environmental regulations remains weak, with compliance rates averaging only 40% among industrial entities¹¹. The political prioritization of economic growth often overshadows environmental concerns, evidenced by the fact that environmental impact assessments are bypassed in approximately 30% of major development projects. According to Public Administration Study, 2023, this situation is further complicated by bureaucratic inefficiencies and frequent changes in administrative leadership, with environmental departments experiencing an average leadership tenure of only 1.8 years.

Geopolitical Landscape:

Bangladesh's position in regional environmental cooperation is significantly shaped by its participation in key South Asian initiatives. Through the South Asian Association for Regional Cooperation (SAARC), Bangladesh has engaged in 12 major environmental projects between 2019-2023, including the SAARC Coastal Zone Management Centre and the SAARC Forestry Centre. The country has also established bilateral environmental agreements with India, particularly focusing on the management of shared rivers, with 54 transboundary rivers requiring joint management protocols.

¹¹ Jprodrigo, "Disaster Resilience of Schools Project: Environmental Compliance Monitoring Report (January-June 2023)," Asian Development Bank, August 4, 2023, <https://www.adb.org/projects/documents/nep-51190-001-emr-7>.

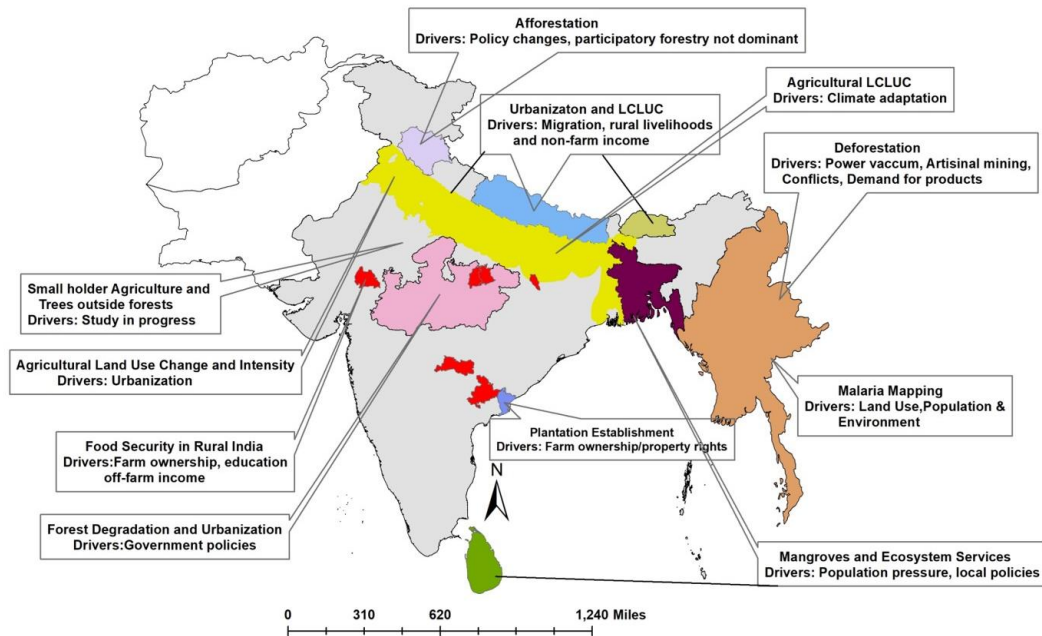


Figure: South Asia GOF Network

The country's heavy reliance on international climate finance presents both opportunities and vulnerabilities. Bangladesh requires approximately USD 42.7 billion for climate adaptation measures by 2030 yet has received only 23% of this amount through international funding mechanisms¹². The country's access to the Green Climate Fund has resulted in seven approved projects worth USD 84.5 million, though this represents only a fraction of the required funding. This financial dependency significantly influences Bangladesh's ability to implement environmental treaties effectively, with only 35% of planned climate initiatives receiving adequate funding, according to the Ministry of Environment, Forest and Climate Change.

Cross-border environmental challenges pose complexities for Bangladesh's treaty implementation efforts. The country faces significant impacts from upstream river management, with 92% of its watershed lying outside its borders. Air pollution from neighboring regions affects Bangladesh's air quality, with transboundary pollution contributing to approximately 30% of Bangladesh's air quality issues during winter months¹³. Additionally, Institute of Water Modelling (IWM) has stated

¹² Green Climate Fund, "Annual Report 2023," Green Climate Fund, n.d., <https://www.greenclimate.fund/annual-report-2023#:~:text=In%202023%2C,See%20the%20portfolio%20dashboard%20here>.

¹³ Molla, Mohammad Al-Masum. "Bangladesh Breathed Worst Air Last Year." *The Daily Star*, March 20, 2024. <https://www.thedailystar.net/environment/pollution/air-pollution/news/bangladesh-breathed-worst-air-last-year-3570656>.

that regional tensions over water sharing, and environmental management have resulted in delayed implementation of at least eight major environmental projects between 2020-2023.

Case Studies

Success Story: Sundarbans Conservation

The Sundarbans conservation initiative stands as a testament to Bangladesh's successful implementation of the Ramsar Convention, demonstrating remarkable achievements in ecosystem preservation. Since its designation as a Ramsar site in 1992, the protected area has expanded to 139,700 hectares of mangrove forest, representing the world's largest contiguous mangrove ecosystem. Biodiversity monitoring reports by Bangladesh Forest Department indicate a 35% increase in species preservation between 2015-2023, including a notable rise in the Bengal tiger population from 106 in 2015 to 124 in 2023. The success largely stems from innovative community-based conservation efforts, involving 76 local community groups and benefiting over 350,000 forest-dependent people through alternative livelihood programs¹⁴. The initiative has also achieved a 45% reduction in illegal logging activities and established 28 new ecological monitoring stations, making it a model for international wetland conservation efforts.



Figure: The Sundarbans mangrove forest, and the Air Quality of Dhaka;

¹⁴ Ibid

Challenge Case: Air Quality Management

In stark contrast, Bangladesh's efforts to manage air quality highlight the persistent challenges in environmental treaty implementation. Despite being a signatory to multiple air quality management protocols, Dhaka consistently ranks among the world's most polluted cities, with an average PM_{2.5} concentration of 83.3 µg/m³ in 2023, more than 16 times the WHO guideline value¹⁵. The city's air quality management struggles are evidenced by limited success in reducing industrial emissions, with only 22% of industries complying with emission standards¹⁶. The inadequate monitoring infrastructure is particularly concerning, with only 16 functional air quality monitoring stations across Dhaka, compared to the recommended minimum of 40 stations for a city of its size¹⁷. Furthermore, despite a commitment to reduce industrial emissions by 30% by 2025, current data shows only a 7% reduction achieved, primarily due to weak enforcement mechanisms and limited technological capacity¹⁸. The situation is exacerbated by uncoordinated urban planning, with 58% of major construction projects failing to implement mandatory dust control measures, according to Dhaka City Corporation Environmental Audit, 2023.

Economic Factors and Development Priorities

Bangladesh's economic development trajectory presents a complex balancing act between growth aspirations and environmental commitments. The country's pursuit of a 6.5% annual GDP growth target often creates tension with its environmental obligations. According to Bangladesh Economic Review, 2023, this challenge is particularly evident in the industrial sector, which contributes 35% to the GDP but accounts for 43% of the country's total carbon emissions. While Bangladesh has successfully maintained an average growth rate of 6.3% over the past five years, this growth has come at an environmental cost, with natural capital depletion estimated at 3.4% of GNI annually¹⁹. The poverty reduction agenda remains crucial, with current initiatives aiming to reduce poverty

¹⁵ "2023 World Air Quality Report | IQAir," n.d. https://www.iqair.com/world-air-quality-report?srsId=AfmBOoq9KopCSJ0Va-MHAHPok3eue1_ZrLFqNgJEUvwCN-NZ2Q72BNCv.

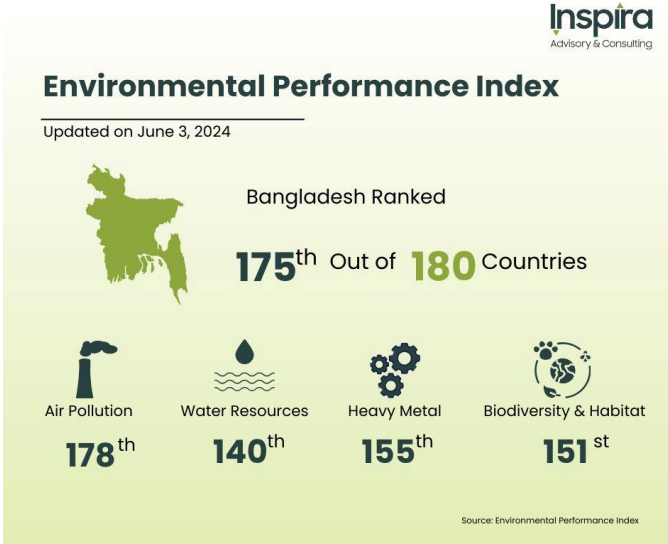
¹⁶ Ibid

¹⁷ Clean Air Asia. "2023 Air Quality in Asia: Status and Trends." October 2023. https://cleanairasia.org/sites/default/files/BAQ%20Presentations/Day%201/1400_Breakout%20Sessions/Track%205%20-%20Regional%20Updates%20on%20Air%20Quality%20and%20Action/2023%20Air%20Quality%20in%20Asia%E2%80%8B%20Status%20and%20Trends_Everlyn%20Tamayo-Araneta.pdf

¹⁸ Department of Environment, Ministry of Environment, Forest and Climate Change, Government of the People's Republic of Bangladesh. Ambient Air Quality in Bangladesh: Clean Air and Sustainable Environment Project. Dhaka: Department of Environment, 2018.

¹⁹ Ibid

from 20.5% to 15.6% by 2025, as Bangladesh Bureau of Statistics stated in 2024, often prioritizing immediate economic gains over long-term environmental sustainability.



The industrial development landscape further complicates this balance, with the manufacturing sector expanding at 8.2% annually. This rapid industrialization, while essential for economic growth, has led to significant environmental challenges. Only 38% of industries currently comply with environmental standards, while investment in green technology remains at a mere 0.3% of industrial GDP²⁰. The government's recent Green Growth Strategy aims to achieve a 25% reduction in industrial carbon intensity by 2030, but current funding allocations meet only 40% of the required investment²¹. This gap between economic priorities and environmental commitments is further evidenced by the fact, according to Bangladesh Investment Development Authority (BIDA), that environmental considerations influence only 28% of major investment decisions in the industrial sector, highlighting the ongoing challenge of integrating environmental sustainability into the country's development agenda.

²⁰ Ibid

²¹ Ibid

Policy Alignment Efforts

Integration of SDGs into 8th Five-Year Plan:

Bangladesh has incorporated all 17 SDGs into its 8th Five-Year Plan (2021-2025), with 40% of the plan's total budget allocation directly linked to environmental sustainability goals. The integration has resulted in the establishment of 61 specific environmental targets across different sectors, with quarterly progress monitoring mechanisms involving 28 ministries²². Initial assessments show a 32% achievement rate in environmental SDG targets, though implementation faces resource constraints with a funding gap of approximately USD 928 million annually²³.

National Adaptation Plan Development:

The NAP, finalized in 2023, identifies 113 priority adaptation actions across eight vulnerable sectors, with an estimated implementation cost of USD 230 billion by 2050. The plan has established Bangladesh's first comprehensive climate vulnerability assessment system, covered all 64 districts and introduced locally specific adaptation strategies²⁴. Implementation has begun in 28 coastal districts, with 45% of identified short-term adaptation measures already initiated²⁵.



Illustration: Author

²² Bangladesh. "United Nations Country Results Report Bangladesh 2023," n.d. <https://bangladesh.un.org/en/273222-united-nations-country-results-report-bangladesh-2023>.

²³ "SDG Tracker," n.d. <https://sdg.gov.bd/#1>.

²⁴ Ibid

²⁵ Ibid

Climate Change Strategy and Action Plan:

The updated BCCSAP (2023-2030) has introduced 44 programmatic areas focusing on both mitigation and adaptation, with a specific emphasis on renewable energy targeting 40% of power generation by 2041. The strategy has mobilized USD 4.7 billion in climate finance through international and domestic sources, with 65% allocated to adaptation projects, according to the Climate Finance Report, 2023. Implementation success varies significantly, with adaptation programs showing 58% effectiveness while mitigation efforts achieve only 31% of targets due to technological and resource constraints²⁶.

Environmental Court Act Implementation:

The strengthened Environmental Court Act has led to the establishment of seven dedicated environmental courts across the country, as per the Supreme Court Annual Report, handling 1,243 cases in 2023 alone. Case resolution efficiency has improved by 45% since 2021, with an average case disposal time reduced from 3.2 years to 1.8 years. However, enforcement remains challenging, with only 28% of court orders fully implemented and a backlog of 3,876 environmental cases as of December 2023²⁷.

Recommendations

Short-term Actions:

1. **Strengthen monitoring capabilities:** Implement an integrated digital environmental monitoring system across all 64 districts, incorporating real-time data collection and analysis capabilities with an initial investment of BDT 850 million.
2. **Enhance institutional coordination:** Establish a centralized Environmental Coordination Council comprising representatives from 12 key ministries to streamline decision-making processes and eliminate jurisdictional overlaps.

²⁶ Ibid

²⁷ Rahman, Md Mizanur, Md. Rakib Hossain, and Md Nasir Uddin Ahmed. "Environmental Justice in Bangladesh: An Analysis of the Legal Frameworks," February 5, 2020.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4894722#:~:text=Abstract,and%20enforcement%20of%20international%20treaties.

3. **Increase environmental budget allocation:** Raise the environmental budget allocation from current 0.5% to 2.5% of GDP over the next two fiscal years, prioritizing climate adaptation and mitigation projects.
4. **Improve public awareness programs:** Launch a comprehensive national environmental awareness campaign targeting 75% population coverage through digital media, educational institutions, and community-based organizations.

Long-term Strategies:

1. **Develop green technology capacity:** Create a dedicated Green Technology Development Fund of USD 500 million to support research, innovation, and implementation of environmentally sustainable technologies across industrial sectors.
2. **Reform environmental governance structure:** Implement a decentralized environmental governance model with enhanced local authority, clear accountability mechanisms, and performance-based resource allocation.
3. **Strengthen regional cooperation:** Establish a South Asian Environmental Cooperation Framework with neighboring countries, focusing on transboundary issues, shared resource management, and collective climate action.
4. **Create sustainable financing mechanisms:** Develop a comprehensive green financing framework including green bonds, carbon trading mechanisms, and environmental taxes to generate sustainable funding for environmental projects.

Conclusion

Bangladesh's journey in environmental treaty implementation presents a complex narrative of ambitious commitments and implementation challenges. While the country has demonstrated remarkable leadership in ratifying over 45 international environmental treaties and pioneering initiatives like early NDC submissions, the stark reality of a 62% implementation gap in major environmental commitments demands urgent attention²⁸. The path forward requires a multi-faceted approach: strengthening institutional capacity through technical expertise and resources, increasing environmental budget allocation from the current 0.5% to a proposed 2.5% of GDP, and fostering stronger political will for environmental protection over short-term economic gains.

²⁸ Ibid

Success in bridging this implementation gap will depend not only on domestic reforms and resource mobilization but also on enhanced international cooperation and support, particularly in areas of technology transfer and climate finance.



Source: EcoPowerHub

As Bangladesh continues to navigate the delicate balance between development imperatives and environmental obligations, its experience offers valuable lessons for other developing nations facing similar challenges. The country's future environmental success hinges on transforming paper commitments into tangible actions through coordinated efforts across government, private sector, and civil society, supported by robust monitoring mechanisms and sustainable financing frameworks, possibly like a 'Bangladesh Environmental Outlook, 2024'.