

Area-Based Conservation Approach in the Sundarbans and the Saint Martin's Island of Bangladesh: Prospects and Challenges

Noor Israth Jahan

Department of Law, University of Chittagong, Bangladesh

noorisrath@cu.ac.bd

ORCID iD: 0009-0001-4704-3249

ABSTRACT

Area-based conservation is regarded as a viable approach to conserve biodiversity. The Convention of Biological Diversity 1992 (CBD) is the key international instrument creating binding obligations for state parties. With the influence of CBD and other international instruments, Bangladesh has adopted new laws, policies, and strategies and thereby seems to have departed from the traditional approach to conservation and embraced the new approach to conservation in line with CBD. This study assesses Bangladesh's conservation approach regarding the Sundarbans Mangrove Forest and Saint Martin's Island—two critically important ecological sites and concludes that despite various conservation measures taken by the Government of Bangladesh, the biodiversity of these two sites is in decline and that these two critically important ecological sites require a well-functioning area-based conservation approach. It identifies the reasons behind the failure of Bangladesh's conservation efforts regarding these two sites and finds out the key factors contributing to this failure. In doing so, it emphasizes qualitative elements of conservation, such as effective and equitable management, ecological representativeness, connectivity, integration into wider land and seascapes, etc. Bangladesh has already taken the first steps towards a proper conservation approach in theory; it is now high time to bring them into proper practice.

Keywords: Area-based conservation; Biodiversity; Bangladesh; Sundarbans; Saint Martin's

Received: 13 Feb 2024, **Accepted:** 18 Nov 2024, **Published:** 31 Jan 2025



1. Introduction

been as a viable approach to conserving threatened ecosystems and threatened species. Taking area-specific measures is not a new phenomenon. In the past, natural areas were protected for religious worship, which indirectly conserved nature.¹ During the industrial period, protected areas and reserved forests became symbols of colonization causing dispossession and displacement of people, especially indigenous communities.² Such conventional 'top-down' and 'exclusionary' approaches failed to factor in the human component of the ecosystem and triggered conflicts and dissatisfaction among people ultimately making the conservation of such areas difficult.³ Gradually, perspectives towards the protected areas changed owing to new challenges facing natural resources and ecosystems.⁴ Now, protected areas are seen as part of the greater landscape rather than as isolated territories.⁵ Concepts like equitable management, community-centered management, and co-management are being increasingly encouraged, which require the participation of indigenous peoples and local communities in the design, planning, and management of protected areas.⁶ Moreover, adaptive management,⁷ ecosystem approach,⁸ and ecologically critical area approach⁹ are some of the new ideas complementing the efficacy of area-based conservation.

¹ Georgina G Gurney and others, 'Area-Based Conservation: Taking Stock and Looking Ahead' (2023) 6(2) *One Earth* 98. For example, Mount Kailas has been preserved as 'Holy mountain' by the people belonging to different religions since the 4th century BC. See Graeme L Worboys (ed), *Protected Area Governance and Management* (ANU Press 2015) 11.

² Gurney and others (n 1); See Gustavo SM Andrade and Jonathan R Rhodes, 'Protected Areas and Local Communities: An Inevitable Partnership Toward Successful Conservation Strategies?' (2012) 17(4) *Ecology and Society* <<https://www.ecologyandsociety.org/vol17/iss4/art14/>>; See also 'Protected Area Planning and Management: The Global Experience' (International Center for Environmental Management) 1, 2 <<https://icem.com.au/documents/biodiversity/pad/tlp-01.pdf>>.

³ Derek Armitage and others, 'Governance Principles for Community-Centered Conservation in the Post-2020 Global Biodiversity Framework' (2020) 2(2) *Conservation Science and Practice* 1, 2–6. See also Shawkat Alam and Sheikh Noor Mohammed, 'Applying the Ecosystem Approach to the Sundarbans of Bangladesh: Possibilities and Challenges' (2018) 27 *Review of European, Comparative and International Environmental Law* 115, 116.

⁴ See International Center for Environmental Management (n 2).

⁵ *ibid* 2.

⁶ The concept 'co-management or collaborative management' posits in between state-centered approach and community-centered approach and unites multiple stakeholders on common grounds where decision is taken on the basis of consensus. Chris Ansell and Alison Gash, 'Collaborative Governance in Theory and Practice' [2008] *Journal of Public Administration Research and Theory* 1; Grazia Borrini Feyerabend and others, *Co-management of Natural Resources: Organizing, Negotiating and Learning-by-Doing* (Kasparek Verlag 2007) 1.

⁷ Worboys (ed) (n 1) 194–195.

⁸ This strategy implies integrated management of land, water and living resources which is endorsed by the Convention on Biological Diversity (CBD) and further elaborated through Malawi Principles and Operational Guidelines. See CBD Decision V/6 'Ecosystem Approach' (22 June 2000) UN Doc UNEP/CBD/COP/5/23 Annex A; CBD 'Principles of Ecosystem Approach' <<https://www.cbd.int/ecosystem/principles.shtml>>; CBD 'Operational Guidance for Application of the Ecosystem Approach' <<https://www.cbd.int/ecosystem/operational.shtml>>.

The Convention on Biological Diversity (later referred to as CBD), the umbrella instrument concerning the conservation of biodiversity, acts as the basis of an area-based conservation approach. The strategic plans and targets adopted under its auspices require that the state parties adopt area-based conservation by declaring protected areas or other effective area-based conservation measures (OECM).¹⁰ As a party to the CBD, Bangladesh has adopted the National Biodiversity Strategy Plan and other important laws for conserving biodiversity. Besides, the country has increased the coverage of its protected area significantly.¹¹ The Sundarbans Mangrove Forest occupies a prominent place in fulfilling Bangladesh's biodiversity targets.¹² Saint Martin's Island is another crucial area of Bangladesh in terms of conservation due to its unique biodiversity and marine resources. However, despite various conservation measures taken by the government, the biodiversity of these two areas is on the decline.¹³

In this context, this article seeks to explore Bangladesh's position on the conservation of biodiversity in light of international instruments as well as national laws and policies. Specifically, the article examines the protection regimes of the Sundarbans and Saint

⁹ Such approach is practiced to protect areas which are of rich biodiversity and crucial ecosystem services but fragile or sensitive to adverse human interventions. Xinyu Shi and others, 'Evolution Modes, Types, and Socio-Ecological Drivers of Ecologically Critical Areas in the Sichuan-Yunnan Ecological Barrier in the Last 15 Years' (2022) 19(15) International Journal of Environmental Research and Public Health 1, 2 <<https://doi.org/10.3390/ijerph19159206>>.

¹⁰ The terms 'area-based conservation' primarily relates to well-demarcated protected areas with specific aim of conserving biodiversity. However, other areas which effectively serve conservation purposes irrespective of their *de jure* recognition or dedication also come within its purview. The definition of 'Other Effective Area-based Conservation Measures (OECM)' was adopted by the Subsidiary Body on Scientific, Technical and Technological Advice to the CBD in its 22nd meeting in 2018. See SBSTTA (22nd meeting) 'Protected Areas and Other Effective Area-Based Conservation Measures: Draft Recommendation Submitted by the Chair' (6 July 2018) CBD/SBSTTA/22/L.2 <<https://www.cbd.int/doc/c/9b1f/759a/dfcee171bd46b06cc91f6a0d/sbstta-22-1-02-en.pdf>>. See the definition of protected areas in Nigel Dudley (ed), *IUCN Guidelines for Applying Protected Area Management Categories* (IUCN 2008) 8.

¹¹ Aichi Biodiversity, Target 11 (Country Dossier: Bangladesh) 5 <<https://www.cbd.int/pa/doc/dossiers/bangladesh-abt11-country-dossier2021.pdf>>.

¹² The Sundarbans is shared by both India and Bangladesh, however 60% of it is in Bangladesh. See 'The Sundarbans' (World Heritage Datasheet) <<http://world-heritage-datasheets.unep-wcmc.org/datasheet/output/site/the-sundarbans/>>.

¹³ UNESCO in 2017 Conservation Outlook Assessment of Sundarbans noted that the Sundarbans was nearly halved in comparison with that existed during late 1800's. See IUCN Conservation Outlook Assessment 2017 (archived) <<https://worldheritageoutlook.iucn.org/explore-sites/wdpaid/145580>>; IUCN World Heritage Outlook 3 also marked Sundarbans as a 'significant concern'. See Elena Osipova and others, *IUCN World Heritage Outlook 3* (IUCN 2020) 50 <<https://portals.iucn.org/library/sites/library/files/documents/2020-035-En.pdf>>. Moreover, in a study of 2008, Kabir and Hossain observed that the total tree coverage has lessened by 50% over the past two decades. See Dewan Muhammad Humayun Kabir and Jakir Hossain, *Resuscitating the Sundarbans: Customary Use of Biodiversity & Traditional Cultural Practices in Bangladesh*, (Unnayan Onneshan—The Innovators, 2008). See also Shaikh Sayed Ahammed and others, 'A Study of Environmental Impacts on the Coral Resources in the Vicinity of the Saint Martin Island, Bangladesh' (2016) 5(1) International Journal of Scientific & Technology Research 37, 38–39.

Martin's Island and assesses the challenges of conservation in these two areas. Finally, the article presents the findings of this study and makes recommendations for policymakers.

1.1 Methodology

In this doctrinal research, I have employed the analytical method to discern existing norms and principles on conservation. In doing so, apart from an in-depth analysis of international conventions, treaties, and protocols, national laws and standards have been taken into consideration. Keeping the international legal obligation ensuing from international environmental law instruments, I have assessed the compliance of the country in question, i.e. Bangladesh. To begin with, the study has also taken into consideration relevant secondary sources and used their insights to assess the level of conservation in the Sundarbans and Saint Martin's Island.

2. International Legal Regime on Area-Based Conservation of Biodiversity

Various international instruments, both soft and hard, address the issue of biodiversity conservation and underscore its urgency. Among the soft laws, the 1972 Stockholm Declaration was the earliest one to emphasize conserving and wisely managing, flora and fauna,¹⁴ followed by the 1982 World Charter for Nature,¹⁵ and the Agenda 21.¹⁶ In addition, the 1980 IUCN World Conservation Strategy¹⁷ and the 1984 Action Plan for Biosphere Reserves¹⁸ are important instruments for conservation.

Amongst the binding international treaties, the Convention on Biological Diversity, 1992 is seen as the bedrock of area-based conservation. The 1971 Ramsar Convention on Wetlands of International Importance and the 1972 World Heritage Convention also espouse an area-specific conservation approach. Furthermore, the 1982 United Nations Convention on Law of the Sea draws special attention to the conservation of marine biodiversity. The 1973 Convention on International Trade in Endangered Species, the 1979 Bonn Convention on Migratory Species, the International Treaty on Plant Genetic Resources for Food and Agriculture, and the International Plant Protection Convention complement the legal architecture of area-based conservation.

¹⁴ Declaration of the United Nations Conference on Human Environment (5–16 June 1972) (Stockholm Declaration) principles 2, 3, 4 and 7.

¹⁵ UNGA (37th Session) 'World Charter for Nature' (28 October 1982), art I.

¹⁶ Agenda 21 (3–14 June 1992) (vol II), s II, ch 15.

¹⁷ World Conservation Strategy (1980) <<https://portals.iucn.org/library/efiles/documents/wcs-004.pdf>>.

¹⁸ Action Plan for Biosphere Reserves (1984) <http://npshistory.com/publications/mab/OPN_BR_21.pdf>.

2.1 The 1992 Convention on Biological Diversity

The Convention on Biological Diversity addresses almost all aspects of biodiversity,¹⁹ and incorporates several environmental principles like the transboundary harm principle,²⁰ precautionary approach²¹ and intergenerational equity principle etc.²² Moreover, it makes a major shift from traditional conservation (which precludes indigenous peoples and local communities from accessing the resources) to conservation conditioned by sustainable use.²³ However, the Convention is criticized for failing to impose ‘concrete obligations’ on states, and imposing ‘general obligations’ with ‘heavily qualified language’.²⁴

2.1.1 Concept of Protected Area

The concept of ‘*in-situ* conservation’²⁵ Article 8 of the Convention obliging the state parties to establish ‘protected areas’ is considered to be the cornerstone of biodiversity conservation. However, the state parties are allowed wide discretion in Article 8 as it is couched in a soft language to start with. The article begins with the words: ‘Each contracting party shall, as far as possible and as appropriate’²⁶ take the steps for establishing and managing protected areas, which leaves compliance conditional on a state’s capacity.²⁷ However, subsequent policy documents adopted by the CBD Conference of Parties (COP) from time to time elaborated on the commitment but did not impose binding obligations upon state parties.²⁸

As part of *in-situ* conservation, state parties are required *inter alia* to formulate guidelines for selecting protected areas,²⁹ Regulate or manage biological resources important

¹⁹ Unlike other biodiversity agreements, the Convention has no list of species or habitats requiring special measures of protection. Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (4th edn, Cambridge University Press 2018) 390.

²⁰ Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 31 ILM 822 (1992 Biodiversity Convention) art 14. It is argued that the language addressing transboundary harm is not imperative, rather light. See Michael Bowman, Peter Davies and Catherine Redgwell, *Lyster’s International Wildlife Law* (2nd edn, Cambridge University Press 2010) 600.

²¹ Adopting precautionary approach is incumbent only in case of ‘significant’ threat of reduction or loss of biodiversity. 1992 Biodiversity Convention (n 20) preamble, para 9.

²² *ibid* preamble, para 23.

²³ Veit Koester, ‘The Five Global Biodiversity-Related Conventions: A Stocktaking’ (2002) 11(1) *Review of European, Comparative and International Environmental Law* 96,100.

²⁴ Lakshman D Guruswamy and Brent R Hendricks, *International Environmental Law in a Nutshell* (West Publishing, 1997) 91.

²⁵ *In-situ* conservation means conservation of a species in its natural habitats. 1992 Biodiversity Convention (n 20) art 2.

²⁶ *ibid* art 8.

²⁷ Ole Kristian Fauchald, ‘International Environmental Governance and Protected Areas’ (2019) 30(1) *Yearbook of International Environmental Law* 102, 107.

²⁸ *ibid*.

²⁹ 1992 Biodiversity Convention (n 20) art 8(b).

for the conservation of biodiversity,³⁰ Promote protection of ecosystems and natural habitats,³¹ foster buffer zones around protected areas³² etc. Moreover, states are required to regulate, manage, or control the use and release of living-modified organisms resulting from biotechnology and prevent the introduction of alien species which tend to threaten the biodiversity or ecosystem.³³ Most strikingly, state parties are asked to respect, preserve, and maintain knowledge, innovation, and practices of indigenous peoples and local communities. However, implementation of in-situ conservation provisions is not encouraging at a domestic level.³⁴

Despite this reality at ground level, the importance of protecting marine and coastal biodiversity was reinforced by the adoption of the Jakarta Mandate on Marine and Coastal Biological Diversity in 1995 and the subsequent adoption of the Work Programme thereon.³⁵

2.1.2 CBD Strategic Plans and Specific Targets of Protected Area Coverage

Under the auspices of the CBD, the first biodiversity target was adopted in 2002 aiming at significant reduction of biodiversity loss at all levels by 2010.³⁶ In 2004, a Programme of Work on Protected Areas (PoWPA) was adopted containing more precise goals and time-bound activities for fulfilling the objectives of the CBD and the 2010 target.³⁷ However, in 2010, Global Biodiversity Outlook 3 acknowledged the failure of the target and the continued decline of biodiversity.³⁸

In 2010, the CBD parties adopted Aichi Biodiversity Targets under the new strategic plan for 2011–2020 aiming to conserve 17% of terrestrial and inland water and 10% of coastal and marine areas. It also emphasized qualitative goals i.e. effective and equitable management, ecological representativeness, connectivity, and integration into wider land and seascapes.³⁹ The target was in line with Sustainable Development Goals 14 and 15.⁴⁰

³⁰ *ibid* art 8(c).

³¹ *ibid* art 8(d).

³² *ibid* art 8(e).

³³ *ibid* arts 8(g) and 8(h).

³⁴ *ibid* art 8(j); Sands and Peel (n 19) 392.

³⁵ CBD Decision II/10, 'Conservation and Sustainable Use of Marine and Coastal Biological Diversity' (6–17 November 1995) UNEP/CBD/COP/2/19; CBD Decision IV/5, 'Conservation and Sustainable Use of Marine and Coastal Biological Diversity, including a Programme of Work' (4–15 May 1998).

³⁶ CBD Decision VI/26, 'Strategic Plan for the Convention on Biological Diversity' (7–19 April 2002) UNEP/CBD/COP/DEC/VI/26, para 11.

³⁷ *Programme of Work on Protected Areas* (Secretariat of the Convention on Biological Diversity, Montreal 2004) <<https://www.cbd.int/doc/publications/pa-text-en.pdf>>.

³⁸ *CBD Global Biodiversity Outlook 3* (Secretariat of the Convention on Biological Diversity, Montreal 2010) 9 <<https://www.cbd.int/doc/publications/gbo/gbo3-final-en.pdf>>.

³⁹ CBD Decision X/2 'Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets' (18–29 October 2010) UNEP CBD/COP/DEC/X/2.

⁴⁰ *Transforming Our World: The 2030 Agenda for Sustainable Development* (25 September 2015).

There was a significant expansion in the coverage of protected areas throughout the plan period. According to the 2020 Protect Planet Report, about 21 million square kilometers were newly added since 2010,⁴¹ but the qualitative criteria i.e. representativeness, connectivity, effectiveness, and equity, etc. were not much focused on nor complied with.⁴²

The 2022 Kunming-Montreal Global Biodiversity Framework undertook the most ambitious target to conserve by 2030 a minimum of 30% of terrestrial and inland water areas, and of coastal and marine areas with additional qualitative criteria of recognizing indigenous and traditional territories, respecting their rights thereover, and sustainable use.⁴³

2.2 Ramsar Convention and World Heritage Convention: Protecting ‘Wetlands’ and ‘Natural Heritage’

These two instruments are operating together with the CBD and contributing to the implementation of area-based conservation.⁴⁴ Though neither of the instruments requires that a Ramsar site or a World Heritage Site must be declared as a protected area, state parties most often declare them as protected areas for maintaining proper conservation of those sites.⁴⁵ As a result, a designated area may have more than one conservation status.⁴⁶ Moreover, the Ramsar Convention and World Heritage Convention demonstrate a shift from traditional conservation which hardly emphasizes human involvement to a conservation approach that emphasizes sustainable development.⁴⁷ Another notable feature of the World Heritage Convention regime is updating the inventory of natural world heritage in danger, which is a significant step forward but not without challenges.⁴⁸ A similar approach was introduced under the Ramsar Convention by adopting the Montreux Record in 1990, but it gave the state parties complete leeway as regards inclusion in or deletion from the record.⁴⁹ Though both instruments have a positive influence on states in

⁴¹ Protect Planet Report (2020) Executive Summary, ch 1.

⁴² *ibid.*

⁴³ CBD Decision 15/4, ‘Kunming-Montreal Global Biodiversity Framework’ (7–19 December 2022).

⁴⁴ Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (adopted 2 February 1971, entered into force 21 December 1975) 996 UNTS 245 (1971 Ramsar Convention); Convention for the Protection of the World Cultural and Natural Heritage (adopted 16 November 1972, entered into force 17 December 1975) 27 UST 37 (1972 World Heritage Convention).

⁴⁵ Fauchald (n 27) 124, 130.

⁴⁶ *ibid.* 130.

⁴⁷ The simultaneous use of ‘conservation’, ‘management’ and ‘wise use’ in Art 2(6) of the Ramsar Convention was the reflection of its progressive stance. Moreover, Art 6 of the Ramsar Strategic Plan 2016–2024, Resolution XII.2 (2015) also embodied such three concepts as vital elements. Whereas, though the World Heritage Convention did not expressly incorporate the concept ‘wise use’, the 20th General Assembly to the World Heritage Convention adopted a *Policy on the integration of a sustainable development perspective into the processes of the World Heritage Convention* in 2015.

⁴⁸ Fauchald (n 27) 135.

⁴⁹ *ibid.* 132.

framing their conservation policies, their limited practical impact is evident from shrinking biodiversity worldwide.

2.3 The United Nations Convention on the Law of the Sea (UNCLOS): Protecting the Marine Biodiversity

Articles 194(5) and 196(1) of the UNCLOS⁵⁰ specifically calls for protecting marine biodiversity i.e. protecting rare or fragile marine ecosystems, habitat of depleted, threatened, or endangered marine species, and preventing or controlling alien or invasive species also relevant in this analysis because Saint Martin's island is home to rich marine biodiversity and is conserved as a 'marine protected area'.

3. Area-Based Conservation in Bangladesh: Analysis of Domestic Laws, Policies and Plans

Geographically, Bangladesh is a deltaic country located on the Ganges-Brahmaputra-Meghna River systems and the Bay of Bengal.⁵¹ The country is home to a wide range of ecosystems falling into terrestrial, inland water, and coastal and marine categories, each endowed with diverse flora and fauna and serves as a source of crucial ecological services.⁵² But now due to rapid population growth, industrialization, urbanization, climate change, etc., the rich biodiversity of the country is in danger.⁵³

Under its international obligations, the country inserted a new article in its constitution, i.e. article 18A, requiring the state to take actions to protect the environment and preserve the natural resources and biodiversity, etc. for the present and future citizens.⁵⁴ Among the national laws having implications for area-based conservation, the oldest one is the Forest Act, of 1927 framed and adopted by the British colonial rulers. The original Act was the true example of the traditional concept of area-based conservation as mentioned above, diminishing the community ownership of Indigenous peoples and local communities and precluding their participation in the management of forests.⁵⁵ Later on, the Act was amended to include participatory forestry i.e. social forestry.⁵⁶ In 2004, Social Forestry Rules were adopted to elaborate the concept of social forestry i.e. selection of stakeholders, roles and

⁵⁰ United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 21 ILM 1261 (1982 UNCLOS) arts 194(5), 196(1).

⁵¹ National Biodiversity Strategy and Action Plan of Bangladesh 2016–2021 (NBSAP) 1.

⁵² *ibid* 2.

⁵³ *ibid* 6.

⁵⁴ Article 18A says, 'The State shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, bio-diversity, wetlands, forests and wild life for the present and future citizens.'

⁵⁵ Provisions relating to reserved forests and protected forests contained in the Forest Act 1927 reflect the conventional people-free conservation approach. The Forest Act 1927, chs II and IV <<http://bdlaws.minlaw.gov.bd/act-details-144.html>>.

⁵⁶ The words 'OF VILLAGE-FOREST AND SOCIAL FORESTRY' were substituted, for the words 'OF VILLAGE-FORESTS' by s 5 of the Forest (Amendment) Act, 2000 (Act No X of 2000).

responsibilities of stakeholders, and so on.⁵⁷ The Environment Conservation Act, of 1995 also provides for remedial measures for injury to the ecosystem.⁵⁸ The Act incorporates the ecologically critical area approach proscribing certain activities and processes in ecologically critical areas and making their violation a punishable offence.⁵⁹ In 2016, Ecologically Critical Area Management Rules were adopted providing for participation-based management of ecologically critical areas.⁶⁰

Additionally, the Wildlife (Conservation and Security) Act, of 2012 is remarkable for spelling out participatory area-based conservation. The Act allows co-management of protected areas involving the Forest Department, the minor-ethnic communities (the term 'indigenous peoples' is not approved by the country) dwelling in the forests, and the local people.⁶¹ Moreover, the concept of community conservation aims to protect the traditional or cultural values of any land not included in the landscape.⁶² The Protected Area Management Rules, 2017 framed under the Act of 2012 contain detailed provisions on the constitution of various co-management committees, elaborating their role, and establishing village conservation forums, etc.⁶³ Bangladesh Biodiversity Act, 2017 is the latest law containing several significant provisions, like mandatory Environmental Impact Assessment (EIA) for any development project likely to hurt biodiversity, ensuring public participation,⁶⁴ and recognition and protection of traditional knowledge.⁶⁵ Moreover, the Act entitles the government to declare any area as a Biodiversity Heritage Site following a consultation with local people.⁶⁶

Several policies are impacting the sustainability of area-based conservation. They are: Forest Policy, Wetland Policy, Land Use Policy, Industrial Policy, etc. Moreover, the Government of Bangladesh prepared the National Biodiversity Strategy and Action Plan (NBSAP) in 2004, in light of the CBD Strategic Plan and Programme of Work.⁶⁷ Pursuant to Aichi Biodiversity Targets, Bangladesh prepared NBSAP 2016–2021 in which Bangladesh set 20 national targets aiming to cover 3% terrestrial area, 3% inland water and coastal ecosystems, and 5% marine area as a protected area or ecologically critical area by 2021.⁶⁸ As

⁵⁷ Social Forestry Rules 2004, rr 6–7.

⁵⁸ The Environment Conservation Act 1995, s 7.

⁵⁹ *ibid* ss 5 and 15(1) and (2).

⁶⁰ Ecologically Critical Area Management Rules 2016, r 13 provides for village conservation forum for the conservation and management of such areas.

⁶¹ The Wildlife (Conservation and Security) Act 2012, s 21. However, the Act does not recognize traditional tenure of indigenous peoples over land and forests.

⁶² *ibid* s 18.

⁶³ Protected Area Management Rules 2017 provide for three-tiered participatory management committees, ie Co-management Committee, Peoples Forum, Village Conservation Forum.

⁶⁴ Bangladesh Biodiversity Act 2017, s 31(5).

⁶⁵ *ibid* s 31(6).

⁶⁶ *ibid* s 32(1).

⁶⁷ NBSAP (n 51) 3.

⁶⁸ *ibid* ch 5.

of May 2021, Bangladesh declared a total of 51 protected areas covering 4.6% territorial area and 5.4% marine area.⁶⁹ Moreover, till December 2021, Bangladesh declared several new protected areas totaling the number at 66 and enlarging the percentage of the protected areas.⁷⁰ However, Bangladesh still has a long way to go in ensuring the qualitative targets set by Aichi and other subsequent frameworks. At the same time, the country has to overcome several challenges including constraints in financial and technical capacity, lack of coordination, integration into sectoral policies, etc.⁷¹

4. Analyzing Area-Based Conservation in the Sundarbans Mangrove Forest and Saint Martin's Island

The Sundarbans is the world's largest contiguous mangrove forest covering about 10,000 km² situated in the Ganges delta and shared by Bangladesh (6017 km²) and India (about 4000 km²).⁷² In Bangladesh, the area accounts for 4.07% of the total land and 40% of the total forest area of Bangladesh.⁷³ The Sundarbans is home to diverse flora and fauna, and also a habitat of threatened species like the Royal Bengal Tiger, Ganges River Dolphin, estuarine crocodile, etc.⁷⁴ Moreover, the area offers a wide range of ecosystem services i.e. carbon sequestration, protection shield against tidal storms and surges, livelihood opportunities to a huge number of people, etc.⁷⁵ In addition, it plays a significant role in the economy of the country by providing precious resources and raw materials.⁷⁶ On the other hand, Saint Martin's (popularly known as *Narikel Jinjira* or the island of coconuts), a small island of 7.315 kilometers located in the Bay of Bengal 9 kilometers away from mainland Bangladesh, is highly significant for its biodiversity value and geographical location—being the southern—most point to be reckoned for calculating the country's territorial sea.⁷⁷ The island embraces

⁶⁹ Country Dossier: Bangladesh (n 11) 11; See also World Database on Protected Area <<https://www.protectedplanet.net/en/thematic-areas/wdpa?tab=WDPA>>.

⁷⁰ *ibid.* The dossier reported such new areas. However, World Database on Protected Area still is not updated to cover such new protected areas.

⁷¹ NBSAP (n 51) 90.

⁷² World Heritage Nomination—IUCN Technical Evaluation: Sundarbans Wildlife Sanctuaries (Bangladesh) 27; Swapan K Sarker and others, 'Are We Failing to Protect Threatened Mangroves in the Sundarbans World Heritage Ecosystem?' (2016) 6 *Scientific Reports* 1.

⁷³ Anjan Kumar Dev Roy, Khorshed Alam and Jeff Gow, 'Community Perceptions of State Forest Ownership and Management: A Case Study of the Sundarbans Mangrove Forest in Bangladesh' (2013) 117 *Journal of Environmental Management* 141, 143.

⁷⁴ Sarker and others (n 72).

⁷⁵ Trishita Mondal, Wade W Bowers and Md Hossen Ali, 'Sustainable Management of Sundarbans: Stakeholder Attitudes Towards Participatory Management and Conservation of Mangrove Forests' (2021) 14(3) *Journal of Sustainable Development* 26; Michael Getzner and Muhammad Shariful Islam, 'Natural Resources, Livelihood, and Reserve Management: A Case Study from Sundarbans Mangrove Forests, Bangladesh' (2013) 8(1) *International Journal of Sustainable Development and Planning* 76.

⁷⁶ *ibid.*

⁷⁷ There is running a discourse in the political and diplomatic arena of Bangladesh that the United States wants to take lease of the island to set up a military base in order to hold its authority in this region and the

different habitats and ecosystems ranging from terrestrial to marine i.e. rocky habitat, wetlands and lagoons, muddy flats, dunes and beaches, mudflats, mangroves, marine habitats, etc., each supporting diverse flora and fauna.⁷⁸ It is the only place in Bangladesh where coral communities are found.⁷⁹ But due to factors like over-exploitation of resources, unplanned tourism, climate change effects, oil pollution, etc., coral communities are constantly declining in number which creates an apprehension among researchers that if the trend continues and effective conservation measures are not taken, there will remain no coral communities in the island by the year 2045.⁸⁰

Bangladesh's government has adopted several conservation measures in respect of both the Sundarbans and Saint Martin's Island. As regards the Sundarbans, the Government declared it as a reserve forest,⁸¹ created three wildlife sanctuaries therein and further expanded them,⁸² and declared a portion of it as an 'Ecologically Critical Area'.⁸³ Moreover, due to its outstanding universal value, the area was designated as a world natural heritage site.⁸⁴ It was also recognized as a Ramsar Site as a wetland of international importance.⁸⁵ On the other hand, Saint Martin's Island was enlisted as an 'Ecologically Critical Area' (ECA) back in 1999.⁸⁶ More recently in 2022, the government further declared an area of 1743 km² of the Bay of Bengal including the island as a 'Marine Protected Area' as per the Wildlife (Conservation and Security) Act, 2012.⁸⁷ However given the continued decline of their

opposition political party of Bangladesh agrees to the proposal in exchange of the US support in going to the power. However, the US State Department denied all these in a press briefing, 'Saint Martin's Stirs Debate in Politics' *Prothom Alo* (Dhaka, 28 June 2023) <<https://en.prothomalo.com/bangladesh/4xtfhf7xhu>>.

⁷⁸ 'Survey of St. Martin's Island: Summary Report of Resource and Socio-economic Information' (Bay of Bengal Large Marine Ecosystem Project (BOBLME) 2015).

⁷⁹ Tomascik, a coral biologist, in his study in 1997 considering the environmental factors of the island concluded that there exist coral communities in the island but no coral reef development. Tomas Tomascik, 'Management Plan for Coral Resources of Narikel Jinjira (St. Martin's Island)' (Final Report, National Conservation Strategy Implementation Project-1, 12 February 1997) 18.

⁸⁰ Ahammed and others (n 13) 38–39.

⁸¹ It was declared a reserve forest in 1878 during British period. IUCN Technical Evaluation Sundarban Wildlife Sanctuaries (Bangladesh) (n 72).

⁸² Three sanctuaries were first established in 1977 under the Bangladesh Wildlife (Preservation)(Amendment) Act 1974. Their extent was extended two times by government notification in 1996 and 2018. *ibid*; Also see 'Sundarbans Wildlife Gets Extended Sanctuary' *The Daily Star* (Dhaka, 23 September 2023) <<https://www.thedailystar.net/environment/bangladesh-sundarban-wildlife-gets-extended-sanctuary-1637419>>.

⁸³ In 1999, Bangladesh declared 10 kilometre area surrounding the Sundarbans Reserve Forest as ecologically critical area under the Environment Conservation Act 1995 <<http://www.doe.gov.bd/site/page/9481fd1b-7ca6-4087-890a-886cd226df0e/>>.

⁸⁴ UNESCO, 'The Sundarbans' UNESCO World Heritage Convention.

⁸⁵ 'Suburban Reserved Forest' (Ramsar Sites Information Service, 1 January 2003).

⁸⁶ Md Shahjahan Mian, 'Proceedings of the Round Table Discussion on Holistic Approach for Sustainable Management of St. Martin's Island' (Working Paper-WP038, Integrated Coastal Zone Management Plan Project 2005) 1.

⁸⁷ 'Saint Martin's Island Declared "Protected" Area' *Dhaka Tribune* (Dhaka, 12 January 2022) <<https://www.dhakatribune.com/bangladesh/nation/261787/st-martin%E2%80%99s-island-declared->

biodiversity, it is necessary to reconsider the conservation policies and approaches adopted for both areas in light of existing and potential threats.

4.1 Conservation Approach, Laws and Policies

The conservation policy of the Sundarbans Mangrove Forest dates back to the British colonial period. The then Forest Act, of 1878 declared around 4856 km² area as 'reserve forests'.⁸⁸ The Act and subsequent Forest Policy, of 1894 brought the area under the 'state-property regime' which was more akin to a traditional conservation approach without factoring in stakeholders' voices.⁸⁹ During the Pakistan period, several forest policies were adopted but neither of them aimed at ensuring sustainable management of the Sundarbans.⁹⁰ After the independence of Bangladesh in 1971, the earlier status of reserve forest continued and, in addition, three wildlife sanctuaries were created under the Bangladesh Wildlife (Preservation) Amendment Act, 1974.⁹¹ The National Forest Policy, of 1979 also maintained the earlier exclusionary traditional approach.⁹² Later on, National Forest Policy 1994 was adopted which for the first time called for a participatory governance and equitable distribution of resources among the forest-dependent communities.⁹³ However, in reality, the status of the forest-dependent communities has not been improved much. The whole management of the Sundarbans is controlled by the Forest Department through local forest officers who are authorized to issue permits of entry to forest-dependent communities.⁹⁴ But corruption entangles the permit system as illegal permits in exchange for money are available.⁹⁵ Consequently, the whole process leads to overexploitation and unsustainable extraction of forest resources exacerbating forest degradation.⁹⁶ However, the 10-year Integrated Resources Management Plan (2010–2020) incorporates several crucial management programs including habitat protection, wildlife sanctuaries management, sustainable forest management, etc.⁹⁷ Most notably, the plan inserts a co-management

>protected-area<.

⁸⁸ Anjan Dev Roy, Khurshed Alam and Jeff Gow, 'A Review of the Role of Property Rights and Forest Policies in the Management of the Sundarbans Mangrove Forest in Bangladesh' (2012) 15 *Forest Policy and Economics* 46, 48.

⁸⁹ *ibid.*

⁹⁰ *ibid.*

⁹¹ IUCN Technical Evaluation: Sundarban Wildlife Sanctuaries (Bangladesh) (n 72). As per the instrument, the total area of Sundarbans in Bangladesh part is 595000 hectares. After the expansion in 1996, total 139,699 hectares were covered by three sanctuaries (Sundarbans West 71502 hectares, Sundarbans East 31226 hectares, Sundarbans South 36970 hectares). In 2018, the government issued a new notification adding new 178260 hectares. Now, more than 50% of the area are having wildlife sanctuary status. See *The Daily Star* (n 82).

⁹² Roy, Alam and Gow (n 88) 49.

⁹³ National Forest Policy 1994.

⁹⁴ Roy, Alam and Gow (n 73) 143.

⁹⁵ *ibid.*

⁹⁶ *ibid.*

⁹⁷ Integrated Resources Management Plan for the Sundarbans (2010–2020) vol I.

approach to involve local communities in forest management.⁹⁸ The three-tiered management structure comprises VCF (Village Conservation Forum at the community level), PF (Peoples Forum at the Forest Range level), and CMC (Co-Management Committee at the Forest Range level).⁹⁹ While it is a remarkable step towards sustainable management and conservation of the Sundarbans, the challenge is to ensure the effective participation of all forest-dependent communities including Indigenous people, women, etc.¹⁰⁰

In case of the Saint Martin's Island, the National Conservation Strategy (NCS), 1986 for the first time brought the issue of protection and management of the island as one of its targets.¹⁰¹ Under the NCS Implementation Project-1 initiated by the Ministry of Environment and Forests, Tomascik, a coral biologist, proposed a management plan categorizing several zones i.e. general use zone, buffer zone, coral appreciation area, coral sanctuary, turtle nesting reserve, etc.¹⁰² Moreover, he identified oil spills, sedimentation, over-exploitation, destructive fishing practices, waste disposal, etc. as major human-induced factors threatening biodiversity.¹⁰³, and emphasized the cooperation between the local community and the government for its sustainable management.¹⁰⁴ However, upon declaring the island as an ECA in 1999, the Government followed a sectoral and projects-based conservation approach instead of an integrated and holistic approach.¹⁰⁵ As a result, despite some noticeable initiatives for conserving the resources of the island, the governance system which follows mostly a 'conventional top-down approach' fails to check the over-exploitation of resources, pollution, unplanned tourism development, climate change effects,

⁹⁸ Hossain Mahmood and others, 'Paradigm Shift in the Management of the Sundarbans Mangrove Forest of Bangladesh: Issues and Challenges' (2021) 5 *Trees, Forests and People* 1, 4.

⁹⁹ 'Support to Co-management in the Sundarbans Mangrove Forest: Management of the Sundarbans Mangrove Forests for Biodiversity Conservation and Increased Adaptation to Climate Change (SMP)' (Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ, 2017) <<https://www.giz.de/en/downloads/giz2017-en-comanagement.pdf>>.

¹⁰⁰ Najnin Begum, 'Participatory Forest Governance for Sustainable Forest Management: Opportunities and Challenges in Bangladesh' (PhD Thesis, Macquarie Law School, Macquarie University 2021) 201.

¹⁰¹ Tomascik (n 79) 8.

¹⁰² *ibid* 69–75.

¹⁰³ *ibid* 36–37.

¹⁰⁴ *ibid* 35.

¹⁰⁵ Under the Saint Martin's Biodiversity Conservation Project (SMBCP), several decentralized management committees were formed i.e. Village Conservation Group, Union Management Committee, Upazilla Management Committee, District Management committee, National Management Committee. Subsequently, there were several sporadic projects run by different departments of the government. For example, Department of Fisheries ran Empowerment of Coastal Fishing Communities for Livelihood Security Project (ECFC) during 2000–2006, Department of Environment implemented Coastal and Wetland Biodiversity Conservation Project (CWBCP) during 2003 to 2011. Moreover, there were some projects for turtle conservation. See Mian (n 86); See also Jewel Das and others, 'Evaluating Governability Challenges of Saint Martin's Island (SMI) in Bangladesh' (2022) 27 *World Development Perspectives* 4.

and degrading biodiversity of the island.¹⁰⁶ Lack of coordination and integration among different departments of the government also accounts for the failure of the new approach.

4.2 Assessment of the Effectiveness of Bangladesh's Conservation Approach re Sundarbans and Saint Martin's Island and the Key Challenges

As mentioned before, both the Sundarbans Mangrove Forest and Saint Martin's Island have 'protected status' under several international biodiversity instruments. Several domestic laws are also in place having implications on their conservation and management aspects. At this point, it is pertinent to assess the effectiveness of the conservation approach given the obligations under international instruments and find out challenges to the proper pursuit of conservation objectives. Among the international instruments, as discussed earlier, the Convention on Biological Diversity obliges state parties to designate protected areas as part of *in-situ* conservation and adopt appropriate policies for their management, though it allows enough freedom in their mode of implementation.¹⁰⁷ However, one must not lose sight of the fact that Article 8 of the Convention outlines several essential elements of such conservation measures, such as the protection of the ecosystem, natural habitats, and species population, adoption of environmentally sound and sustainable development in adjacent areas, regulation and management of processes or activities which threaten biodiversity, preservation and application of traditional knowledge, practices of indigenous and local peoples, etc.¹⁰⁸ In the case of both the Sundarbans and Saint Martin's Island, these factors are of utmost importance. But if we look at the ground reality, the construction of a 1320 Megawatt Coal Power Plant at Rampal in the vicinity of the Sundarbans (only 14 kilometers away) and its release of toxic substances into the air and water is impacting adversely the biodiversity of the Sundarbans. The decision to construct the Power Plant is bound to be in dissonance with the essence of area-based conservation.¹⁰⁹ Moreover, such a decision is also apparently in conflict with the ecologically critical area approach the government adopted earlier concerning a part of the area. Apart from this, several anthropogenic factors, such as oil pollution from the shipping vessels, industrial pollution, illegal poaching, illegal wildlife trade, etc. are antithetical to Article 8 of CBD.¹¹⁰ This also shows how the change of approach by Bangladesh in its laws and policies is not being implemented in practice properly.

On the other hand, the biodiversity of Saint Martin's Island is now at risk due to over-extraction of resources, pollution, and unplanned tourism development.¹¹¹ Moreover, due to the reduced freshwater flow in the Ganges stream owing to the substantial diversion of

¹⁰⁶Das and others (n 105) 4 mentioned about a number of studies which made observations as to the unsuitability of the existing governance systems of the island in responding to its challenges.

¹⁰⁷Fauchald (n 27).

¹⁰⁸1992 Biodiversity Convention (n 20) art 8.

¹⁰⁹Mondal, Bowers and Ali (n 75) 27; See also '2nd Unit of Rampal Power Plant to Start Commercial Production by August' *The Business Standard* (Dhaka, 4 July 2023).

¹¹⁰Mahmood and others (n 98) 8–11.

¹¹¹Das and others (n 105) 4.

upstream water by India through the Farakka Barrage¹¹² and the resultant salinity intrusion into freshwater rivers, the aquatic biodiversity of the Ganges' tributaries flowing into the Sundarbans is being affected substantially.¹¹³ The implications of the said provision of the CBD can be extended to forge further bilateral negotiations with India addressing the ecosystem protection of shared rivers including the Ganges.

Other international instruments also impose obligations upon the state parties to take proper action regarding human-induced factors mentioned above. For example, the Ramsar Convention requires state parties to promote the conservation of wetlands, to make wise use, and to monitor the ecological change of the wetland on account of human interference, pollution, etc.¹¹⁴ The United Nations Convention on the Law of the Sea also imposes obligations on state parties to prevent, reduce, and control pollution in the marine environment as part of protecting marine biodiversity.¹¹⁵ The government of Bangladesh has adopted several laws addressing a couple of man-made threats (i.e. the Environment Conservation Act-1995 incorporates remedial measures for injury to the ecosystem,¹¹⁶ While the Wildlife (Conservation and Security) Act, of 2012 includes several punishable offences in relation to wild animals, etc).¹¹⁷ However, due to a lack of enforcement and coordination among the government bodies acting in this respect, the situation has not improved as required.

In addition to the human-induced threats, several natural factors (though such natural factors are partly attributed to human interference) pose serious challenges to the conservation of biodiversity both in the Sundarbans and Saint Martin's Island. In the case of the Sundarbans, climate change along with its accompanying hazards i.e. sea level rise, extreme weather events, etc. are currently threatening its biodiversity.¹¹⁸ Sea level rise has already engulfed two islands of the Sundarbans area.¹¹⁹ Moreover, salinity intrusion is degrading the biodiversity of the Sundarbans. Top-dying disease among 'Sundari' trees is attributable to increased salinity.¹²⁰ When it comes to Saint Martin's Island, climate change effects, e.g. ocean acidification, are also held liable for diminishing coral communities in

¹¹²The Ganges is a transboundary river flowing through China, India and Bangladesh. Bangladesh is the lowest riparian country sharing about 18% of the river basin. India unilaterally constructed the Farakka barrage about 10 miles upstream from Bangladesh to divert water during the dry season. Though subsequently the two countries came to a long-term agreement after several temporary agreements, nevertheless Farakka barrage is responsible for the reduced flow of freshwater downstream in the lean season. Salman M A Salman and Kishor Uprety, *Conflict and Co-operation on South Asia's International Rivers* (Brill Nijhoff, 2002).

¹¹³Mahmood and others (n 98) 9; See Outlook Assessment 2017 (n 13).

¹¹⁴1971 Ramsar Convention (n 44) art 3.

¹¹⁵1992 UNCLOS (n 50) art 194.

¹¹⁶The Environment Conservation Act 1995 (n 58) s 7.

¹¹⁷The Wildlife (Conservation and Security) Act 2012 (n 61) ss 34–41.

¹¹⁸Outlook Assessment 2017 (n 13).

¹¹⁹*ibid.*

¹²⁰Mondal, Bowers and Ali (n 75) 27.

Saint Martin's Island.¹²¹ In this regard, the Aichi Biodiversity Targets and the Kunming-Montreal Biodiversity Framework adopted under the CBD are noteworthy due to their emphasis on the linkage between climate change and biodiversity loss.¹²² Notably, Target 8 of the Kunming-Montreal Biodiversity Framework requires state parties to lessen the climate change effects through necessary 'mitigation, adaptation, and disaster risk reduction actions including through nature-based solutions and/or ecosystem-based approaches'.¹²³ The government of Bangladesh in the Climate Change Strategy and Action Plan adopted in 2009 introduced a programme for monitoring ecosystem and biodiversity changes under the Research and Knowledge Management Theme.¹²⁴ Under that program, a participatory monitoring mechanism involving local communities and academic experts is proposed, where data on ecosystem and biodiversity changes including their impacts on livelihood patterns will be collected, and suggestions will be made for more appropriate adaptation measures.¹²⁵ This strategy of the Government, which takes into consideration the realities of climate change effects on biodiversity conservation and also facilitates the concept of adaptive management, is appreciable.

Another factor that impinges on the success of area-based conservation is the extent to which the local communities and stakeholders are involved and their interests protected. The Convention on Biodiversity requires that state parties respect, preserve, and maintain traditional knowledge and practices which are essential for the conservation and sustainable use of biological diversity, and also promote the involvement of the holders of such knowledge and ensure equitable sharing of benefits arising from their utilization.¹²⁶ The Aichi Biodiversity Targets and the Kunming-Montreal Biodiversity Framework also emphasize the qualitative aspects of conservation which include recognition of indigenous territories and their rights.¹²⁷ In other words, international instruments uphold a participation-based conservation approach. In Bangladesh, though earlier domestic instruments did not address the need for the participation of local people and indigenous people, gradually the nuances of people's participation have found reflection in several domestic laws, policies, and plans. In reality though, in the context of Sundarbans Reserved Forests, the most relevant law i.e. the Forests Act, 1927 fails to recognize the rights, necessity, and importance of participation of local people and forest-dependent communities in the decision-making process about reserved forests. The Forest Department which is entrusted with the sole authority to decide the claims of rights regarding pasture and forest-produce is

¹²¹Das and others (n 105) 4.

¹²²United Nations, Biodiversity: our strongest natural defense against climate change.

¹²³Kunming-Montreal Biodiversity Framework (n 43) target 8.

¹²⁴Bangladesh Climate Change Strategy and Action Plan 2009 (BCCSAP) 57 <<https://policy.asiapacificenergy.org/sites/default/files/Bangladesh%20Climate%20Change%20Strategy%20and%20Action%20Plan%202009.pdf>>.

¹²⁵ibid.

¹²⁶1992 Biodiversity Convention (n 20) art 8(j).

¹²⁷Strategic Plan for Biodiversity and Aichi Biodiversity Targets (n 39) target 18; Kunming-Montreal Biodiversity Framework (n 43) targets 1, 3, 5, 9, 19(f), 21, 22.

often criticized for its corrupt practices in exercising those powers.¹²⁸ While other laws, ie the Ecologically Critical Area Management Rules 2016, the Protected Area Management Rules 2017, Bangladesh Biodiversity Act, 2017, etc address the issue of public participation by recognizing co-management, the success of these laws depends on objectively selecting stakeholders and proper co-ordination.

5. Conclusion and Recommendations

In view of the international instruments on biodiversity, associated biodiversity targets, the qualitative aspects of conservation measures, and domestic laws and policies in Bangladesh, this study finds that there is a mismatch between theory and practice when it comes to area-based conservation. There is no denying that Bangladesh has of late changed its traditional approach to conservation and has adopted new conservation approaches in line with international instruments. As a ratifying party to major biodiversity conventions, the country deserves appreciation for taking a proactive approach in terms of adopting necessary laws, policies, and plans, and increasing the area coverage of conservation. However, the effectiveness of area-based conservation largely depends on a host of quality issues, for example, the extent of participation of local people and Indigenous communities, proper preservation and application of traditional knowledge and practices, the scale of adaptive capacity, etc. Though most of the current laws and policies of the country seem to reflect the new dynamics of area-based conservation i.e. participation-based conservation, co-management, adaptive strategy, etc., the Forest Act 1927 appears to be lagging behind in addressing those quality issues.

This study finds that the Sundarbans Mangrove Forest and Saint Marin's Island are facing serious biodiversity issues, and the conservation approach adopted by the government in theory is not fully effective in solving those issues in practice. The Act which is particularly relevant to the management of Sundarbans Reserved Forest should be modified to ensure effective participation of key stakeholders in the management of forest resources. In particular, respecting, protecting, and promoting the traditional knowledge, practices, and lifestyles of those people are important obligations of Bangladesh as per international instruments. While a number of laws and policies of Bangladesh endorse the notion of participation-based management and conservation at present, proper coordination, monitoring, and effective enforcement of these domestic instruments in practice are the keys to proper area-based conservation of the Sundarbans and Saint Martin's Island.

Acknowledgment

The author would like to thank Dr Rebecca Bates, Lecturer in Environmental Law, at Queen Mary University of London, for her valuable comments on this paper.

¹²⁸Roy, Alam and Gow (n 73) 143.

Funding Information

The research for this paper was not funded. ◆