

Assessing the progress and pitfalls of the Ministry of Environment, Forest, and Climate Change in achieving SDGs in Bangladesh

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ABSTRACT

The study strived to assess the performance of the Ministry of Environment, Forest, and Climate Change in achieving environmental sustainability in Bangladesh. The overarching pitfalls, shortcomings, and associated challenges were critically examined. The research used both primary and secondary data, which was collected following several research approaches. It was found that the Ministry is actively working to achieve 25 targets of SDGs. Nothing is mentioned about climate change in its mandates though it is nodal Ministry in climate adaptation and mitigation. Due to its ambiguous and viscous mandates, jurisdictional overlapping followed by the conflict of interests has been created in many other ministries and divisions. In SDGs mapping, this Ministry's role in achieving food security and responsible consumption have been downplayed. According to key informants' perception, it could not garner the community's support in conservation initiatives. On the other hand, due to drawbacks in the legal framework, environmental justice could be ensured on an equal basis. No noticeable activities were observed that can achieve the targets 2020, agreed under the UN Convention on Biological Diversity (CBD), as part of the set of Aichi Biodiversity Targets. The Ministry could not establish any reliable database through which ecological, carbon, and green footprints can be measured. Correspondingly, Bangladesh Forest Research Institute cannot carry out need-based and world standard research activities. Institutional and legal reform is advocated to expedite the actions to achieve environmental sustainability. The study recommends enhancing the capacity of the Ministry.

Keywords: SDGs, Environmental Justice, Jurisdictional Overlapping, Mandates, Aichi Biodiversity Targets

INTRODUCTION

Bangladesh showed outstanding performance in achieving the "Millennium Development Goals (Chowdhury *et al.*, 2011, Bangladesh government has mainstreamed SDGs in the national annual plan, five-year plan, and

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development activities (VNR 2020). Bangladesh is one of the countries, which presented consequent “Voluntary National Review (VNR) reports on SDGs” to the “High-Level Political Forum” (VNR 2020, 2017). The Ministries and Divisions prepared their maps for the implementation of SDGs (GED, 2016). Bangladesh has developed an SDG tracker to track progress towards attaining SDGs and other national development goals through a web-based information repository (VNR, 2020). It is reported that more success was achieved in the 'upstream' where lack of progress in the 'downstream.' Each step of the SDG implementation process, notably the early stage is critically important. It appears that the SDGs Implementation Review (SIR) and the Annual Performance Agreement (APA) are considered as critical annual follow-up and review processes at the national level. The organizational success in achieving SDG can be restricted due to lack of strategic focus, and medium and long term vision, inappropriate initiatives, complex cross-cutting issues at the cross-roads, lack of investments, insufficient know-how, lack of technical-intellectual capacity, and weak operational management (Rosati & Faria, 2019). To achieve SDGs, an organization must be competitive in the management. Together with the integration with other organs and adopting the initiatives in which the business is inserted for the meeting targets and medium and long-term indicators is crucial (Pedersen 2018). The organization focuses on operational strategies, such as quality, flexibility, speed, reliability, technology, policy, and costs (Briceño & Santos, 2019). The allocation of business is becoming an important issue due to the increased complexity in achieving SDGs (Trabacchi & Buchner, 2019).

SDGs balance the environmental, social, and economic dimensions of development. Hence, environmental sustainability cannot be decoupled from development, society, and governance. Biodiversity conservation is considered as the heart of the agenda of SDGs (Opoku, 2019). By realizing environmental sustainability, Bangladesh established the Ministry of Environment and Forests in 1972, immediately after independence. It was renamed to the Ministry of Environment, Forest and Climate Change on May 14, 2018, by the cabinet for tackling climate change (Daily Star, 2018). Consequently, the performance of this Ministry is coupled with the success of achieving environmental and ecological sustainability. Additionally, Forest resources have ecological and socio-economic importance for many stakeholders and policy actors. Therefore, many conflicting issues prevail, encompassing forest policy and management. By this time, many contradictory and contemporary issues have arisen (Khan *et al.*, 2020). The non-compliance with environmental laws and regulations increased the environmental hazards and vulnerability (Sabir *et al.*, 2020). Economic growth and increased emission go hand to hand in the country (Hossain & Chen, 2020). The upsurging pollutions threaten public health (Islam *et al.*, 2020). Solid waste is increasing in urban areas day by day (Alam & Qiao, 2020). Marine pollution is consolidating from the land and marine sources due to a lack of public policy (Alam & Xiangmin, 2019). Climate change alters weather patterns, changes micro-climatic

variables, accelerates sea-level rise, and increases inundation and salinization (Chen & Mueller, 2018; Rahman *et al.*, 2017; Rahman 2020a). Hence, checking the progress of this Ministry in achieving SDGs has become indispensable. On the other hand, there is scarce systematic research examining the Ministry's organizational stand in attaining SDGs. It has been almost five years since the adoption of the SDGs. Therefore, it is highly warranted of the institutional review in terms of SDGs implementation. Hence, the study aimed to analyze its subordinate departments, board, corporation, and institute of this Ministry's performance and challenges. The study will help the policymakers to understand the organizational current standings and challenges in achieving SDGs.

Institutional framework

This Ministry is comprised of Bangladesh Climate Change Trust, Department of Environment, Forest Department, Bangladesh National Herbarium, Bangladesh Forest Research Institute (BFRI), Bangladesh Rubber Board, and Bangladesh Forest Industries Development Corporation (MOEF, 2020). Forest Department manages and conserves forest resources, along with biodiversity conservation. The Department also enforces laws and regulations for managing forest resources and wildlife (FD, 2020).

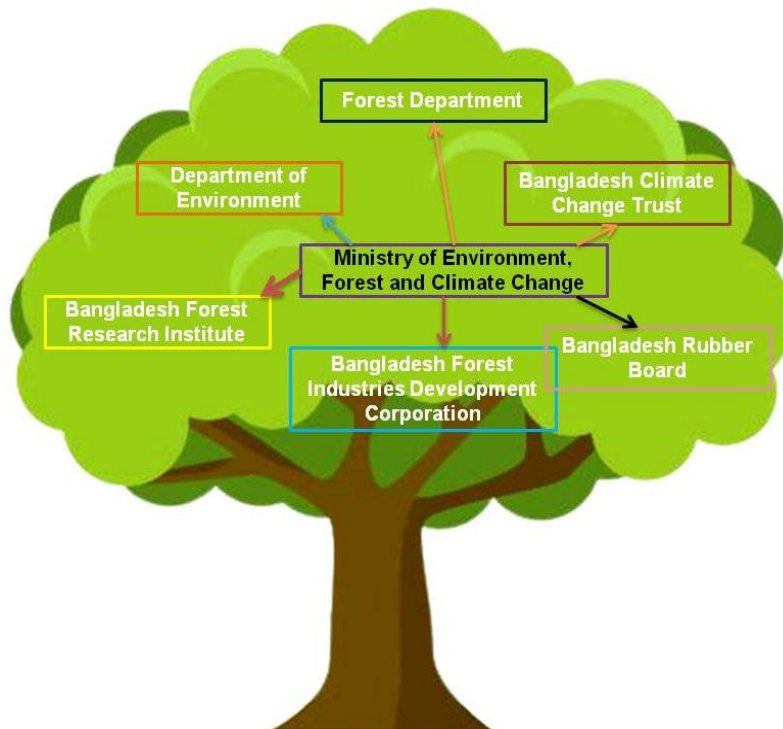


Figure 1: Institutional framework of MOEF (MOEF, 2020)

Department of Environment is responsible for enforcing environmental laws and regulations, notably waste management and pollution control (DOE, 2020). Bangladesh National Herbarium explores and prepares an inventory of

plant resources of the country (BNH, 2020). Bangladesh Forest Research Institute is mandated to carry out forest resources related research; disseminate the findings and publication (BFRI, 2020). Bangladesh Forest Industries Development Corporation is the leading Public sector corporation in the rubber and wood products industry. Bangladesh Rubber Board identifies lands for rubber cultivation. Besides, it is responsible for producing, marketing, and exporting rubber (MOEF, 2020). Bangladesh Climate Change Trust collects and distributes funds for enhancing resilience against climate change, together with climate adaptation and mitigation (BCCT, 2020).

Legal framework

The MOEF is empowered by several laws to regulate forest resources, biodiversity, wildlife, rubber products, ecologically critical areas, and the environment (Table 1).

Table 1: List of critical legislatures empowering MOEF (Bdlaws, 2020; MOEF, 2020)

<i>Key laws</i>	<i>Focused areas</i>
Bangladesh Rubber Board Act, 2013 (Act No. 19 of 2013)	Composition, duties, and responsibilities of the above mentioned Bangladesh Rubber Board
Climate Change Trust Act, 2010	Establishment of Bangladesh Climate Change Trust (BCCT) and its activities
The Forest Act, 1927	Management of Reserve Forests
The Bangladesh Private Forest Act (PFA), 1959	Control over improperly managed private forest lands
Bangladesh Biodiversity Act, 2017 (Act No. II)	Biodiversity conservation, prohibited activities, the formation of different committees and their functions; management
Wildlife (Conservation and Security) Act, 2012	Defining, declaring, and managing different types of protected areas
Bangladesh Environment Conservation Act, 1995	Ecosystem management and pollution control
Bangladesh Environment Court Act, 2010	Establishing Environment Court in different administrative units
Ecologically Critical Area Management Rules, 2016	Declaration and management of Ecologically Critical Areas

Policy framework

The National Environmental Policy 2018 entrusted MOEF as the focal point to ensure environmental sustainability. On the other hand, this policy was formulated eyeing on SDGs implementation per its mission (Table 2). By

considering the policy, MOEF can be treated as the nodal point of achieving SDGs in Bangladesh.

Table 2: List of significant National Policies prepared by MOEF (MOEF 2020)

<i>Key policies</i>	<i>Salient features</i>
The National Forest Policy, 1994	<ul style="list-style-type: none"> • Bringing 20% of the country's landmass under forest cover by 2015 • Engagement of multi-stakeholders in forest management • Emphasis on community-based management • Social Forestry
National Environmental Policy 2018	<ul style="list-style-type: none"> • Maintaining a balance between development and environmental protection to achieve SDGs • Establishing a green belt through the plantation in the coastal areas, controlling oil spillage in the mangrove, Monitoring the marine environment, managing new accredited islands; tackling climate change through adaptation and mitigation, and ecotourism

Allocation of business

The "Rules of Business 1996" allocated many important businesses for MOEF, notably ecology and environmental management (Cabinet, 2017). In addition, the Ministry is the custodian of the Botanical gardens and reserve forests of the country (Table 3).

Table 3: Business allocation for MOEF (Cabinet 2017)

<i>Mandates</i>
<ul style="list-style-type: none"> • Environment and ecology • Pollution control • Afforestation • Rubber plantation • Botanical gardens • Plantation • Research and training • Marketing of forest products • Domestic and international partnership

METHODOLOGY

Both primary and secondary data were used to carry out this research. Secondary data sources were allocation of business, citizen charter, annual report, annual performance agreement (APA), budget allocation, current projects/programs, completed projects, laws, rules, and policies. At the outset, secondary data were analyzed to understand the regulatory and institutional framework of the Ministry. The SDGs focal point was interviewed to validate the secondary data. A total of 10 key informants were selected from a diverse group of line experts, including retired scholar-bureaucrats, who have in-depth knowledge about this Ministry and SDGs. In advance, a checklist, including a list of issues to be discussed, was prepared. The interviews followed a free flow of ideas and information. The discussions focused on SDGs, institutional capacity, legal framework, public policies, and environmental issues. Content analysis was done based on the researchers' data and key informant interviews (Krippendorff, 2004; Neuendorf, 2002; Spencer *et al.*, 2003). The collected data was coded into various categories and variables before analysis.

RESULTS AND DISCUSSIONS

Taken Actions in achieving SDGs

It was found that the Ministry of Environment, Forest and Climate Change is working to achieve 25 targets of SDGs partially out of 169 (Table 4). It is primarily responsible for achieving sustainable goal number 13, 14, and 15, where secondarily liable for goal number 1, 2, 8, 6, 9, 11, and 12. Despite taking various initiatives by this Ministry, the annual deforestation rate was 0.46% for the period 1930- 2015, maintaining an accelerated rate (Reddy *et al.*, 2016), which perpetuates destruction and fragmentation of natural habitat. It was found that the Ministry implemented few projects during 2014-2016 on social forestation, afforestation, improved cooking stoves, development of newly-accredited lands, re-excavation of canals and ponds, ecotourism, and rubber plantation.

Table 4: Activities aligning SDGs' targets

Activities	Target
<ul style="list-style-type: none"> ● Distribution of the profit among the beneficiaries derived from social forestation 	1.1
<ul style="list-style-type: none"> ● 'Adaptation Initiative for Climate Vulnerable Offshore Small Islands and Riverine Char Lands in Bangladesh' Project 	1.5
<ul style="list-style-type: none"> ● 'Community-Based Adaptation to Climate Change Through Coastal Afforestation' Project 	
<ul style="list-style-type: none"> ● Prepared 'Bangladesh Country Investment Plan' to build the resilience of the affected people due to climate change 	

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- Prepared a 'Climate Vulnerability Index and Map'
 - Bangladesh Forest Research Institute (BFRI) is producing mother seeds of different tree species 2.5
 - BFRI is working on the development of the quality seed source development and its extension
 - Department of Environment collects samples from 63 spots to examine the quality of river water and publishes reports 6.3
 - Bangladesh Rubber Board and Bangladesh Forest Industries Development Corporation (BFIDC) are involved in productive employment through a rubber plantation, processing, and furniture manufacturing 8.5
 - The Forest Department issues pass for fishers, *bawalis*, *mowals*, tourists in the *Sundarbans*
 - Forest Department implements social forestation program for employment generation
 - In the Annual Performance Agreement, the number of eco-tourists is being increased by 1 lakh/ year 8.9
 - Development of folding chair using bamboo panel & mat overlaid particleboard 9.4
 - Development of design of dining chair using bamboo panel & mat overlaid particleboard
 - Manufacturing of medium-density fiberboard (MDF) using hybrid acacia wood
 - A total number of 11 Copernicus Atmosphere Monitoring Service (CAMS) are working to monitor air pollutions in Dhaka, Chittagong, Rajshahi, Khulna, Gazipur, Narayanganj, Sylhet, and Barishal, under the 'Clean Air & Sustainable Environment (CASE)' project 11.6
 - Compost production from urban wastes are going on in different municipalities and city corporations
 - *Working to improve the environment of Gulshan-Baridhara lake* 11.7
 - Cleaner brick technologies are being used 12.4
 - Initiatives have been taken to reduce the production of CFC to prevent ozone layer depletion
 - Department of Environment (DoE) has taken the initiative to bring all industries in 'zero discharge plan'
 - Compost production from urban wastes are going on in
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different municipalities and city corporations	
• A Pilot Programme on 'Reduce, Reuse and Recycle of the waste of Dhaka and Chittagong City Corporations for reducing carbon emissions' Department of Environment (DoE) has taken the initiative to bring all industries in 'zero discharge plan' to reuse discharged water through recycling	12.5
• Preparing a 'National Adaptation Plan'	13.1
• 'Country Vulnerability Assessment' is going on	
• Updating 'Bangladesh Climate Change Strategy and Action Plan (BCCSAP)'	
• Establishing a green belt in the coastal areas	
• Updating 'Bangladesh Climate Change Strategy and Action Plan (BCCSAP)'	13.2
• Measures Dissolved Oxygen (DO) and Total dissolved solids (TDS) from four points: Karnaphuli Estuary, <i>Potenga</i> littoral zone, <i>Potenga-Charpara</i> , CEPZ littoral zone	14.2
• <i>Measures the pH</i> of marine water from four points: <i>Karnaphuli</i> Estuary, <i>Potenga</i> littoral zone, <i>Potenga-Charpara</i> , CEPZ littoral zone	14.3
• Afforestation of the coastal areas	14.5
• Hatchery for threatened turtles conservation in the Saint Martin Island	
• 'Climate Resilient Participatory Afforestation and Reforestation' Project	15.1
• 'Community-Based Adaptation to Climate Change Through Coastal Afforestation' Project	
• Social forestation	
• 06 rivers, 02 <i>haors</i> , and 01 <i>baor</i> have been established as ECAs	
• Block plantation Rubber plantation in the degraded forest areas	15.2
• Strip plantation and coastal forestation	
• Mapping of the degraded soils of the Barind Tract	15.3
• Strip cultivation in the hilly areas	15.4
• Carried out research on Agar tree plantation in the hilly areas	
• Agroforestry for livelihood development of <i>Jhumia</i> community (shifting cultivators) in the Chittagong Hill Tracts	

• In <i>situ</i> conservation of the threatened turtles at Saint Martin Island	15.5
• SMART patrolling in the Sundarbans	15.7
• Taken ‘National Biodiversity Strategy and Action Plan of Bangladesh 2016-2021 (NBSAP 2016-2021)’	15.9
• Expanding the co-management involving the community	16.3
• Expanding co-management where the community takes part in decision making	16.7

The "Social Forestry Program (SFP)" in the fallow land improves poor households' livelihoods, which helps in curbing poverty to some extent. Contradictorily, Afros *et al.* (2016) revealed that the SFP could not significantly increase the canopy coverage and improve the target populations' socio-economic conditions due to the top-down imposition. The 'Community-Based Adaptation Program' aimed to reduce the vulnerabilities of the people residing in the coastal belt. Forest Department is the custodian of the *Sundarbans* mangrove, which contributes a lot in achieving food security. Not only that, the forest provides organic and pure foods (Rahman, 2021a; Rahman & Vacik, 2010a). Ironically, the role of the Forest Department in attaining food security is unreported everywhere. Bangladesh Forest Research Institute is working to develop mother seeds of trees by improving genetic diversity. Likewise, this role was ignored in the mapping of stakeholders' engagements. Department of Environment collects samples from various river points to examine river water quality and publishes reports. It can be considered a significant contribution of this Ministry in achieving SDG 6.

Bangladesh Rubber Board is trying to expand the rubber coverage in the private land beside 18 state-owned rubber gardens. From rubber production to manufacturing processes, every step is labor-intensive. Hence, the board contributes to generating decent jobs. But the rubber gardeners face incremental losses due to price fall for increased imports. Therefore, MOEF should take initiatives to save the gardeners and to save this job market. The Forest Department issues pass for fishers, *bawalis* and *mowals*, and tourists in the *Sundarbans*, which curb unemployment in the mangrove areas. On the other hand, DF has been expanding forest-based tourism though sustainability remains question marked (Rahman & Hossain, 2020). Bangladesh Forest Industries Development Corporation has adopted some innovations to improve their industrial wood products' resilience and sustainability. Department of Environment is working to reduce heavy metals contamination at *Gulshan-Baridhara* lake of Dhaka city. Initiatives for expanding cleaner brick technologies, zero discharging in the industries, and compost production from urban wastes help in responsible consumption. On the other hand, the ‘reduce, reuse and recycle of the waste of Dhaka and Chittagong City Corporations’ can be considered as a noble activity in this regard.

Forest Department has taken few initiatives to build resilient communities in the coastal areas. Besides, afforestation and reforestation are going on to make a green shield against tidal surges and tropical cyclones in the coastal districts. With the help of a Non-Government Organization, Forest Department adopted a project to conserve the threatened turtle at Saint Martin Island, though this island faces escalated anthropogenic pressures (Rahman & Alam, 2020). Dissolved Oxygen (DO), Total dissolved solids (TDS), and *pH* of marine water from few points to assess the Bay of Bengal's health. Rahman & Alam (2019) revealed the beach areas from *Dublarchar* to *Kauarchar* experience of increased abundance of jellyfish, which indicates degraded health of the Bay.

Forest Department has taken some forestation and reforestation programs to increase forest coverage, restore degraded habitats, and conserve the hilly areas. Different studies showed that the exotic plantations inside the natural habitats destroy the micro-climatic environment for natural succession (Rahman *et al.*, 2007). The afforestation and social forestation by the commercially profitable exotic species creating green deserts contradict the target 15.8. On the other hand, Forest Department could not protect the natural habitats from encroachment, grabbing, and other increased anthropogenic disturbances. Consequently, the species richness, composition, and vertical and horizontal diversity of the wild plant species are diminishing (Rahman, 2009; Rahman *et al.*, 2009; Rahman & Vacik, 2009; Rahman & Vacik 2010b; Rahman *et al.*, 2010). Simultaneously, the uniformity and randomization of natural species' occurrence decrease (Rahman & Vacik, 2007; Rahman *et al.*, 2008). The Ministry has not taken any remarkable initiative to achieve targets 1.5, 2.5, 6.3, 6.5, 6.6, 11.6, 11.7, 12.2, 12.4, 12.5, 13.1, 13.2, 13.3, 14.1, 14.2, 14.3, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8 15.9, 16.5, 16.6, 16.7, 16.8, 17.6 and 17.7.

Overall challenges

Ambiguous mandates

The business allocation of this Ministry is highly ambiguous and full of confusion. A single word mentioning climate change is absent in its business allocation though it is a part of its name. Instead, the business of the Ministry of Disaster Management and Relief is much more understandable. The word environment and ecology are broader terms applicable from the agricultural field to space. Likewise, pollution control can be used in any realm.

Intercepting mandates

Due to ambiguous and viscous mandates, this Ministry has to intercept mandates with many ministries and divisions regarding natural resource management, environmental protection, and tourism (Table 5). Other public organizations are responsible for doing the same work. Land transfer and purchasing cannot be stopped in the ecologically critical areas due to intercepted business with the Ministry of Land. Similarly, marine sustainability could not be ensured due to conflict of interests with the

Ministry of Water Resources, Ministry of Fisheries and Livestock, and the Ministry of Shipping. Bangladesh is facing an onslaught of salinity in the mangroves and coastal areas (Rahman 2020a). Effective measures are not visible due to jurisdictional overlapping with the Ministry of Water Resources. It is highly challenging to identify the coordinating agency for regulating sustainable tourism (Rahman, 2020b; Rahman, 2021c). These overlapping jurisdictional traps the artisanal fisher with the Ministry of Fisheries and Livestock (Rahman *et al.*, 2020a).

Table 5: Jurisdictional overlapping with other ministries and divisions

<i>Areas</i>	<i>Intercepted by</i>
Agro-biodiversity Management	Ministry of Agriculture
Control of chemical fertilizer and pesticides	Ministry of Agriculture
Freshwater Ecosystem	Ministry of Fisheries and Livestock
Marine Fisheries in the protected areas	Ministry of Fisheries and Livestock
Anti-salinity measure	Ministry of Water Resources
Estuary and coastal management	Ministry of Water Resources, Ministry of Land
Marine Pollution	Ministry of Shipping
Control of Eutrophication	Ministry of Agriculture, Ministry of Fisheries and Livestock
Land management in ECA's	Ministry of Land
Marine Environmental Impact Assessment	Ministry of Science and Technology
Ecotourism	Ministry of Aviation and Tourism, District Administration
Waste Management	Local Government Division
Industrial waste management	Ministry of Industry
Forest robbery, piracy, and poaching	Internal Security Division
Risk reduction, preparedness, and response	Ministry of Disaster and Rehabilitation, Local Government Division

Undermined Map

A handbook on 'Mapping of Ministries by Targets in implementing SDGs aligning with the 7th Five Year Plan (2016-20)' was prepared by the General Economic Division (GED). In achieving food security, the role of forest products, mainly the *Sundarbans* mangrove, was ignored totally. In SDG 2, the food included wild species which is originated from the forests.

Correspondingly, this Ministry's role in using natural resources efficiently, reducing waste generation and emission, managing ecotourism, and maintaining ecological, carbon, and green footprint in achieving SDG 8 have been disregarded.

Lack of initiatives in achieving the 2020 Targets

Twenty-one SDG targets are to be achieved by 2020, which are agreed initially under the UN Convention on Biological Diversity (CBD), as part of the set of Aichi Biodiversity Targets. Those targets are embedded in SDG 2 (zero hunger), SDG 6 (clean water and sanitation), SDG 12 (responsible consumption and production), SDG 14 (life below water), and SDG 15 (life on land). It is difficult to determine any Ministry's distinguishable initiatives to meet those targets by examining the annual reports.

Data unavailability

The key informants opined that the Ministry neither made stock assessments of the forest resources nor maintained any reliable databases on biodiversity, wildlife, desertification, and ecological footprint. Due to the lack of baseline data unavailability, it is highly challenging to formulate a comprehensive environmental policy based on evidence.

Lack of scientific research

SDGs emphasized conducting scientific research and technological upgradation. The key informants opined that Bangladesh Forest Research Institute could not carry out need-based quality researches. There is a lack of highly scientific experiments and findings. However, the Bangladesh Journal of Forest Science (BJFS) is an old journal but cannot keep pace with other journals. It isn't easy to guess anything about this journal by exploring its website. Even the articles are not assigned by the Digital Object Identifier (DOI) number.

Lack of scientific consultation

The plantation of exotic tree species, notably acacia, mangium, and eucalyptus in the North Bengal, has led to green desert mayhem. Before plantation, the Forest Department did not consult adequately with academia, researchers, and the community. On the other hand, a pre-assessment of the probable environmental impact was not done. Likewise, the exotic plantation inside the natural habitat of Sal has destroyed its micro-climatic environment. Consequently, Sal's natural regeneration in those areas cannot be possible (Rahman *et al.*, 2007, Rahman *et al.*, 2010).

Ineffective co-management and environmental justice

The key informants surmised that co-management could not help the ecologically critical areas from further degradation due to the Forest Department itself and the functionless Village Conservation Forum (VCF). In

a real sense, the co-management committee functions as per the framework and guidelines set by the Forest Department (Fox & Mustafa, 2013; Rahman, 2018). Without proper functioning, it is challenging to protect forest resources and to ensure good governance. Rahman & Akter (2020) found that the Village based organizations (VBO) adopted by the Department of Agriculture Extension (DAE) resulted in some positive changes in the community. The Department of Forest may replicate this approach to manage natural resources. According to the "Bangladesh Environment Conservation Act 1995", no environmental courts can take the case into cognizance without DOE reports. Hence, ordinary people could not seek justice from the court directly for ecological damage (Rahman, 2021b)

RECOMMENDATIONS

The allocation should be reviewed to determine the loopholes and should be clarified to fit SDGs' targets and indicators. The overlapped jurisdiction should be cleared from the existing business allocation to avoid conflict of interest with other ministries and divisions. A comprehensive mapping is required to highlight the leading role of this Ministry.

MOEF should take crash programs immediately to address the targets to be achieved by 2020 related to nature conservation and environmental protection. It can take the lead role in preparing a ten years long roadmap to ensure responsible consumption and cleaner production, for efficient use of resources, and for protecting further depletion of natural resources. There is a greater scope to be the focal point of amending the existing Public Procurement Rules 2008 to incorporate sustainable and green public procurement provisions. A separate national data bank on environmental protection and biodiversity conservation is highly essential. It can be linked to the SDGs tracker, which can help track the initiatives, monitor, and measure real progress of achieving environmental sustainability. Every initiative taken by this Ministry should be gender and climate-sensitive, ensuring transparency and accountability to address the cross-cutting issues of SDGs.

MOEF can be a role model in ensuring good governance by taking adequate measures against corruption at all levels. For reducing corruption and bribery, departmental proceedings can be promoted and immediately disposed of. The actions can be incorporated in the Annual Performance Agreement. The horizontal coordination and integration with the Internal Security Division should be increased to control forest robbery, logging, piracy, and poaching. On the other hand, the partnership with the Ministry of Shipping, Ministry of Water Resources, and the Ministry of Fisheries and Livestock can upscale marine sustainability. MOEF should cement its collaboration within the public organization, among the public sectors, with the private sectors, NGOs, donors, academia, and researchers. For achieving SDGs, the Ministry should enhance the skills and capacity of its human resources. It is essential to motivate them by placing the right people in the right place, providing

incentives, preparing a career pool, imparting moral and SDGs related training, and ensuring job satisfaction and performance appraisal. The monitoring, control, and surveillance (MCS) system should be modernized and sensor-based to take immediate actions against the degraders.

The Ministry should have a cell to look after a scientific quality research. Creating a friendly environment for science and technology, strengthening weak legal and regulatory frameworks, and increasing financial resources are essential for scientific research. More professional training should be arranged for the employees of different levels. Rahman et al. (2020b) revealed a positive relationship between training and the knowledge, skills, and awareness towards sustainable development.

CONCLUSIONS

SDGs were formulated to interlink society, economy, and environment, designated by 03-P: people, planet, and prosperity. Bangladesh has integrated SDGs into its national five-year plan with a compelling drive in SDG implementation by involving all public organizations, private sectors, NGOs, civil society, development partners, and various stakeholders as the "whole of society approach. This VNRs report points out some structural challenges for SDGs implementation in Bangladesh. Resource mobilization, active stakeholders' participation, data generation and management, localization, and balancing social, economic, and environmental protection in development activities will be crucial in achieving SDGs. Sustainability and degradation of natural habitat and environment cannot go hand in hand. Social and economic sustainability cannot be decoupled from environmental sustainability. The Ministry should look forward to farsighted strategic planning instead of myopic or piecemeal to combat climate change and ecological destruction. The community's active participation and wholehearted supports are warranted for the sustainable consumption of natural resources. The carrot and stick motivation theory may change the current scenarios of the institutional framework. The Ministry should be proactive in uprooting all barriers to ensuring environmental justice.

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