

A research paper on

DEFORESTATION IN BANGLADESH WITH SPECIAL

FOCOUS ON SUNDARBANS: CAUSES, PREVENTIONS,

PROCEEDINGS

Course Title: Supervised Dissertation

Course Code: Law 406

Department of Law

East West University

Submitted To

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Submission Date:

ACKNOWLEDGEMENT

I would like to thank Dr. Md. Mehedi Hasan, Assistant Professor and Chairperson of Department of Law, East West University for giving me the opportunity to do this research. I would like to thank my supervisor, Mridul Bepari, lecturer of East West University for giving me support in completing this thesis work.

I cordially thank him from the core of my heart for extending his support in organizing, references, correcting mistakes and coming up with novel ideas that were relevant to complete the paper. His scholarly discretion and advices helped me bear the heavy burden of doing this thesis work with the limitations of Covid-19 virus. Overall, this has been an amazing journey working on the paper as it has immensely helped me expand my knowledge in the topic illustrated.

I also thankful to all my respected teachers of faculty of Law, East West University for their sincere advice to complete my dissertation. I also express my great fullness to my parents who have been there to mentally support me and provided necessary components to explore the field online.

Finally, I thank my almighty to give me strength to conduct this research.

DECLARATION

I, Shovan Biswas, Id no: 2015-1-66-015 declare that the thesis work has been done by me and that all the works, citations, review of the literature etc are genuine and bear no resemblance to other works of thesis paper or secondary research paper.

I, therefore, confirm that the research has been composed and authored only by myself as it is a part of the fulfillment of the LLB degree at East West University.

ABSTRACT

Deforestation is the biggest threat in current context of Bangladesh. Therefore, in this research I wanted to identify the reasons of deforestation, specially focusing of Sundarbans.

My research included the existing laws and effects on saving forest lands of Bangladesh. However, I have discussed the loopholes of such laws and the reasons of failure.

This thesis, concludes with proper recommendations and necessary steps that may save the forest lands of Bangladesh including Sundarbans.

Having studied about deforestation and forest related and environment related act the research found that it is argent to amend the existing laws, and the forest and environment related Acts need to work together and both are equally important to stop deforestation.

Table of Contents

Chapter: 1	7
1.1 Introduction	7
1.2 Hypothesis and Research Question	8
1.3 Research Objective	8
1.4 Methodology	9
1.5 Limitations	9
Chapter 2: Analysis of Deforestation in Bangladesh Focusing on Sundarbans	10
2.1 Definition of Mangrove Forest	10
2.2 Mangrove Forest in Bangladesh	11
Picture 1: Sundarbans location	12
2.3 Threat to the Sundaran	12
2.4 Management Failure	14
2.5 Causes of Deforestation	14
Human cause	15
Shrimp Farming	15
2.6 Poor Knowledge About Mangrove	15
Natural cause	15
2.7 Present Management of Sundarban	16
Chapter 3: Laws and Effects	18
3.1 Summary of Bangladesh forest policy	18
3.2 The Forest Act 1927	19
3.3 Forest-related Offenses Are Charged	21
3.4 Environment Court Act 2010	22
3.5 Environment Conservation Act, 1995	23
3.6 Examples of Sustainable Mangrove Management in South-Asia	24
3.7 Gap between policy and action	25
3.8 Security agreement / pledge Agreement	26
In environmental Court	29
Chapter 4: Recommendations and findings	31
4.1. Findings	31

4.2 Recommendations	33
Chapter: 5 Conclusions	36
5.1 Conclusion	36
Bibliography	37

Chapter: 1

1.1 Introduction

Incursion and illegal collection of lumber and firewood from the forests, as well as a lack of sustainable management techniques, are among the significant forest conservation challenges in the region.¹ Mangrove forests are one of the world's most unique and dynamic ecosystems (Hogarth 2007).² Bangladesh have a largest mangrove forest named Sundarbans.

Three wildlife sanctuaries are located inside the Sundarban Reserve Forest: Sundarban East, Sundarban West, and Sundarban South. To conserve species, strict laws are imposed in certain areas: fishing, for example, is prohibited.³ Numerous rivers and canals that run into the Bay of Bengal dump silt on the Sundarbans soil.⁴ Over the last several decades, the anthropogenic effect on mangroves has accelerated.⁵ As a result the forest land of Bangladesh is decreasing on rapid rate.

That is why so many nations have suffered losses of 80% or more (Bangladesh has suffered a loss of 73%).⁶ This research deals with all the necessary steps that can save forest lands of Bangladesh. Our government enacted different types of laws and policies to stop deforestation in sundarban but because of some reasons and proper management work Our gov't is unable to protect the

¹ Mohammed M. Rahman, M. Motiur Rahman, and Kazi S. Islam, "The Causes of Deterioration of Sundarban Mangrove Forest Ecosystem of Bangladesh: Conservation and Sustainable Management Issues" <https://www.researchgate.net/publication/210196055_The_Causes_of_Deterioration_of_Sundarban_Mangrove_Forest_Ecosystem_of_Bangladesh_Conservation_and_Sustainable_Management_Issues> accessed on 12 april 2022

² Asif Ishtiaque, Netra Chhetri "Competing policies to protect mangrove forest: A case from Bangladesh" <https://dlwqtxts1xzle7.cloudfront.net/48240358/Forest_Policy-with-cover-page-v2> accsed on 12 april 2022

³ Ibid

⁴ Ihtisham Kabir, 'Basic Sundarban' The Daily Star (Bangladesh, Feb 24, 2018)

⁵ Ibid

⁶ Ibid

sundarban mangrove forest. In this thesis paper I am going to discuss about my findings and some recommendations to stop deforestation in sundarban mangrove forest.

There are three ways to income from the mangrove forest – (1) forest product (2) fisheries (3) ecotourism.⁷And for this reason to gain a lot of money some dishonest people illegally destroying our valuable mangrove forest.

1.2 Hypothesis and Research Question

The hypothesis of the research is if the contemporary law regarding deforestation in Bangladesh is sufficient to protect the sundarban mangrove forest and what will be the future result and the research questions are:

- Whether the existing laws and policies are doing enough to stop deforestation in mangrove forest area in Bangladesh?
- Should Bangladesh implement new laws and policies to protect mangrove area?

1.3 Research Objective

- To find out whether the law and policies is sufficient or not
- To determine the law's effectiveness in current scenario

⁷ S. M. Didar-Ul Islam, Mohammad Amir Hossain Bhuiyan, 'Sundarbans mangrove forest of Bangladesh: causes of degradation and sustainable management options'(2018)<<https://doi.org/10.1007/s42398-018-0018-y>> accessed on 12 April 2022

1.4 Methodology

The research has been conducted with assistance from the data of the secondary sources. Books, articles, newspaper writings were the main source of this paper. Information from newspapers has been used extensively though the number of references collected from journals and books is limited. In addition, forest Act of India and some international Articles are used. The approach was driven to “Qualitative Research Methodology”. The footnote and bibliography have been referred to in OSCOLA referencing system.

1.5 Limitations

At the outset, limitation of time was the major constraint. The forest Act is a vast topic to cover within the given time and it was not possible to go through all the relevant materials. For this reason, the knowledge of the author is specific to the dissertation topic. and, due to the limited access to university library resources on account of COVID-19 lockdown, the author could not explore all the possible aspects of the research. While Different countries have different Acts regarding Forest which can be compared with Bangladesh’s Act, only The Indian Act has been used. In spite of all the limitations, given only limited access to academic instruments and the time, the current research was done based on the articles, journals, books and newspapers available and accessible to the author.

Chapter 2: Analysis of Deforestation in Bangladesh Focusing on Sundarbans

2.1 Definition of Mangrove Forest

Mangrove forests are defined by a deep tangle of prop roots that make the trees appear to be standing on stilts above the sea.⁸ Which is a group of trees that grows on salt water of sea coastlines and takes proteins through their roots.⁹

Around 80 different species of mangrove trees in sundarban. These trees grow on limited-oxygen soils with slow-moving flows, which allow fine particles to build.¹⁰ Coastal flooding, tidal waves, and tides all harm the coast, but mangrove trees help to stabilize it. Because of their unique root system, mangrove forests also attract to fishes and other species in search of food and also give them protection from predators.¹¹

Mangroves are one of the few coastal plants that can live in saltwater, and when the conditions are ideal, they may create extensive mangrove forests or forests along the coast. Because the principal species involved in their creation requires very warm, wet environments, mangrove forests are isolated to tropical and mild temperate zones across the world.¹²

⁸‘What is a mangrove forest’< <https://oceanservice.noaa.gov/facts/mangroves.html> > accessed on 10 april 2022

⁹ Ibid

¹⁰ Ibid

¹¹ Ibid

¹² ‘MARINE SCIENCE AND ECOSYSTEMS Mangrove Forest’< <https://oceana.org/marine-life/mangrove-forest/>> Accessed on 10th april 2022

2.2 Mangrove Forest in Bangladesh

The Sundarban is the world's largest mangrove forest in Bangladesh, not only in Bangladesh but also the largest mangrove forest worldwide.¹³ It contains 6,01,700 hectares, or 4.07 per cent of the country's total land area and 40 percent of its forest area.¹⁴ Between the rivers Baleswar and Harinbanga in the east and the Bay of Bengal in the west, the Sundarbans Mangrove Forest is located in southwest Bangladesh.¹⁵

Different types of wild animals like the Bengal tiger and different types of unique nature trees are present here.¹⁶ The Sundarbans are particularly important among Bangladesh's mangroves since they provide 41% of the country's overall revenue and produce 45 percent of the country's total lumber and fuelwood.¹⁷

Nearly 600,000 people are dependent on this forest for their livelihood, either directly or indirectly. Mangrove management in Bangladesh has a lengthy history, usually dated 125 years. The mangroves, on the other hand, are still degrading.¹⁸

¹³'TheSundarbans' <[https://whc.unesco.org/en/list/798/#:~:text=The%20Sundarbans%20Reserve%20Forest%20\(SR F,mangrove%20forest%20in%20the%20world](https://whc.unesco.org/en/list/798/#:~:text=The%20Sundarbans%20Reserve%20Forest%20(SR F,mangrove%20forest%20in%20the%20world) > accessed on 12 April 2022

¹⁴ S.M.Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh' <https://metrouni.edu.bd/wp-content/uploads/2019/04/A-Critical-Study-on-the-Existing-Laws-of-the-Forest-Resources-in-Bangladesh.pdf?fbclid=IwAR0QDs6tXTi7L-uCGtowlp_6wBABuCNq8JOMO-pO-BBkR0kcRWRY86uW4tw> accessed on 12 April 2022

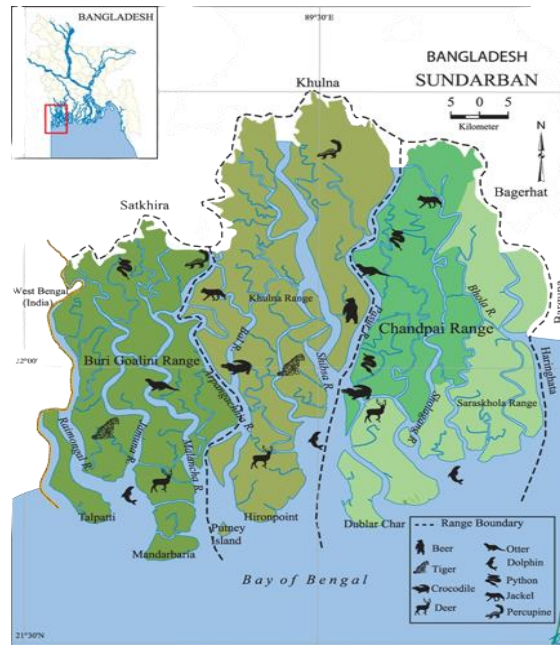
¹⁵Sara Stotter, 'The Sundarbans Inscribed as UNESCO World Heritage Site' <(7 Dec 1997) <https://www.environmentandsociety.org/tools/keywords/sundarbans-inscribed-unesco-world-heritage-site#:~:text=The%20inscription%20of%20the%20Sundarbans,of%20the%20area's%20unique%20ecosystem> accessed on 12 April 2022

¹⁶'Sundarbans: The Largest Mangrove Forest of The Earth' <<https://beautifulbangladesh.gov.bd/newsletter/single/206> > accessed on 12 April 2022

¹⁷ A.K.F. Hoque.D.K. Datta, "The mangroves of Bangladesh" [International Journal of Ecology and Environmental Sciences 31(3): 245-253, 2005]

¹⁸ Ibid

Picture 1: Sundarbans location



2.3 Threat to the Sundaran

The Sundarban is called the home of Bengal tiger, In the name of development many industries are building up in the Sundarbans ecologically sensitive reason. Because of the reduction in forest density over the last two decades, many regions are becoming empty land (2000-20).¹⁹ So the main reason is deforestation. ‘Unnayan Onneshon’, a non-governmental organization, has conducted a ten-year research on the Sundarbans' forest area and density, which found that the forest's tree population has been rapidly declining.²⁰

As the forest is lost, the amount of fallow land is growing. Over the previous two decades, the deep forest has practically disappeared (2000-20). The tree density has thinned out and the forest

¹⁹ Rashed Al Mahmud Titumir, ‘Sundarbans under threat’ Prothom Alo (Bangladesh, 26 Jan 2021)

²⁰ Ibid

area has begun to diminish as a result of massive removal of thick forest in the first decade (2000-10). The increase of fallow land was less at initially, but it almost exceeded during the next decade.²¹

Though trees may be seen in the surrounding forest's areas, big parts of it are entirely devoid of trees or have only a few.²² According to the United Nations' Food and Agriculture Organization, 1.4% of the world's forests were lost between 2000 to 2015, with Bangladesh accounting for 2.6% of that total.²³

For this reason, the number of plants and species are decreasing like 'Sundari tree' for this reason various animals also faces problems.²⁴

The 6 major threats are:

- It a combination of manmade factors, climate change and natural disasters. The political powerful people acquiring forest land forcefully.
- Excess extraction of forest resources damaging the forest biodiversity and following bad method.
- The commercial activities are increasing in the forest zone.
- Despite co-management, the prevailing forest management system has marginalized forest-dependent people's rights and traditional knowledge. For example, they need permission from the forest department every year in exchange for a particular sum of money in order to harvest their resources. In the process of obtaining clearance certificates, there have been allegations of irregularities and corruption. As a result, forest people prefer to gather more resources than they require covering these additional expenditures.

²¹ Ibid

²² Ibid

²³ Ibid

²⁴ Ibid

- Different types of natural disaster
- Climate changing day by day.
- No one follows the existing forest laws.

2.4 Management Failure

If we look, we can find that there is three big management failure for disappearing mangrove forest:

- Lack of well trained and skillful officials and instructors.
- There was no understanding of how to use the coastline area, and the planning was very poor.
- Protection of the environment concepts and forest law are not followed in the development projects.²⁵

2.5 Causes of Deforestation

Overexploitation, deforestation, land reclamation, and pollution are all having an effect on Bangladesh's mangrove forests. Mangroves have been cleared in large areas. The area has been cleared for the production of fish and shrimp. Agricultural management and industrial development are two recent issues that have received a lot of attention. Over-logging in the coastline region, as well as uncontrolled discharge of liquid and solid waste, are the examples of urbanization. The main causes of deforestation in Sundarban are classified in to three areas are:²⁶

²⁵ Mohammed Mahabubur Rahman, M. Motiur Rahman, Kazi S. Islam, '<https://www.researchgate.net/publication/210196055_The_Causes_of_Deterioration_of_Sundarban_Mangrove_Forest_Ecosystem_of_Bangladesh_Conservation_and_Sustainable_Management_Issues> accessed on 12 April 2022

²⁶ Ibid

- Human cause
- Natural cause
- Others

Human cause

People of the Sundarban area illegally cutting down the timber and firewood from the forest. There is a professional organized groups in Sundarban who illegally cutting and removing valuable trees from Sundarban, Though Sundarban is near to Khulna there is a paper mill in Khulna and the raw materials of that mill are collected from Sundarban.²⁷

Shrimp Farming

The rapidly growing shrimp farming industries are one of the man-made cause for deforestation in sundarban, to farming shrimp there need a large land area for that reason people illegally cutting down trees, The Chakaria Sundarban has been damaged in recent years due to shrimp cultivation.²⁸

2.6 Poor Knowledge About Mangrove

People who depend on the mangrove forest and live near to the mangrove forest of sundarban, they have no awareness about sundarban and education about the importance of the mangrove forest even if they do not know how to protect it.²⁹

Natural cause

Natural disasters, global warming, climate change and rising sea levels are also the reason of deforestation. Cyclone, flood, strome. According to a report titled "Case Studies on Climate

²⁷ Ibid

²⁸ Ibid

²⁹ Ibid

Change and World Heritage," by Unesco' Combined with other types of human impact on the Sundarban, a 45-centimetre increase in sea level owing to anthropogenic causes (expected to occur by the end of the twenty-first century, according to the International Panel on Climate Change) might result in the loss of 75 percent of the forest (UNESCO 2007) One of the causes is the rising sea level.³⁰

2.7 Present Management of Sundarban

The management history goes back a long way, and the working plans take place between 1893 and 1894. Two factors developed from the forestry master plan. First, from 1993 to 2002, a planting target of approximately 18,000 hectares was proposed, and from 2003 to 2012, a target of 21,000 ha. However, their strategies do not receive enough attention (MOEF 1993).³¹ Due to financial and legal challenges, plantations have not been sufficiently safeguarded from fire, grazing, unlawful destruction, and encroachment.³² The establishment of wildlife sanctuaries was the focus of the second sanctuary, for this reason three areas of Sundarban are declared as a wildlife sanctuary.³³

For doing those said things different types of forest related policies, laws and management related plans are enacted in Bangladesh laws, but those are not sufficient because of poor implementation.³⁴ From 1960 to 2001, the Bangladesh Forest Department attempted to implement environment-related planning initiatives such as the Environmental Policy, National Environmental Management Active Plan, and National Conservation Strategy to protect mangrove

³⁰ Ibid

³¹ Ibid

³² Ibid

³³ Ibid

³⁴ Ibid

forests, but no management strategies based on scientific and logical foundations were developed until today in our country. Due to a lack of significant research efforts, effective management policies are still to be developed.³⁵

³⁵ Ibid

Chapter 3: Laws and Effects

Forest is a best gift of nature and it has a great impact on human life. Different country has different types of forest acts, here we will discuss about existing forest act in our country. The major intention of the research is to analyze existing forest-related laws and policies and give recommendations on how to improve their effectiveness in protecting Sundarban forest resources.

3.1 Summary of Bangladesh forest policy

During the time of Lord Dalhousie's rule, the first outline of a forest conservation program was set out in 1858. In 1894, the updated Forest Policy was adopted.³⁶ The main focus point of the policy was conservation of soil but because of high dependency over agricultural, the use of agricultural land over forest land still continuing.

In the time of 1955 time of Pakistan period a new forest policies are enacted but here was also discrimination basically it deals with west Pakistan forest and the east Pakistan forests are neglected.³⁷

After a long time 1971 Bangladesh become independent and a forest policy was framed in 1979. According to UNCED which is an abbreviation for the United Nations Conference on Environment and Development (Rio Conference 1992), the Forest Policy which was established in 1962, but Its application is ineffective. Forests are defined as multi-dimensional,

³⁶ S.M.Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh'

³⁷ Ibid

and renewable biological resource-producing units with various uses.³⁸ The policymakers were motivated by this guiding idea of the Rio Conference.

They eventually determined that a comprehensive research was required in order to frame a 20-year forest management plan.³⁹ Environmental and ecological destruction are addressed in a master plan. In 1993, the Forestry Master Plan was published as a result. In response to the suggestions of the Forestry Master Plan, the Ministry of Environment and Forests adopted a National Forest Policy in 1994. (Hassan, 2001). The National Forest Policy of 1994 has some important elements. Which include (i) increasing forest cover to 20% by 2015, and (ii) assuring Forest Department, Non-governmental organizations, and private persons' engagement in forest related operations. (iii) Increasing the effectiveness of the Forest Department and the Bangladesh Forest Research Institute (BFRI); Promoting entrepreneurship in the field of forest research and resource utilization and reconstruction of the Forest related Departments, the Bangladesh Forest Research Institute, and other forestry-related organizations.⁴⁰

3.2 The Forest Act, 1927

The forest act 1927 discovered from Indian forest act 1878, that means the origin of the forest act 1927 is Indian forest act 1878.⁴¹This act actually gives government a lot of power for protection of the forest, and the forest department has the ultimate power to implement the forest policies and act.⁴²

³⁸ Ibid

³⁹ Ibid

⁴⁰ Ibid

⁴¹'Haryana Forest Department' <www.haryanaforest.gov.in/india-forest-act.com> Accessed on 15 april 2022

⁴²S.M.Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh'

Certain activities are stopped in the reserve mangrove forest and protected forest to protect the natural resources of the forest and different types of punishment are enacted in this act to prevent its violation.⁴³ The definition of forest is missing in this act. In Bangladesh some judicial decision also come regarding conservation and protection of forest.

Case: BELA v Bangladesh, (2016)

The high court division in a case make the decision that the coastline forest area cannot be leased for the purpose of constructing shipbreaking yards, since this would be in violation of government notices and memos.⁴⁴

The Forest Act includes provisions for adopting preventative steps to safeguard forest resources. The Act gives the forest officer, police officer, or any other authorized official the authority to prevent any act, omission, or activity that might damage forest resources under section 66 of forest act 1927.⁴⁵

If they have a reason to believe of a forest crime, they can take preventative steps such as seizing forest produce as well as all tools, vehicles, ships, or livestock used in committing the crime under section 52 of forest act 1927.⁴⁶ Without the assistance of a court or a warrant, a forest officer can even arrest a suspected forest criminal under section 64 of forest act 1927.⁴⁷

They are entitled to get help from any forest beneficiaries, their staff, and other law enforcement agents while performing their duties under section 79 of forest act 1927.⁴⁸ The Act gives the government the authority to make laws prohibiting, restricting, or requiring

⁴³The Forest Act 1927, s 26, 33

⁴⁴BELA v Bangladesh reported in S Rizwana Hasan, *Judicial Decisions on Environment in South Asia (2005-2014)* (BELA, 2016) 54

⁴⁵ The Forest Act 1927, s 66

⁴⁶ Ibid s 52(1)

⁴⁷ Ibid s 64(1)

⁴⁸ Ibid s 79

permission for land clearing, chemical use, and harvesting on steep slopes that might damage property or reduce land production under section 38 C of the act.⁴⁹

Bangladesh's forest act is both regulatory and penal, with the goal of preventing and punishing the misuse of public forests.⁵⁰ Forest officers' primary instrument for regulating people's behavior near forests has been the Forest Act. Forest officers are authorized not just to improve forest conditions, but also to perform as police officers to defend forests, according to the Act. As a result, the Act gives forest authorities a lot of power when it comes to dealing with forest offenses.

All offenses are punishable under this Act. As a result, any forest officer or police officer, without a warrant or instructions from a court, has the ability to arrest anyone they have reasonable suspicion of or worry about being implicated in any forest offense.⁵¹

3.3 Forest-related Offenses Are Charged

Certain unlawful acts in forests are treated as forest offenses in order to protect and conserve forest resources.⁵² Under the Forest Act, these offenses are tried in the Forest Court, which is judged by a Judicial Magistrate of First Class.⁵³ Every allegation made against an offender under the Act must consider two factors: 1 that the accused individual has committed such a crime.2 that a person has committed an act of criminality.

The case must be established beyond a reasonable doubt. One of the issues with prosecution is that, in many cases, the offender is undetectable because, because to a limited possibility of

⁴⁹ Ibid s 38C

⁵⁰ First Bangladesh Forestry Congress 2011(April 2011 Dhaka)

⁵¹The Forest Act 1927 s 64

⁵² The Forest Act 1927

⁵³ Ibid

other persons being in the forest to witness a crime, by the time the relevant forest officials arrive on the spot, the criminal has left without being identified.

Another component of the Forest Act is the ability to compound offenses during the pre-trial stage, which can hamper forest officials' efforts to punish offenders for their illegal activities. Under this section of the Act, a person who illegally fells trees can only get away with it if they pay the worth of the timber plus a compounding fee. Furthermore, the Forest Amendment Act of 1990 significantly raised the severity of penalties in the majority of instances. In most situations, the Forest Amendment Act of 1990 considerably improved the amount of penalties.⁵⁴

3.4 Environment Court Act 2010

To protect the mangrove forest and its environment it is Bangladesh's another weapon for enforcing environmental laws. This act was enacted by parliament in 2010. Under this legislation, an environment court will be formed in each district, and if necessary, multiple courts may be established in each district. This statute specifically defined the role of the special magistrate court in the resolution of complaints. A limit of 180 days has been set under this statute, during which special magistrates must conclude the procedures. The case can be filed immediately in the special magistrate's court by the director general of the environment or anybody authorized by him. The Act also empowers the director general of the environment, or anyone he designates, to enter any location at any time to conduct searches and gather evidence. The unique feature of this Act makes it clear that it can play a vital role in the timely settlement of environmental suits or proceedings. If this legislation is properly implemented,

⁵⁴ Ibid

it would safeguard not only Bangladesh's forest resources but also the country's other significant resources.⁵⁵

3.5 Environment Conservation Act, 1995

Environmental regulations in Bangladesh are still under development. As a result, new environmental laws were desperately needed. As a result, the government adopted the Bangladesh Environment Conservation Act, 1995, which is a good piece of law.⁵⁶ The primary concept of this Act is the protection of the country's forests and other natural resources.⁵⁷ According to the Act, the government is required to create a department known as the Department of Environment.

A director general is in charge of this department.⁵⁸ The main work of the department is search for forest which is in critical condition and formulate regulations which is best for the area.⁵⁹ The government also approved the Bangladesh Environment Conservation Rules, 1997, to ensure that the act is successfully executed.⁶⁰ This rule gives forward certain standards for organizations to follow in order for them to operate efficiently and without creating an environmental risk. It is noticeable from a close examination of this Act that it serves as a monitor not just for forest resources but also for all natural forest resources in Bangladesh.⁶¹

⁵⁵ Md. Khaled Miah. 'Effective functioning of Environment Court' *The Daily Star* (Bangladesh, 25 Aug, 2015)

⁵⁶ S.M. Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh'

⁵⁷ Upal Aditya Oikya, 'Bangladesh Environment Conservation Act 1995: An Analysis & Review'

<https://bdjls.org/bangladesh-environment-conservation-act-1995-an-analysis-review> accessed on 15 April 2022

⁵⁸ Ibid

⁵⁹ Ibid

⁶⁰ Ibid

⁶¹ Ibid

The Bangladesh Environment Conservation Act of 1995 includes environmental protection measures. Any strong, liquid, or gaseous substance that has a negative impact on the environment, as well as heat, sound, radiation, and hazardous substances whose chemical or biochemical properties are such that their manufacture, storage, discharge, or unregulated transportation, can be harmful to the environment, is considered an environmental pollutant.⁶²

3.6 Examples of Sustainable Mangrove Management in South-Asia

Malaysia's Matang mangroves are considered as a world's best mangrove management example, since 1902 and still consider as a best example of a mangrove forest.⁶³ Its success has been boosted by proper management goals and a ten-year work plan.⁶⁴ Recently, 10 million hectares of reforestation, including mangrove and other plants, have been planted (Kogo & Kogo 2004).⁶⁵ Human activities entirely devastated the 'Jiulongjiang estuary' mangrove forest forty years ago. On the other hand, The government of china has taken the attempt to restore the mangrove forest.⁶⁶ The Chinese Mangrove Protection Project (CMPP) is a project that aims to protect mangroves in China, there activities included awareness, investigations, research, management fund, enforcement of law gives them today's position.⁶⁷

⁶²Talukdar Rasel Mahmud, 'Rampal power plant violates environmental law' The daily star (Oct 2, 2013)

⁶³Goessens A, Satyanarayana B, Van der Stocken T, Quispe Zuniga M, Mohd-Lokman H, Sulong I, 'Is Matang Mangrove Forest in Malaysia Sustainably Rejuvenating after More than a Century of Conservation and Harvesting Management' PLoS ONE 9(8): e105069 <<https://doi.org/10.1371/journal.pone.0105069>> accessed on 17 April 2022

⁶⁴ Ibid

⁶⁵ Ibid

⁶⁶ Mohammed M. Rahman, M. Motiur Rahman, and Kazi S. Islam, "The Causes of Deterioration of Sundarban Mangrove Forest Ecosystem of Bangladesh: Conservation and Sustainable Management Issues" <https://www.researchgate.net/publication/210196055_The_Causes_of_Deterioration_of_Sundarban_Mangrove_Forest_Ecosystem_of_Bangladesh_Conservation_and_Sustainable_Management_Issues> accessed on 17 april 2022

⁶⁷ Ibid

3.7 Gap between policy and action

‘Chakaria-mangrove’ is the best example. British India published two historic forest policies: the 'Forest Policy 1894' and the 'Forest Act 1927', both with the primary purpose of managing public forests as sources of revenue for the state.⁶⁸ Bangladesh's first national forest policy was drafted in 1979 (Gazette Notification No. 1/For-1/77/345, 8 July 1979). This program organized the forest department, established national forests, optimized resource extraction, and developed new forest-based economies, all with the goal of protecting forests.⁶⁹

The inclusion of forest research and training was a positive feature of this approach.⁷⁰ Despite these advantages, the strategy was mostly inconsistent. On the one hand, it attempted to promote new forest-based businesses, while on the other, it attempted to increase resource extraction and exploitation without concern for social or environmental consequences.

There is a reason to believe that orders aimed at protecting the environment may have caused the loss of mangrove forests in Bangladesh, particularly the destruction of ‘Chakaria mangrove forests’.⁷¹ The Forest Policy (1979) and the Forest Act (1927) are not only against with one another, but they are also at conflict with one another. The Forest Policy focuses environmental stability above revenue generation.⁷² The erosion of the Chakaria forest started when multilateral development banks (MDBs) began pressuring governments to promote commercial shrimp cultivation for the worldwide market and deforestation started from here.⁷³

⁶⁸ Asif Ishtiaque, Netra Chhetri, ‘Competing policies to protect mangrove forest: A case from Bangladesh’(2016) < <https://doi.org/10.1016/j.envdev.2016.06.006> > accessed on 17 April 2022

⁶⁹ Nur Muhammed, Masao Koike and Farhana Haque, ‘Forest policy and sustainable forest management in Bangladesh: an analysis from national and international perspectives’ < <https://link.springer.com/article/10.1007/s11056-008-9093-8> > accessed on 18 April 2022

⁷⁰ Ibid

⁷¹ Asif Ishtiaque, Netra Chhetri, ‘Competing policies to protect mangrove forest: A case from Bangladesh’(2016) < <https://doi.org/10.1016/j.envdev.2016.06.006> > accessed on 18 April 2022

⁷² Ibid

⁷³ Ibid

3.8 Security agreement / pledge Agreement

Bangladesh agreed to stop or reduce deforestation by 2030 in the Glasgow Leaders' Declaration on Forests and Land Use.⁷⁴ Bangladesh refused to join the COP26 deforestation agreement, claiming that the country's constitution already has clear and explicit instructions on forest protection, according to numerous delegates but countries started criticize and they add them on it.⁷⁵

The counties that have signed up have promised to work together to prevent and reverse forest loss and land degradation by 2030, while ensuring sustainable development and supporting inclusive rural transformation, according to a declaration issued at the present UN climate summit COP26.⁷⁶

The nations also pledged to collaborate on six topics, including forest protection, enabling policies for sustainable development, developing and upgrading rural livelihoods, and implementing agricultural policies, according to the declaration. At the Glasgow summit, more than \$19 billion in public and private money were promised to achieve the target of halting deforestation by 2030.⁷⁷

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⁷⁴ Shamsuddin Illius, 'Bangladesh joins pledge to end global deforestation'(7 Nov 2021) <<https://earthjournalism.net/stories/bangladesh-joins-pledge-to-end-global-deforestation>> accessed on 19 April 2022

⁷⁵ Ibid

⁷⁶ 'COP26: Bangladesh, 49 other countries commit to develop climate-smart healthcare' The Business Standard (Scotland, Britain, on 10 Nov, 2021)

⁷⁷ Shamsuddin Illius, 'Bangladesh joins pledge to end global deforestation'(7 Nov 2021) <<https://earthjournalism.net/stories/bangladesh-joins-pledge-to-end-global-deforestation>> accessed on 19 April 2022

3.9 Loopholes of the Act and Policies

The Act, on the other hand, makes no provision for a forest or other land-holding agency's institutional structure. It also lacks any clear policy direction for forest management (Bangladesh Country). Report from the year 2000.⁷⁸

The Forest Act has several loopholes that permitted the government to claim forestland for economic development; such weaknesses allowed the Chakaria forest to be destroyed recklessly. The approval of commercial shrimp production in important mangrove forests has threatened the protection of mangrove forests and the power gives sec 32(a,g) of the forest act.⁷⁹ It is often not consistent with the norms and principles of sustainability.

Although Bangladesh's newer forest plans (e.g., 1979 and 1994) used strong wording, the actions and effects on the ground were not as expected.⁸⁰

Another element of the Forest Act is the possibility to compound charges during the pre-trial stage, which can make it difficult for forest officials to prosecute offenders. A person who illegally fells trees may only get away with it if they pay the value of the timber plus a compounding charge under this provision of the Act.⁸¹

Section 42 of the Act defines a maximum term of two months to three years in prison for illegal wood cutting and smuggling, the accused person faces a sentence ranging from BDT 2000 to BDT 10,000 for breaking the limits imposed under section 41 of the same Act. Under the Rule of 1973, the penalty for illegal wood cutting and smuggling was reduced to six months in jail

⁷⁸ S.M.Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh' < https://metrouni.edu.bd/wp-content/uploads/2019/04/A-Critical-Study-on-the-Existing-Laws-of-the-Forest-Resources-in-Bangladesh.pdf?fbclid=IwAR0QDs6tXTi7L-uCGtowlp_6wBABuCNq8JOMO-pO-BBkR0kcRWRy86uW4tw > accessed on 20 April 2022

⁷⁹ The Forest Act 1927, s 32 a,g

⁸⁰ The Forest Act 1927

⁸¹ Ibid

and minimum fine of BDT500. In the long run, this contradiction between the Act and the regulation, which is meant to aid offenders during the trial stage, allows for the unlawful sale of wood and illegal revenue.⁸²

As a result, separate legal regimes apply to different aspects of the Sundarbans ecosystem (such as water, fisheries, plants, and wildlife). In Bangladesh, for example, the Forest Department is in charge of enforcing the Forest Act of 1927, while the Department of Environment is in charge of enforcing the Environment Conservation Act of 1995. This opens the door to jurisdictional overlap. Without a doubt, such separated treatment ignores the interactions between various components and fails to safeguard the ecosystem as a whole.⁸³

Furthermore, forests are defined extremely narrowly in current legislation.⁸⁴ The primary goals of both nations' forest policies are to fulfill the expectations of the general public and national needs for forest products and services, rather than to maintain the ecosystem in itself.⁸⁵

Because the Forest Department is expected to create cash from the woods, its culture and practices have been oriented more towards production. As a result, the forest has been exploited until recently in order to generate extremely cheap industrial raw material. Furthermore, trade policies and export regulations have encouraged the creation of pollution-producing industries (such as shrimp farming).⁸⁶ As a result, when there is a conflict between

⁸² M S Siddiqui, 'Contradiction in Law and Rule facilitates illegal sale of wood' *The Daily Star* (Sep 29, 2022)

⁸³ M S Iftekhar, 'Protecting the Sundarbans: An Appraisal of National and International Environmental Laws' (2011) <https://www.researchgate.net/publication/263487773_Protecting_the_sundarbans_An_appraisal_of_national_and_international_environmental_laws> accessed on 22 April 2022

⁸⁴ NARGIS AKTAR, 'SUSTAINABLE FOREST GOVERNANCE IN BANGLADESH: EXAMINING THE ROLE OF THE FOREST ACT' <https://eprints.qut.edu.au/228684/1/Nargis_Aktar_Thesis.pdf?fbclid=IwAR2B1D4WAjnjZNLKYgfCWPseDmpmiiIipveqGxiavQrBPecGUVkZSx13R4> accessed on 23 April 2022

⁸⁵ Ibid

⁸⁶ M S Iftekhar, 'Protecting the Sundarbans: An Appraisal of National and International Environmental Laws' (2011) <https://www.researchgate.net/publication/263487773_Protecting_the_sundarbans_An_appraisal_of_national_and_international_environmental_laws> accessed on 23 April 2022

trade and the environment, the court often hesitates to take meaningful actions to safeguard the forest, preferring instead to send the issue to the government as a policy issue or a government decision.⁸⁷

this forest act ignoring local stakeholders' traditional rights and advantages, especially forest-dependent people. The Act lacks the necessary criteria for considering significant ecological, economic, and social factors in forest governance.

In environmental Court

It is not obligatory for a judge of the Environment Court to have technical expertise in the subject of environmental law, which is required for competent judicial observation. In addition to his other obligations, the Environment Court Judge is required to hear cases under this Court, which makes his job particularly hard. Furthermore, the environment court is powerless to act on its own.⁸⁸

Furthermore, people's access to environmental justice is limited due to the massive procedural difficulties. Only after the departmental inspector's written report has been received may the court proceedings begin. If the inspector does not complete the investigation within 60 days of receiving the request, the court may order the investigator to complete the investigation or accept the case from those who do not have a report.⁸⁹

The big problem with the first option is that no timeframe has been established for the investigation to be completed. As a result, removing barriers to environmental courts'

⁸⁷ Ibid

⁸⁸ Farjana Afruj Khan Alin.' The effectiveness of environment courts 'The Daily Star(16 April 2019)

⁸⁹ Ibid

accessibility and bridging gaps in their scope and jurisdiction may motivate courts in Bangladesh to accomplish environmental justice.⁹⁰

⁹⁰ Ibid

Chapter 4: Recommendations and findings

According to this research work, it is clear that still today, deforestation in Bangladesh is continuing and it is proved, for preventing this high rate of deforestation forest act 1927 enacted by the government of Bangladesh also established Environment Court Act 2010 and enacted Environment Conservation Act, 1995. But those things are not sufficient. The following recommendation may be helpful for reducing deforestation in Sundarban mangrove forest,

4.1. Findings

Here is the list of findings:

- **Reasonable amendment**

All the developed countries now a days enacted the laws which may help reduce deforestation, they amend their acts when they think it is necessary for their country but in Bangladesh there is a minor amendment happened in forest act. The underlying goal at the time of enactment was income generating rather than protection of the forest.

- **Slow procedure**

The court procedure for environmental crime and forest related crime is very problematic and the process is very lengthy, most of the time witness cannot be found.

- **No awareness**

The people who lives in the root level in the mangrove forest area they have no awareness about laws and forest policies and gov't did not take any initiative to make root level people aware

- **No preventive Measures**

There is no preventive rules or regulation taken by the government regarding forest governance but the act empowers the government to make necessary rules regulations, there is no any risk assessment, monitoring and management provisions in this act.

- **Rigid Laws and Policies**

Forest related laws and policies are not flexible enough and they did not take any management plan by considering existing forest situations.

- **No Laws and policies for Sundarbans Poor People**

The existing laws regulations and policies did not tell about anything for the poor people's livelihood of the mangrove forest area.

- **No Laws and Policies regarding climate change**

Climate change has a great impact in our country, it also has a bad impact on our mangrove forest Sundarbans but the existing laws and policies did not take climate change in their consideration when they enact the law and policy regarding forest.⁹¹

- **NGO, s role are not clear enough**

Our forest related laws and policies have rules for assistance of NGO However, neither the policy nor any other laws specify how NGOs would assist or what function they will play.⁹²

⁹¹ S.M.Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh' < https://metrouni.edu.bd/wp-content/uploads/2019/04/A-Critical-Study-on-the-Existing-Laws-of-the-Forest-Resources-in-Bangladesh.pdf?fbclid=IwAR0QDs6tXTi7L-uCGtowlp_6wBABuCNq8JOmo-pO-BBkR0kcRWRy86uW4tw > accessed on 23 April 2022

⁹² NARGIS AKTAR, 'SUSTAINABLE FOREST GOVERNANCE IN BANGLADESH: EXAMINING THE ROLE OF THE FOREST ACT' https://eprints.qut.edu.au/228684/1/Nargis_Aktar_Thesis.pdf?fbclid=IwAR2B1D4WAjnjZNLKYgfCWPseDmpmiiIipveqGxiavOrBPecGUVkZSx13R4 > accessed on 23 April 2022

- **Not enough social movement**

There are no measures in existing laws and statutes that can promote the forestry social movement. An effective social movement will help to apply the laws and policies effectively.

- **No specific provisions for Forest department officials**

There is no any specific section which will control the forest department official's jurisdiction and duties and there is no section that make them accountable for their negligence.

4.2 Recommendations

In order to prevent deforestation in Sundarbans some measures should be taken.

1. Under the forest Act for the effectual protection of the forest government need to delete the ambiguity form the forest act regulations. Gov't need to follow bottom- up approach. The act need to add environmental consideration for the better mangrove forest protection.
2. The act needs to include specific provisions to control the forest department's jurisdiction, obligations, and responsibility and if the forest department officials did any corruption or misuse of any kind of power, they must be accountable for this kind of activity under forest Act.
3. Though the court procedure for the environmental crime and forest related crime is very slow so in this area gov't must need to appointment judges who's are specialized under forest act and environmental act and procedure need to be go faster.
4. Though the forest Act and policies did not say anything about the poor people who lived in the Sundarbans area so they illegally cut down trees for their livelihood they

- did not obey the laws and regulations if the Act enact any kind of incentive provision for the poor people, policy implementation will be more easy and effective.
5. Though climate has a great impact on our mangrove forest so the Act and policies need to be add some regulations that can fight with the climate change.
 6. Forest related laws and NGO,s policy need to be amended the participation method of the NGO,s need to be easier and what will be their role to protect forest need to be clear in the policy and Act related to the forest.⁹³
 7. Our country needs effective social movement for forestry, so existing Laws and policies related forest need to add some provisions which may inspire social movement regarding deforestation in sundarban.
 8. According to the environmental policy ecotourism need to be encouraged, but our parliament did not pass any laws which may faster the ecotourism system.
 9. Forest offenses and wrong doings must be prosecuted on a daily basis in its appropriate courts. In addition, a mobile court headed by a judicial magistrate might be formed to judge the offenses rapidly, as judicial magistrates do in India to provide immediate judicial remedies. This bill will improve forest governance by balancing the Forest Department's contradictory objectives of preserving and conserving forest resources while also protecting the accused. Under the Act, it would promote forest justice and deterrence, both of which can help to ensure sustainable forest governance.⁹⁴

⁹³ Ibid

⁹⁴ S.M.Mamun-Bin-Alam, 'A Critical Study on the Existing Laws of the Forest Resources in Bangladesh' < https://metrouni.edu.bd/wp-content/uploads/2019/04/A-Critical-Study-on-the-Existing-Laws-of-the-Forest-Resources-in-Bangladesh.pdf?fbclid=IwAR0QDs6tXTi7L-uCGtowlp_6wBABuCNq8JOmo-pO-BBkR0kcRWRy86uW4tw> accessed on 23 April 2022

10. To guarantee that the Forest Act is effective in promoting sustainable forest governance, the ideas and norms of sustainability should be incorporated not only into the forest policy, but also into other sectoral policies such as land management, fisheries conservation, and wildlife preservation. This combination may help different governing organizations think about a long-term plan for protecting and managing land, fisheries, birds, and trees in regions.

Chapter: 5 Conclusions

5.1 Conclusion

Though the forest Act 1927 has some power to stop deforestation and play a sustainable forest governance but in recent time a good amount of amendment need here to stop deforestation in sundarban mangrove forest.

Since the very first beginning of the human life history, forest and human lives are depending on each other.

So the forest related act need to take some protective measure. the Act must need to add specific provisions for different aspects of forest management, such as the use of safety precautions, the use of forests, the adoption of restorative initiatives, and the governance of forest resources, all while taking into consideration recent environmental, social, and economic factors. To develop a fair and equal legal policy for sustainable forest governance in Bangladesh, extensive legal and institutional change is clearly required.

The duty is not only for the government; government alone cannot do everything to stop deforestation. The general people will must follow the rules regulations of the forest related acts and policies. Government can make the laws but it's our duty to obey the rules regulations. If the general people and government works together to protect sundarban than it will be very easy stop the deforestation in sundarban.

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