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Research Monograph

On

"Legal Mechanisms of River Protection under Statutory Provisions and Their Loopholes: A Critical Analysis".

This Research Submitted for the partial fulfillment of the award of the degree in LLM (1 year) Department of Law Sonargaon University (SU), Dhaka.

Submitted To:

Md. Abdul Alim

Coordinator and Lecturer

Department of Law

Sonargaon University (SU), Dhaka.

Submitted By:

Ruma Akter

ID No.: LL.M 2301028015

Program: LLM (1 year)

Department of Law

Sonargaon University (SU), Dhaka.

Submission Date: 10th January 2024.

Letter of Transmittal

To

Md. Abdul Alim

Coordinator and Lecturer

Department of Law
Sonargaon University (SU), Dhaka.

Subject: Submission of Research Monograph on "Legal Mechanisms of River Protection under Statutory Provisions and Their Loopholes: A Critical Analysis".

Dear Sir,

I do herby please to submit the Research Monograph on the topic "Legal Mechanisms of River Protection under Statutory Provisions and Their Loopholes: A Critical Analysis". It is a great pleasure to work on such important topic. This Research work has been done according to the requirements of the Sonargaon University for the fulfilment of my LL.M (1 year) course under the Department of Law.

I respectfully acknowledge your guidance, leadership and help for the preparation of this paper. It is worthwhile to mention that there might be some errors and mistakes in my report due to limited time and knowledge. I am still at learning stage. So I respect that you will pardon my unintentional mistakes in preparing this paper.

Sincerely Yours,

.....

Ruma Akter
ID No.: LL.M 2301028015
Program: LLM (1 year)
Department of Law
Sonargaon University (SU), Dhaka.

Solemn Affirmation

I do thereby solemnly declare that the work presented in this research has been carried out by me and has not been previously submitted to other University/College/Organization for any academic qualification, publication or a personal Degree. I hereby ensure that the work presented here not breach any existing copyright.

.....

Ruma Akter
ID No.: LL.M 2301028015
Program: LLM (1 year)
Department of Law
Sonargaon University (SU), Dhaka.

Supervisor's Certificate

This is to certified that the Research Monograph on **"Legal Mechanisms of River Protection under Statutory Provisions and Their Loopholes: A Critical Analysis"** is prepared by Ruma akter, ID No.: LL.M 2301028015 for partial fulfillment of the requirement of the Program: LL.M (1year) from Sonargaon University, Dhaka. It also certified that the research work has been carried out under my supervision and intensive guidance.

It is to be certified that this research work is original and suitable in its style and contents for submission and fulfillment of his LL.M (1 year).

.....

Md. Abdul Alim

Coordinator and Lecturer

Department of Law
Sonargaon University (SU), Dhaka.

Acknowledgement

I express my sincerest gratefulness to Almighty **'Allah'** for his kindness on me in accomplishing this research monograph. I express my heart-string gratitude to my 'Honorable' and distinguished cooperative supervisor **Md. Abdul Alim**, Coordinator and Lecturer, Sonargaon University, Dhaka who inspirit and guide me throughout the work. He provide me resources that I needed to carry out the work and gave me important guidelines whenever I was in a Dilemma.

I admit my debt, love and gratitude to my beloved family for their instance support, help and endless love.

Thank you.

.....

Ruma Akter
ID No.: LL.M 2301028015
Program: LLM (1 year)
Department of Law
Sonargaon University (SU), Dhaka.

Abstract

This research paper is written on the topic of “Legal Mechanisms of River Protection under Statutory Provisions and Their Loopholes: A Critical Analysis”. This critical analysis explores the legal frameworks designed to protect rivers through various statutory provisions. While acknowledging the strengths of existing mechanisms, such as water pollution laws, quality standards, environmental impact assessments, buffer zone regulations, international treaties, community participation, and enforcement measures, the study unveils significant loopholes and challenges hindering their effectiveness. Weak enforcement, outdated standards, insufficient monitoring, and political interference are identified as common issues. The paper underscores the importance of addressing these shortcomings to enhance the protection of rivers, emphasizing the need for continuous adaptation to emerging challenges, community involvement, and international cooperation. The findings contribute to the ongoing discourse on environmental law, offering insights into potential improvements for a more robust and sustainable legal framework for river protection.

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Chapter 1

Introduction

1.1 Introduction

Rivers are essential components of ecosystems, serving as lifelines for countless species and supporting diverse ecosystems. Beyond their ecological significance, rivers play a crucial role in human societies by providing water resources for agriculture, industry, and domestic use. Recognizing the multifaceted importance of rivers, governments worldwide have instituted legal mechanisms aimed at protecting and preserving these vital water bodies. Despite these efforts, concerns persist regarding the effectiveness of existing statutory provisions in addressing the evolving challenges posed to river ecosystems.

Bangladesh is a riverine country. According to Bangladesh water development board about 230 rivers currently flow in Bangladesh during summer and winter. Although the number is stated the ambiguous in some sources .As started by a Publication Bangla Publication by Bangladesh water development board 310 rivers flow in the summer. The number differs widely due to leg of research on the counts and the fact that this river changes flow in time and season. Old sources and history States about 700 to 800 rivers but most of them dried out or extinct due to lack of attention and pollution[1]. The number refer also become same rivers changes name in different regions and in history. Day By day The River occupation and pollution getting surged. If we look back at our old history there are 700 river in Bangladesh. How five hundred rivers has vanished?. The main reason is occupation and water pollution the nation which has many sacrifices and struggles in its history has repeatedly failed in its struggle to protect its river. Bangladesh called a riverine country. Only 40-50 years ago, the main way of transportation of this country was water ways transportation[2].

[1] 1 List of rivers of Bangladesh, https://en.m.wikipedia.org/wiki/List_of_rivers_of_Bangladesh, accessed in 25th December 2021
[2] ibid

There is saying that "if anyone wants to commit suicide it is enough to drink a glass of water of Buriganga[3]."

This work is a humble attempt to study and examine various issues and complication related to the above mentioned fact

.

1.2 BACKGROUND HISTORY

River: long water course that flows down a slope on a bed between banks. It originates from a supply and culminates to an ocean or lake at its mouth. On its length it ought to be joined by smaller rivers referred to as 'tributaries'. A stream and its tributaries kind a stream system. Land surfaces area unit never utterly flat, and as a result the runoff water when precipitation tends to flow downward by the shortest and steepest course in depressions fashioned by the intersection of slopes. Runoff water of spare volume and rate be part of to form a stream that, by the erosion of underlying earth and rock, becomes deep enough to be fed liquid or once it's as its supply associate final water reservoir. Bangladesh is a land of rivers. There are several rivers in our country. Some are massive and a few are tiny. They wash our lands. The Padma, Meghna and also the river are terribly bulk and enormous rivers. The Padma and Meghna is that the most important of them though the river is additionally one among the most important rivers during this landmass background history. There are several rivers in our country. Some are massive and a few are tiny. They wash our lands. The Padma, the Meghna, the river are terribly massive and wide rivers. The Padma is that the most known of them though the river is one among the most important rivers during this landmass. Along, there ae some tiny rivers in our country the Buriganga the Sitalakha the Daleswar, the Gumti, Karnali, Gowrie, Kumar, Arialkha or kind. Jamuna is one among the most important rivers of Bangladesh[4].

[3] Azad Mojumder,"Bangladesh river pollution threatens millions"(May 18, 2009)

[4] Major rivers in Bangladesh, https://www.google.com/amp/s/www.worldatlas.com/amp/articles/major-rivers-ofbangladesh.html accessed in 25th December 2021

1.3 Research Objectives

The **main objective** of this research monograph is to **"Legal Mechanisms of River Protection under Statutory Provisions and Their Loopholes: A Critical Analysis"**. In order to achieve main objective of this research there are some **specific objectives**, are as follows:

1.3.1 To assess the effectiveness of current legal mechanisms for river protection.

1.3.2 To identify and analyze loopholes within statutory provisions related to river protection.

1.3.3 To explore the impact of these loopholes on the degradation of river ecosystems.

1.3.4 To provide recommendations for strengthening legal frameworks and improving river protection strategies.

1.4 Research Methodology

Every research involves a method by which the desired result can be achieved. For completing this research work both primary and secondary methods have been followed. Data have been collected through Statutory Provisions : Bangladesh Perspective, newspapers, websites, discussion with resource person, basic documents etc. Furthermore, I have examined with my kindred companions and seniors about the points and it assists me with enhancing my subject. In a few times I talk with my manual for get his recommendation to set up this exploration monograph and he assists me with setting up this examination work. I additionally find support from different site in the current setting of Bangladesh.

1.5 Scope and Limitations

The scope of this study encompasses a global perspective on legal mechanisms for river protection. However, the focus will be on selected case studies to provide in-depth insights. The limitations include the availability of data, potential biases in legal frameworks, and the dynamic nature of environmental challenges. Despite these limitations, the study aims to provide a

comprehensive analysis of the critical issues surrounding river protection under statutory provisions.

1. In perspective on my examination subject designated time is sparse and short.

2. The fundamental limit of the review is the restricted works and distributions on the worry point and greatest are with political perspectives behind. These give me data as well as disarray.

3. My examination subject is legal power and essential construction regulation. In any case, I attempted.

Chapter 2

Legal Framework for River Protection in Bangladesh

2.1 Constitutional Provisons

There are at least 31 laws, acts, regulations, and rules passed or enacted in the Jatiya Sangsad, the national parliament.

Bangladesh added a provision in the constitution, in the 15th amendment, to make the state responsible to protect the rivers and waterbodies for the future generation[5].

The constitutional framework of Bangladesh plays a fundamental role in shaping the legal landscape for river protection. This section critically analyzes the constitutional provisions relevant to river conservation, examining the explicit and implicit directives within the constitution regarding the protection of natural resources, environmental sustainability, and the preservation of water bodies.

2.1.1 Explicit Provisions

This subsection scrutinizes the explicit constitutional provisions that directly address the protection of rivers and the environment. It analyzes specific articles or clauses that outline the rights and responsibilities related to river ecosystems. The examination considers the clarity, strength, and enforceability of these provisions, evaluating their effectiveness in providing a robust constitutional basis for river protection.

2.1.2 Implicit Provisions

Beyond explicit provisions, the constitution may contain implicit principles that indirectly impact river protection. This part critically assesses constitutional principles such as the right to life, the

[5] https://www.tbsnews.net/feature/river-rights-and-responsibility-bangladesh-120508

right to a healthy environment, and the directive principles of state policy. The analysis explores how these implicit provisions contribute to the constitutional mandate for river conservation and whether they provide a solid foundation for legal action and policymaking.

2.1.3 Role of the Judiciary in Interpreting Constitutional Provisions

This subsection delves into the role of the judiciary in interpreting and upholding constitutional provisions related to river protection. Through a critical examination of relevant court decisions, the chapter assesses the judiciary's approach in ensuring the constitutional rights and principles pertaining to rivers. It explores instances of judicial activism or restraint, analyzing the impact on the development of legal standards for river conservation.

2.1.4 Alignment with International Environmental Principles

International environmental principles, agreements, and conventions may influence the interpretation of constitutional provisions related to river protection. This part critically evaluates the alignment between constitutional mandates and international commitments, exploring whether constitutional provisions reflect global standards for environmental conservation and sustainable development.

2.1.5 Potential Limitations and Challenges

Despite constitutional provisions, challenges and limitations in effectively implementing river protection measures may exist. This subsection critically examines potential constraints, including gaps in constitutional language, conflicts with other constitutional rights, and challenges in enforcement. Identifying these limitations is crucial for understanding the practical implications of constitutional provisions for river protection.

2.2 Legislative Framework

Like every countries Bangladesh has river administration board. Bangladesh water development board is the most important administration in our country. Others some board on water and rive protection. Water supply and sewerage authority (WASA) is another important water development board in urban area Most of the rivers in Bangladesh are now dying[6]. Taking advantage of the negligence and unawareness of the water development boar and authorities, some greedy people are grabbing rivers and extinct the rives. They are using for their own benefit purpose. Those all are water development board's lacking. They did such a poor performance.

2.2.1 River management of Bangladesh

We know that rivers are priceless gift from Almighty to every nation. Every nations depends on river. Bangladesh a riverine country and the rivers flowing over the country like vein of a human body. Bangladesh water board development (WDB) published 406 rivers name in 2019. This number varies from source to source as some rivers has already gone and some of them has taken another names. It stats that there are 57 international rivers in Bangladesh. 53 rivers comes from India rest of flows from Myanmar. Within Bangladesh the management of river is very poor condition and they have failed to give update information about river. Due to their lacking some powerful greedy people takes chance to Occupation Rivers[7]. Within Bangladesh management of river is a hard task for the nation. It is our government responsibility and our government have been always striving hard to address the internal water related issues within maximum priority. The constitution of Bangladesh 18(1) clearly indicated to management bio-diversity[8]. National river protection commission 2013 and the environment conservation act also said about Proper River and water management[9].

[6] Faisal Hossain, Zahirul Haque Khan and C.K Shum, " Tidal river management in Bangladesh", 21 May,2015.
[7] Faisal Hossain, Zahirul Haque Khan and C.K Shum, " Tidal river management in Bangladesh", 21 May,2015.
[8] Article 18(1) of the Constitution of Bangladesh
[9] Bangladesh water act 2013

2.2.2 Water governance in Bangladesh

Approximately 94% of water resource in our country entering via another country. So we are depending another country for water. It has become very uncertainty on future water availability. A large part of the country also suffer from salinity intrusion of water. of that supply of water a lion's share uses in agriculture sector. Irrigation efficiency like textile, leather, and forest products in Bangladesh is the lowest in south Asia. Water governance issue started almost one era ago. A great deal of research and studies were conducted by different government and development agencies. But such initiatives failed to implementation for various reasons like including lack of broad consensus, inter-ministerial agency and private sector representation. Water governance has been the responsibility of a multitude of government bodies who have unsuccessful in coordinated action so far. The national water resource council (NWRC) is settled the mostly government ministries and agency. It is headed by the government of Bangladesh. Water resources planning Organization (WARPO) is also liable of water governance of Bangladesh. The first serious action taken by Bangladesh water act which was passed in 2013. Water Act 2013 is based on the National Water Policy, and designed for integrated development, management, extraction, distribution, usage, protection and conservation of water resources in Bangladesh[10].

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2.3 International Agreements and Treaties

International agreements and treaties play a crucial role in shaping the legal landscape for river protection, particularly in a context where rivers often transcend national boundaries. This section critically analyzes Bangladesh's engagement with international agreements and treaties relevant to river conservation, evaluating the impact of such commitments on domestic legal frameworks.

[10] https://pubs.sciepub.com/jsa/3/1/3/index.html#:~:text=%C5%B8%20Water%20Act%202013%20is,of%20water%20resources%20in%20Bangladesh.

2.3.1 Key International Agreements and Treaties

This subsection identifies and examines key international agreements and treaties that Bangladesh is a party to concerning river protection. The analysis includes agreements addressing transboundary river management, environmental conservation, and sustainable development. The chapter explores the scope, obligations, and effectiveness of these agreements in the context of safeguarding rivers.

2.3.2 Incorporation and Implementation in Domestic Law

The effectiveness of international agreements relies on their incorporation and implementation in domestic law. This part critically assesses the extent to which provisions from international agreements and treaties related to river protection have been integrated into Bangladesh's legal framework. The chapter examines legislative enactments and regulatory measures that reflect the commitments made under international agreements.

2.3.3 Consistency with National Priorities and Laws

The alignment between international commitments and national priorities is crucial for effective river protection. This subsection critically evaluates the consistency between Bangladesh's international obligations and domestic laws. The chapter considers potential conflicts, overlaps, or gaps in the legal framework resulting from the integration of international commitments, and proposes measures for better alignment.

2.3.4 Challenges in Implementation and Enforcement

While international agreements set the stage for cooperation, challenges may arise in their implementation and enforcement. This part critically examines challenges faced in implementing international commitments related to river protection. The chapter assesses factors such as resource constraints, coordination mechanisms, and legal capacities, providing insights into the practical hurdles encountered in fulfilling international obligations.

2.3.5 Role of International Agreements in Regional Cooperation

Given the transboundary nature of rivers, international agreements can foster regional cooperation. This subsection explores the role of international agreements in promoting collaboration with neighboring countries for shared river management. The chapter critically analyzes the effectiveness of existing agreements in facilitating regional dialogue, cooperation, and joint initiatives for the conservation of transboundary rivers.

2.4 Institutional Arrangements

Institutional arrangements are essential components of the legal framework for river protection, as they determine the effectiveness of implementation and enforcement. This section critically analyzes the organizational structures, roles, and responsibilities of key institutions involved in river conservation in Bangladesh.

2.4.1 Key Regulatory and Administrative Bodies

This subsection identifies and critically examines the roles of key institutions responsible for river protection in Bangladesh. The analysis includes bodies such as the Department of Environment, Water Development Board, and other relevant agencies. The chapter assesses their mandates, capacities, and coordination mechanisms to understand how these institutions contribute to the overall legal framework for river conservation.

2.4.2 Regulatory Powers and Decision-Making Processes

The effectiveness of institutional arrangements depends on the regulatory powers vested in key bodies. This part critically evaluates the regulatory powers of institutions involved in river protection, including their decision-making processes and enforcement capabilities. The chapter assesses the alignment of these powers with the objectives of river conservation and identifies areas for potential enhancement.

2.4.3 Coordination Mechanisms Among Regulatory Bodies

Effective collaboration among regulatory bodies is crucial for holistic river protection. This subsection critically examines coordination mechanisms among different institutions involved in river conservation. The analysis explores the degree of synergy, information-sharing practices, and joint decision-making processes. The chapter identifies challenges and proposes recommendations to strengthen inter-agency collaboration.

2.4.4 Community Engagement and Stakeholder Involvement

The engagement of local communities and stakeholders is integral to successful river protection. This part critically assesses the extent to which institutional arrangements facilitate community involvement and stakeholder engagement. The chapter examines the inclusivity of decision-making processes, the role of public consultations, and mechanisms for incorporating local knowledge and concerns in river conservation initiatives.

2.4.5 Institutional Capacities and Resources

The effectiveness of institutions relies on their capacities and available resources. This subsection critically analyzes the capacities of key institutions in terms of staffing, expertise, and technological resources for river protection. The chapter assesses potential gaps or limitations in institutional capacities and proposes measures to enhance their capabilities.

Through this critical analysis of institutional arrangements, this chapter aims to provide insights into the strengths and weaknesses of the organizational structures governing river protection in Bangladesh. By evaluating regulatory powers, coordination mechanisms, community engagement practices, and institutional capacities, the chapter contributes to understanding how these arrangements influence the overall legal framework for river conservation.

CHAPTER 3

Practical scenario of river pollution and extinction in Bangladesh

3.1 Major river status in Bangladesh

Bangladesh is a riverine country. To keep with Bangladesh exploitation board concerning 230 rivers presently flow in our country. Historical sources state that concerning 700 to 800 rivers in our country however most of them have dried out or extinct lack of attention and pollution. The numbers differs wide due to lack of analysis on the counts and so the undeniable fact that these rivers changes flow in time and season. The numbers additionally differs as a result of the identical rivers could modification names in various regions and history[11]. Concerning seventeen rivers are verge of extinction and fifty four rivers flow directly from Republic of India and 3 from Asian nation. Sangu and Halda are the only 2 rivers originated and finished in Bangladesh. The full waterway of length is more or less 25000 kilometers (15000 miles). However this data isn't whole correct thanks to lack of update data. Meghna watercourse lined 359 miles ar. Padma lined 222 miles space and also the Brahmaputra River lined a hundred and fifty miles space over the country.

3.1.2 Water Pollution in Bangladesh

Water pollution means change in the quality of the water which then becomes unsafe for human beings and bio logical system. Water pollution is one of the most dangerous wellbeing in our country. Recently report said that Bangladesh water quality position is 86 among 143 countries[12].

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Causes of Water pollution:

1. Waste water effluent (Municipal and Industrial)

[11] 0 List of rivers of Bangladesh, https://en.m.wikipedia.org/wiki/List_of_rivers_of_Bangladesh, accessed in 25th December 2021.

[12] Bahauddin Imran, “River occupation and pollution is a criminal offence” September 06,2019

2. Sewage and solid waste

3. Runoff of construction sites.

4. Atmospheric deposition over a water surface.

5. Industrial waste and effluents

6. Inadequate sanitary facilities

7. Oil pollution and global warming

3.1.3 Illegal river land grabs

Pollution and illegal river land occupation are destroying almost hundred rivers in Bangladesh. If anybody research about our country rivers then it is easily visible that there is no single river is free from pollution and illegal occupation.[13] Some greedy people have occupied bulk part of every river that are not on the government list. It is a matter of sorrow that government has failed to take legal action who occupied rivers. The greedy people occupied river because there is no right and legal information about rivers. Due to occupation 90-100 rivers are dried up and waterways transport is almost vanished .The government should immediately adopt a mega project to recover the occupied river land.

3.1.4 Disappearing River Land

The order given by High court Division given that to start demolition of the approximately 800millegal structure on the banks of major four rivers. Many of the country's rivers are facing

[13] The Dhaka tribune, "High court seeks the list of all rivers", December12th, 2021

existential crisis due to illegal occupation and river pollution. River occupation and river pollution is deemed as a national criminal offence declared by High Court. The high court also declared that pursuit for development should not undermine for preserving nature.[14] Almost 100 rivers dried up due to illegal occupation. It is not possible to cultivate and agriculture due to Illegal River grab. The canals also dried up. Some greedy people using it for their personal benefit. The canals have been wiped out due to heaps of polythene and rubbish. Water flow has already decreased due to disappearing river land. Farmers are not getting proper water for cultivation. But to date it has been not clear that how many rivers exist in Bangladesh, prompting greedy people to grab the rivers with lame excuses.

3.2 River Administration in Bangladesh

Like every countries Bangladesh has river administration board. Bangladesh water development board is the most important administration in our country. Others some board on water and rive protection. Water supply and sewerage authority (WASA) is another important water development board in urban area Most of the rivers in Bangladesh are now dying[15]. Taking advantage of the negligence and unawareness of the water development boar and authorities, some greedy people are grabbing rivers and extinct the rives. They are using for their own benefit purpose. Those all are water development board's lacking. They did such a poor performance.

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[14] Financial Express, "Old Rivers threatened by Illegal pollution", October 27,2020
[15] Faisal Hossain, Zahirul Haque Khan and C.K Shum, " Tidal river management in Bangladesh", 21 May,2015.

another names. It stats that there are 57 international rivers in Bangladesh. 53 rivers comes from India rest of flows from Myanmar. Within Bangladesh the management of river is very poor condition and they have failed to give update information about river. Due to their lacking some powerful greedy people takes chance to Occupation Rivers[16]. Within Bangladesh management of river is a hard task for the nation. It is our government responsibility and our government have been always striving hard to address the internal water related issues within maximum priority. The constitution of Bangladesh 18(1) clearly indicated to management bio-diversity[17]. National river protection commission 2013 and the environment conservation act also said about Proper River and water management.[18]

3.2.2 Water governance in Bangladesh

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[16] Faisal Hossain, Zahirul Haque Khan and C.K Shum, " Tidal river management in Bangladesh", 21 May,2015.
[17] Article 18(1) of the Constitution of Bangladesh
[18] Bangladesh water act 2013

3.3 An overview of fisheries sector of Bangladesh

Bangladesh is invested with a bulk expanse of inland open water resource from canal, natural,

man-made lakes and flood pains. Bangladesh is one of the most demand full fish exporting country over the world. The potential fish resources resulting from this among the richest in the world. Only China and India outrank Bangladesh.

3.3.1 Current worries of fish diversity in Payra River

The study was conducted for a amount of one year from April 2013 to March 2014 among the Payra stream, Patuakhali, Bangladesh. an entire of 114 fish species beneath twelve orders and thirty six families were recorded among the stream.[19] On the premise of availableness, the recorded species were classified into four statuses and obtained as accessible (43.86%), less accessible (29.82%), rare (18.42%) and extremely rare (7.89%). results of the study known 9 species as terribly rare which might extinct close to future ensuing declination of the fish diversity.[20] Overfishing, indiscriminate fishing of larvae and juveniles, siltation and pollution were known as a result of the most important worries connected with the declination of fish diversity. Study recommended that the activities that have harmful impact on fisheries resources should be small and can be restricted to avoid wasting lots of our valuable fish diversity among the Payra River.

3.3.2 Status and decline causes of fish diversity

This chapter discuss about the decline and current status of fish diversity. The information collected from bagatipara point of Baral river, Natore, Bangladesh the period from November 2015 to February 2016. A total 60 fish species of 9 order and 21 families were identified. The species were categorized in 4 statuses that obtained as available 45% on the other hand less available 33.33% and rare was 13.33% and very rare 8.33%. This result showed that 5 species were very rare which may vanished in near future. Few manmade decline causes like industrial

[19] Bangladesh Fisheries sector: Growth prospects and opportunities.
[20] Md. Aminul Islam, Md Moazzem Hossain and Ashrafun Nahar " Status and current worries of fish diversity in Payra river"

wastes, bulk use of river water, others different obstacle, over fishing and so on. Recent solution given by many research paper recommends preventing water pollution, increasing water flows, developing fisheries, awareness, implementation of fisheries law to save fish diversity.

Chapter 4

Laws Applicable in Bangladesh Relating to River Protection

4.1 River Protection Laws in Bangladesh

There are some laws and act and laws in Bangladesh to river protection. This laws have been made in different context at different times. There are some worth mentioning laws are:

1. Bangladesh Water Act, 2013.
2. National River Protection Commission, 2013.
3. The Bangladesh Environment Conservation Act, 1995.
4. Bangladesh Water Development Board Act, 2000.
5. Water Supply and Sewage Act, 1996.
6. Bangladesh Constitution Article 18(1)

4.1.1 Bangladesh Water Act, 2013

It published in 2013 based on the national water policy and designed for integrated development, management, usage, extraction, distribution and conservation of water resources[21]. As per this act all forms of water such as surface water, ground water, rain water, atmospheric water within the territory is belong to the government and the state people. On the other hand the private owner can use the surface water inside their property for all purposes accordance with the act. In view of water resource conservation and protection the act was adopted a decision to address the water needs irrigation and urban areas in the context of available groundwater and rain water also. The act also mentioned punishment and financial penalty for noncompliance with the act including neglect to abide by the government policy, ordinance, refusal to present necessary documents, providing false information. The maximum penalty of violation of this rules is five years imprisonment or 10000 tk[22]. This act was set to manage all water resources in the context of natural flow of surface water and recharge of ground water.

[21] MD. Khalequzzaman, "Review of the water act 2013" 14th July, 2013
[22] The daily New star " A critical review on Bangldesh water act 2013" 19th October 2017

4.1.2 Bangladesh National River Conservation Commission Act, 2013

The government has decided to tighten an old by amending to protect the rivers, canals, haors and so on. In Bangladesh the national river conservation commission act 2020 is drafted to amend the previous national river conservation commission act 2013. The national river protection commission act 2020 will cover all the rivers, canals, haors, lakes, fountain and all water resources all over the country bring under this commission. Plans has made to protect all rivers and all water source in the country23. Plans also make to removal of illegal occupation and stop all kinds' illegal structure by occupying river. Actually all rivers flowing as legal individual and living entities. To make any plan related to water and river development they have to consult with water development board, LGED, BADC. If any official illegally allocates river places shores or something they will be criminal by breaching of trust. Each division has river protection court under the act. Besides, a mobile court also be conduct if required. The mobile court is able to give immediate punishment in case of river occupation specially. Violation of the law by any person or organization would be punishable by imprisonment for a term which not exceeding by one year or fine 1 lac taka24. The same punishment is applicable for river occupation by using religious misinterpretations. No matter what the other law said the commission would be declare the area by considering as a illegal occupation, pollution, loss of navigability or endangered biodiversity. Law enforcement is paramount along with making law. Rizwana Hasan, chief executive of Bangladesh "It is important to have good laws to ensure the rule of law in everything. However the overall law enforcement in our country is very bad". Bangladesh conservation act till to date only 15% are implemented and rest of percentage are not implemented.

4.1.3 The Bangladesh Environment Conservation Act, 1995

The Bangladesh Environment Conservation stands on 3 objects

1. Conservation of the environment

[23] Zeba Tarannum " A review on Bangladesh National river Conservation Act 2013" 9th December 2013
[24] ibid

2. Improvement of the environmental standards
3. Control and migration of environmental pollution

In order to effectuate these objects, this objects, this particular legislation established department of legislation also established department of environment.

There are two amendments in 2002 and 2010 all are made to carry out the better purposes of this act. But cause of some lacuna and institutional defects and systematic risk review of this very parliamentary enactment has become urgent[25].

Institutional defects is a common matter in our country no-a-days. Institutional defects exist in this law. There is no specific provision for appointment, tenure, remuneration, retirement or appointment. But all of the crucial for the independence. There are some loopholes in case of declaration of ecologically critical area, Government satisfaction is subject satisfaction. Relaxing of restrictions on cutting hill, filling up wetland by showing lame excuse is another loophole[26].

In order to make this act more effective, it has to remove all kinds of ambiguities and lacuna in legal provision. Specially, provision regarding scale, appointment, scale of qualification, remuneration and so on.

4.1.4 Bangladesh Water Development Board Act, 2000

After recital devastating flood of 1954 and 1955 crag mission was formed in 1957 under United Nations to boost up food productivity by minimizing flood damage. As per the mission recommendations Bangladesh Water development board started its mission in 1959[27]. It was given the full responsibility of accomplishing the whole tasks of executing water pollution, flood control, drainage and irrigation projects to increasing activity and productivity in agriculture and fisheries.

[25] Mohammad Faysal Saleh " A critical Appraisal of Bangladesh Environment Conservation Act,1995 and rules, 1997" 3rd September, 2015
[26] Bangladesh Environment Conservation Act 1995
https://en.m.wikipedia.org/wiki/Bangladesh_Environment_Conservation_Act
[27] Mahbubur Rahman Khan "Water Development Board: Autonomy gone, efficiency too" 18th November, 2020

4.1.5 Water Supply And Sewage Act, 1996

This act makes provision for the supply of water and sewerage service in the national capital district all over the country. Consolidated version of 2006 of the act 19 of 1996 including an amendment made by implication upon the law and the all organic law provision[28].

4.2 The Constitution of Bangladesh

The Constitution of People's Republic of Bangladesh (hereinafter the Constitution) has been amended l6 times since its promulgation in 1972. The original Constitution has no direct provision on environment. At present Bangladesh constitution states "The state shall endeavor to protect and improve the environment and to preserve and safeguard the natural resources, bio-diversity, wetland, forests and wild life for the present and future citizens" (Article 18A).

4.3 The Environment Conservation Act, 1995

Almost 18 years ago in 2002, the Environment Conservation Act of 1995 was amended by banning the production and use of plastic and polythene. After amending the Environment Conservation Act of 1995, the section 6A was added, which discuss about the prohibition of production and use of plastic and polythene.

The section (6A) provides, If the Government, the Director General's advice or otherwise agrees that all or any other type of polyethylene shopping bag, or any other product or any other product made of polyethylene or polypropylene, is harmful to the environment, by notification in the official Gazette, all over the country. Or to produce, import, market, sell, display for sale, store, distribute, trade in such particular area A purpose of transportation or used for commercial purposes are to stop or notification, subject to the conditions of those operations or management issued instructions may be such to comply with all relevant persons shall be bound to:

Provided that such instructions the following shall apply, namely:

(A) If the goods described in the notification are exported or used for export purposes;

[28] Water Supply and sewage act 1996

(B) The instruction shall not apply to a specific polythene shopping bag unless the same is mentioned in the notice.

Explanation – In this section, "polythene shopping bag" means any bag, bag or other container made of polyethylene, polypropylene or any of its compounds or mixtures, which may be used for the purpose of buying or selling any product or for carrying anything

But the news of the Surma River shows the picture of the non-application of this section.Because if the section shall be applied properly the production and the use of plastic and polythene would have been closed. For that plastic bottles and polythene could not be the reason of pollution of the Surma River.

Therefore, we can say that due to the lack of the proper application of the section 6A of the Environment Conservation Act of 1995, the production and use of the plastic and polythene (which are very harmful for not only rivers but also environment) is not closed even today. As a result the Surma River and others (Buriganga, Turag, Padma, Karnaphuli, kapatakkha, etc.) are in the confluence of pollution.

4.4 Penal Code, 1860

Rivers have been one of our sources of fresh water since ancient period of time.People in our region have been using river water for various tasks including agriculture, cooking,bathing and washing clothes.

The section 277 of the Penal Code,1860 discuss about the Fouling water of public spring or reservoir. The section provides "Whoever voluntarily corrupts or fouls the water of any public spring or reservoir, so as to render it less fit for the purpose for which it is ordinarily used, shall be punished with imprisonment of either description for a term which may extend to three months, or with fine which may extend to five hundred taka or with both."

Now if we follow the news report of Daily Star about the pollution of the Surma river, then we find that due to inadequate use of contamination river water, the people in the surrounding from various diseases of Skin and Stomach. So we can say that the water of the Surma River has lost its utility due to pollution.

For that such pollution of Surma river is an offence under the provision of the section 277 of the Penal Code, 1860. Not only the pollution of Surma river but also the pollution of all the rivers which water are used by Public is an offence under this provision of the Penal Code.

Finally it can be said that the non application of the section 277 is also responsible for the critical condition of our rivers.

4.5 National Environment Policy, 2018

New challenges are being created in all sectors of Bangladesh including land, agriculture, water resources, health, education, biodiversity etc. For this, effective polices and agendas are being adopted to protect the environment, the ecosystem and all the beaches of Bangladesh in line with the Sustainable Development Goal, 2030. In the context of environmental catastrophe and its adverse effects in Bangladesh, the government has placed importance on conserving and improving the environment.

For this reason, the Article 18A has been added in the Constitution of the people's' Republic of Bangladesh as the fundamental principle of State Policy by 15th amendment of the Constitution.

The Article 18A provides that "The state shall endeavor 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 the future citizens."

So we can say that the Conservation of environment and biodiversity is our fundamental duty. Therefore, a number of sectors have been identified to achieve the overall goals of environmental management in the National Environment Policy, 2018.

The point 3.2 of the National Environment Policy, 2018 has been given the importance of water resource management.

The point 3.2.1 of the Policy states that State will take proper step to ensure the environment-friendly use of all water resources in the Country. Rivers are one of the main habitats for water resources. For that, the protection of the river is very important to protect water resources.

Another, the point 3.2.5 states that the water bodies and water resources like Haor-baor, Canal, River, etc should be kept free from pollution.

The point 3.2.36 states that all types of development plans which are in conflict with rivers, reservoirs and environment should be reevaluated and adapted to conserve the environment as needed.

4.6 Protection Rivers By Enforcing Law

There are many loopholes to protect our river and water pollution. It's not all about our government failure it's also our failure too. This time government is too determine to protect all rivers from occupation and river pollution also by enforcing laws and act. In 2019 the high court division (HCD) of the supreme court of Bangladesh has delivered a supreme declared all rivers in Bangladesh to have legal protection. The core outcome of the verdict are 17 major directives for addressing river pollution and river extinction over the country. This includes barring polluters from running from the office and legally empowering the Bangladesh River conservation as the guardian of all rivers officially.

This conservation has taken some steps to protect all our river from occupation and pollution.

1 Actors across government, industry sector and society to play respective and important rules to protect river extinction and pollution.
2. New laws need to be adopted with a view to incorporating the main objects Laid down the High court division judgement
3. All stakeholder needs to be ensured about their accountability
4. Environmental accountability must be expanded.
5. The river conservation commission needs adequate freedom.

4.7 Case Studies

4.7.1 Context of TURAG RIVER Case

In the judgment of the *Turag River Case,* the Honorable High Court Division declared all the rivers, including the Turag, are "living human beings".

Now the question is that,

What does ‘living human being’ mean?

What is its meaning – significance?

The status of a living human being means accepting that a river holds the rights of human beings as a living human being. Before deciding on a human being, like his opinion, good and bad prices have to be paid, so should the river. You have to listen to the river before you talk about it. If you have to tie the river, lift the groin at the base of the river and tilt it to the river, then lift the river water and use it for other purposes. It is important to keep a constant search for anyone who wishes to hold his hand, like it or not, and we need to know the will of the river even before it interferes with the river.

It is important to remember that even though the declaration of a river as a living entity sounds new to our ears, there are many examples of it in earth. Long ago, the Huanganui River in New Zealand was given human rights as a living human being. On March 27 2017 the court of the country granted the ‘living people’ rights to the Ganges and Jamuna rivers in India. The *Uttarakhand High Co*urt in their judgment issued the order to protect these two rivers as ‘living human beings’ and protect them from pollution. What will happen to a living entity, the river cannot catch us in the process. The language of the river is different. Then who will be its interpreter or guardian?

The Uttarakhand high court has appointed two senior government officials in the state as legal guardians of the two rivers. The court has kept his door open for both of them till the Day of Resurrection. The greater, the burden and burden of litigation, as soon as the court is informed of any negligence in any act of river protection and pollution, the court will not allow the river to stop after the date.

In Bangladesh our court has given the legal guardianship of the National Rivers Protection Commission to protect all rivers, canals, bills and reservoirs of the country. The river protection commission will perform all duties including protection of river, river, canal, water reservoir, conservation, removal of illegal occupation, and prosperity.

But we already know that the National River Protection Commission has not such type of power.

In order to ensure that the river protection commission can play an effective role as an independent institution, the government has been given four points in the judgment:

1. Determination of severe punishment and penalties for treating rivers, canals, bills and aquaculture as a crime. In connection with these matters, the River Protection Commission Act, 2013, has to be amended.
2. In order to take the project along the rivers, the National River Protection Commission will have to take an official letter. The court has directed the cabinet secretary to convey the matter to all departments in the government.
3. A digital database should be created through satellite to identify and determine the location of all rivers, canals, bills, reservoirs. The database should be open to the citizens of all the Unions, Thana, Municipalities, Districts and Divisions of the country.
4. Any citizen can collect river information, map and information with fixed fees before start any project beside any river.

4.7.2 The court also provides that,

1. Each district, thana, union council and their respective jurisdictions should make a list of illegal occupants of the river and publish it in the newspaper.
2. If his name is in the list of river occupants for borrowing from a person's bank, he will be considered ineligible for getting the loan. Bangladesh Bank was instructed to take appropriate action in this regard.
3. In case of taking any project along the river-river, the Commission will have to take the minor.
4. The Ministry of Shipping has been directed to take steps to make the river protection commission an effective and independent institution.
5. All schools, colleges, madrasas and universities should be taught about river requirements and river pollution for one hour every two months.
6. At least one hour of river-related meetings should be held in two months for the participation of workers of all the big and small industries in the country.

4.7.3 The weaknesses of the Judgment of "Turag case":

The honorable high court has also directed to send a certified copy of their verdict to the Prime Minister's Office so that the Department can take effective action. The court has realized that without the intervention of the Prime Minister, the whiskers will not stop. No one does any work in his own house without the direction of the Prime Minister's Office. A river protection committee is to be formed in each upazila, district and division of the river protection commission. How many of it was formed? Where there have been many meetings, like all district committees, the chairman of the committee is the Deputy Commissioner. Although the Deputy Commissioner is superhuman, it is almost impossible to attend all the meetings held in the district only once a year. Therefore, they were obliged to leave as many meetings as possible in one meeting. Without the hawks, the national conservation committee will not work with national meetings.

4.7.4 Now I explain a real example of such weakness,

As per the provisions, the Deputy Commissioner (DC) of Bogra is the President of the District River Protection Committee. The Karatoya River was occupied by a wall in front of his office right before his eyes on March 26 of 2019. No action was taken by the DC. But former DC declared that river occupation is illegal and he stopped the construction in past.

So we can say that if the river protection committee is not accountable and transparent enough to proceed, then the verdict will remain in the document.

Hence, for ensuring the accountability and transparency of the River Protection Committee, I think a judicial representative must be included in the Committee or Commission. Otherwise we cannot touch our goal about the protection of rivers.

Currently, the Bangladesh Inland Water Transport Authority (BIWTA) and the Ministry of Shipping are working jointly for removing illegal occupation of the Turag and Buriganga rivers in Dhaka. But I have some confusion about the result of such action. Because such type of action was taken in past but the result is not effective.

In spite of such confusion, it is really good news for us that on 25.07.2019 a part of the Turag River is opened (which was illegally occupied) as a canal, named the Turag Canal.

Same type of action is underway in Chittagong to recover the illegally occupied area of the Karnaphuli. We have not received any significant news of such an operation in the area of the Surma River and anywhere else in the country. The government has also started dredging to restore the navigability of the river. But this process has already been questioned.

About this matter Dr Ainun Nishat says "They think that the river became dredging and then increased. This is a very wrong decision. If we are dredging the river,we will get it for two or three years as deep channel. After that it will be filled again. It is important to remember that the river not only flows water, it also flows. If you say poly, it will be a little wrong, if you say sediment, it will be pure. The thing to do in this case is, the width of the river has to be controlled. However, it will not be straight cut. The normal course of the river has to be controlled. If you have a satellite image of the Jamuna water flow, it will be changing some distance. We refer to these rivers as braided rivers or rivers. In this case, when mathematical and geographical calculations can be taken out of the normal flow of the river, then he can calculate the deep channel of the river. If you can do that, you can determine the waterway."

Finally we have to wait about 10-12 years for measuring the actual effect of such expenses of billions of Taka for the purpose of river dredging and the adverse impact on the environment[29].

[29] https://lawyersclubbangladesh.com/en/2020/11/14/a-legal-discussion-on-river-pollution-in-bangladesh/

CHAPTER 5

Comparative Analysis of Legal Provisions on River and Water Protection in Bangladesh and India

5.1 Legal Provisions on River and Water Protection in Bangladesh

Air and water are the most precious gift of the nature. It is very essential not for only flora but for also fauna. All living creatures has the right to enjoy this flora and fauna. According to section 2 (a) of the environmental protection act 1986, environment includes water, air and land[30]. All creature human beings or animals have existing relation between air, water and land. There is an inspirable relation between man and environment. So every man has the responsibility to protect water and river. The judiciary has played also a vital role to protect to save environment. Articles 21, 48A and 51 A of the Indian constitution deals with the protect environment. Article 18(a) of the constitution of Bangladesh deals with environment and bio diversity[31].

5.2 Comparison the Laws between Bangladesh and India

Now-a-days river occupation and illegal dumping of both industrial and household wastes has created a huge reason behind river pollution In Bangladesh. It has created from the past few decades. Faulty environmental protection laws and corrupt law enforcement have been identified the major problem that increasing day by day. Legal law is not implemented. The environmental law regime in our country to protect our river pollution and extinction. Article 18(A) of the constitution clearly said that the state will endeavor to protect and conserve river. Other some laws

– The Bangladesh water act 2013, the national river protection commission 2013 and The environment conservation act 1995 have the provision to protect water pollution and river

[30] Section 2(a) , Environmental Protection Act 1986
[31] Article 18 , Constitution of Bangladesh

extinction. According to Environment conservation 1995 declared that landfill activity with industrial or household is categorized as a red carpet activity.

The Dhaka municipal ordinance 1983 authorized Dhaka north and south city corporation to removal, collection and disposal the refuse, management of toilet, drain cleaning, drainage system so that all canals and river would be protected and not polluted. Responsibility of the Bangladesh inland water transport authority is to ensure eviction of illegal occupation of river. . The judiciary has played also a vital role to protect to save environment. Articles 21, 48A and 51 A of the Indian constitution deals with the protect environment. Article 21 of the Indian constitution guarantees to all persons a fundamental right to life. In general water law I India is largely based[32]. The government of India act, 1935 has in principle given power to state that they have extra power to regulate water supplies, drainage and water storage fisheries. Article 51 (G) casts a important duty on every citizen of India to protect water, river and environment including forests, lakes, canals wild life to have compassion for living creatures[33].

5.3 Case Relating To Water and River Protection in India

Water is most important and vital elements of the nature in State of Himachal Pradesh vs Umed Ram Sharia the Supreme Court has held that every person is entitled to enjoy their life under article 21 of the constitution of India. Under section 17 (1) of the water act the state board of India shall prevention, control of water.

The duty of the state in this regard is clearly spelt by the case of M.C Mehta vs Kamal Nath that every person of the state is entitled to protect the natural environment[34].

In P.R Subhash Chandran vs Government of A.P the high court declared that under the constitution the role of the state that every citizen of the country with adequate clean drinking water and to protect water from not getting polluted and save the river from occupation. Another similar case is **Krishan Lal vs Nirmal Kumar (2009)** the high court declared the extra protection on river pollution and river extinction. It gives the responsibility to the citizen of the state to protect the water and be aware not to involve in water pollution.

[32] Article 21 , Constitution of India
[33] Sneha Mahawar, " The making of the constitution of india: A detailed Analysis" 16th August, 2021
[34] Article 21 , Constitution of India

5.4 Case Relating To Water and River Protection in Bangladesh

A very important case on water and river protection in Bangladesh is **Farooque Vs Government of Bangladesh**[35]. The petitioner in this case prayed for appropriate relief relating to the matter of control river pollution from the industries and factories all over the country. A survey had been conducted by the department of environmental pollution to findings the loopholes about water pollution and ecological imbalance was being continuously due to discharge of various industrial waste into the water and polluted the water.

5.4.1 Dr. Mohiuddin Farooque vs Bangladesh and others (W.P. No. 891 of 1994), 22 BLD(AD) (2002), pg535

Regulating industrial pollution

This writ was filed praying for appropriate relief relating to the matter of control of pollution from industries situated up and down the country. Hon'ble High court division issued the following directions:

i) All the industries of red category must install Effluent Treatment Plant(ETP and other appropriate pollution fighting devices by 30.6.2010 positively, failing which they shall be subject to the legal sanctions as spelt out under section 4 (3), 4A and 7 of Bangladesh Environment Conservation Act, 1995, without any exception.

ii) The tanneries at Hazaribagh are of red category. None of those tanneries installed ETP in spite of our direction in the Judgment dated 15.7.2001, in Dr. Mohiuddin Farooque's case mentioned above. The chemicals and other deadly effluents disgorged by those tanneries at Hazaribagh caused the ghastly death of the river Buriganga. As such, we have no other alternative but to direct

[35] Dr. Mohiuddin Farooque vs Government of Bangladesh, 48 BLD (HCD) 438, 1996.

a) As resolved earlier by the Government, let the tanneries be relocated from Hazaribagh by 28 February, 2010, failing which those shall be shut down since the life and well being of the citizens take precedence above everything and cannot be sacrificed even for the industries.

b) Once relocated, those tannery industries shall function only on setting up and operating ETPs, sanitary land fill and other appropriate pollution mitigation devices.

iii) Meticulous compliance of the provisions of Environmental Laws by all kinds of industries failing which the Department of Environment, the respondent No. 4, is obliged to take necessary actions in accordance with the provisions of laws.

5.4.2 In Bela Vs Government of Bangladesh and others (2003) failure to perform statutory public environmental duties on the part of the respondents and too much delay and neglect in arrangement for relocation of tannery in the Hazaribagh of the Dhaka south city corporation. This adverse is caused serious harm of river area in Dhaka city[36]. This case In the matter of Environment Conservation Act 1995, Town Improvement Act 1953 and environment conservation Rules, 1997[37].

5.5 Bangladesh Supreme Court Upholds Rights of Rivers

he rights of the rivers of Bangladesh have been upheld by the country's Supreme Court.

The Appellate Division of the Supreme Court of Bangladesh upheld the 2019 decision of the High Court (in Writ Petition № 13989) which declared that the Turag River and all other rivers in the country are "living entities" with rights as "legal persons."

In this landmark decision, the National River Conservation Commission is declared "in loco parentis" for the rivers of Bangladesh, to protect and conserve them, and prevent pollution and encroachment. The Commission will serve as a guardian for the rivers, to ensure their rights and

[36] In bela vs Government Of Bangladesh and others , 2003
[37] Town Improvement Act 1953.

the riparian ecosystems are protected. Further, under the Bangladesh decision, the rights of the rivers may be enforced against both private and public (government) entities[38].

[38] https://www.centerforenvironmentalrights.org/news/bangladesh-supreme-court-upholds-rights-of-rivers

CHAPTER 6

Loopholes in River Protection Mechanisms In Bangladesh

6.1 Pressure in National Economy

Approximately from last decade we are celebrating international river day on fourth Sunday of September. The main purpose of celebrating the day is to raise the public awareness to save water and river from pollution and extinction. Rivers around the country help us to develop civilization in rural and urban areas. River extinction, industrial wastes and garbage is the main reason to destroying river. 60% of our population depends on river water for their animal protein intake. Our fisheries sector contribute 3.61% to the GDP[39]. It is also mentioned that total 11% people in our country is related to fisheries and exporting over the world. Just imagine that how the rivers in our country contributing to improving our GDP every year .Almost 0.7% million vessels transport goods and passengers and 50 million people such carried through such water ways. Amounting to 50% of total freight traffic. Its total contribute to GDP 0.64 percent. Waterways transport is the most vital source for our transboundary trade system. Which is very potential for our economic growth. Garments sector is the most important source to increase GDP. If we think deeply about that it is clearly visible that the garments sector always developed on the banks of the river. Bangladesh is successfully holding 3rd position on garments sector over the world which is playing vital role in the economic development of the country. But since the independence the illegal occupation and pollution of rivers is increased. The impact of climate change has already begun. It has been forecasted that there will be a huge flood over the country which may destroy our economy[40]. Almost 100 of rivers are being occupied over the country. This would be the threat to our nation. Bangladesh water act 2013 has many provisions for the protection of our rivers from illegal occupation and water pollution. However, we have not able to actually protect our river. Rather, the damage is increasing.

[39] Tanjim Ferdous, "protection of river to save Agricultural and economy: Role of state and citizens" October 22, 2020

[40] ibid

6.2 Hazard on Human Health

We know that water is an important element of human health. When water gets polluted then polluted water directly affects the human body. Polluted water is too harmful for human body and water pollution causes various diseases on human body like typhoid, cholera, hepatitis, cancer etc.in polluted water there are lacking of oxygen. Water pollution damage the plants and hydrophyte animals present in the river by decreasing the oxygen content from the water[41]. Polluted water destroying the essential nutrients and elements which plants need out of the soil and also leaves large amounts of aluminums and toxic in the soil, which is very dangerous for our human life and plants. There are many reasons for water pollution some are involved directly and some are non-directly involved. Many factories and industries dumping wastes and garbage into the river. It is directly Affects River[42]. On the other hand uses of modern technique in farm land is the indirect cause of water pollution. Pollution can be of various types for example Inorganic, radioactive, organic and so on. It should be solved as early as possible. Bangladesh water development board is the main culprit responsible for the state of our rivers today. The government also responsible for whole reason. If this continues, the nation will suffer from lack of pure water in a few years.

6.3 Pressure on Communication

Once the main mode of transportation in our country was the river. But in the evolution of time the rivers of our country are almost extinct. One of the main reason behind this matter is river occupation and river pollution. As a result there is extra stress on the high way roads and precious time of human life is being wasted in traffic stuck. Road side travel is very expensive and kills our important time. Roads are being repaired frequently due to extra pressure which is hurting the nation economically[43]. Rivers are the natural and common waterways in our country which can be used in transportation. Rivers are suitable with big ship and small boat also. But the main benefit of waterways transport is it is a natural highway and does not need any kinds of

[41] Melissa Denchak " water Pollution: Everything you need to know" 14th May, 2018
[42] ibid
[43] https://www.yourarticlelibrary.com/geography/transportation/water-transport-kinds-advantages-anddisadvantages-of-water-transport/42133

construction and maintenance. It is not use in transportation but also irrigation system. It is also cheapest mode for transport goods from one place to another. On the other hand if we use highway road it would be very costly matter. It can carry much larger quantities of heavy and bulky goods. Another advantage of water ways transport is the risk of accidents and breakdown are minimum as compared to any other form of transport[44]. For drying up almost rivers the main responsible behind this situation is government and water development board. They didn't take any necessary steps for saving our river from pollution and extinction. It is every citizen responsibility to save our river and water. Otherwise in near future there would be trouble everywhere.

6.4 Hazardous Hydro Atmosphere

Pollution of the hydrosphere is a major problem. Pollution can affect the entire ecosystem. Water pollution is not directly involved with the damage of hydrosphere. At first air pollution effects on water then polluted water affects hydrosphere. Air pollution causes most short term measurable damage to the water quality when toxic chemicals fall from the air as a dust and poison. The major significance of the hydrosphere is that water sustains various life of forms. It has playing a vital important role in our ecosystem and regulates the whole atmosphere[45]. Hydrosphere covers all water surface on the earth. We rarely think that the role of the planet that keeps us alive and take hydrosphere for grunted. Hydrosphere covers all water present on earth surface. It also included fresh water, salt water and frozen water also. Hydrosphere and water is connected deeply and water is the most important living part of a human. Every person is built up of about 75% water. Hydrosphere gives the places for many plants and animal to live in. some gasses like CO2, O2, nutrients like ammonium and nitrite and others elements dissolved in water. Hydrosphere regulate our climate.

[44] https://lisbdnet.com/why-are-waterways-important/
[45] Faisal Ahsan " Hydro Atmosphere in Bangladesh" 14th October 2018

6.5 Regulatory Gaps

Regulatory gaps within the legal framework for river protection can impede effective conservation efforts. This section critically examines identified regulatory gaps, exploring areas where ambiguity, inconsistency, or inadequacy may exist, and proposes measures to address and rectify these gaps.

6.5.1 Ambiguities in Statutory Provisions

This subsection critically analyzes statutory provisions related to river protection to identify and address ambiguities. The chapter assesses the clarity and precision of language, ensuring that definitions, obligations, and prohibitions are unambiguous. Recommendations are made to refine statutory language, reducing potential loopholes and improving the enforceability of river protection laws.

6.5.2 Inconsistencies Among Legal Instruments

Inconsistencies among legal instruments can create confusion and hinder cohesive river protection efforts. This part critically examines different laws, regulations, and policies relevant to river conservation to identify any conflicting provisions or overlapping jurisdictions. The chapter proposes measures to harmonize legal instruments, fostering a more coherent and consistent regulatory framework.

6.5.3 Gaps in Coverage and Scope

Gaps in the coverage and scope of existing laws may leave certain aspects of river protection unaddressed. This subsection critically analyzes the legal framework to identify areas where gaps may exist, such as specific types of pollutants, activities, or geographical locations not adequately covered. Recommendations are made to expand the coverage and scope of the legal framework to comprehensively address all relevant aspects of river protection.

6.5.4 Lack of Specific Regulatory Mechanisms

Certain regulatory mechanisms may be lacking, limiting the effectiveness of river protection efforts. This part critically examines the legal framework to identify instances where specific regulatory tools, such as monitoring protocols, pollution prevention plans, or emergency response measures, are absent or insufficient. The chapter proposes the development and implementation of specific regulatory mechanisms to enhance the proactive management of river ecosystems.

6.5.5 Challenges in Implementing International Agreements

While international agreements contribute to river protection, challenges in implementing them domestically may persist. This subsection critically assesses challenges and gaps in aligning domestic laws with international commitments. Recommendations are made to address any inconsistencies, ensuring seamless integration of international obligations into the national legal framework.

6.6 Enforcement Challenges

Enforcement challenges pose significant obstacles to the effective implementation of river protection laws. This section critically examines identified challenges in the enforcement mechanisms, exploring factors that impede successful enforcement, and proposes measures to overcome these challenges[46].

6.6.1 Resource Constraints

Resource limitations can hinder the ability of regulatory bodies to effectively enforce river protection laws. This subsection critically analyzes the adequacy of resources, including personnel, funding, and technology, available to enforcement agencies. The chapter proposes strategies to address resource constraints, such as securing additional funding, enhancing technological capabilities, and optimizing resource allocation.

[46] https://www.newagebd.net/article/100136/protecting-rivers-with-law-enforcement

6.6.2 Inadequate Monitoring Infrastructure

An effective monitoring infrastructure is essential for enforcing river protection laws. This part critically examines the existing monitoring systems for river-related activities, assessing their adequacy, coverage, and technological sophistication. Recommendations are made to enhance monitoring infrastructure, including the deployment of advanced technologies and the expansion of monitoring networks to cover critical areas.

6.6.3 Legal and Procedural Bottlenecks

Legal and procedural bottlenecks can slow down enforcement processes, limiting their effectiveness. This subsection critically analyzes existing legal and procedural frameworks, identifying potential bottlenecks in the enforcement of river protection laws. The chapter proposes measures to streamline legal processes, expedite enforcement actions, and overcome procedural obstacles.

6.6.4 Lack of Public Awareness and Cooperation

Public awareness and cooperation play a crucial role in successful enforcement efforts. This part critically examines the level of public awareness regarding river protection laws and the extent of community cooperation. The analysis explores gaps in communication strategies and proposes initiatives to enhance public awareness, fostering a sense of responsibility and collaboration in river conservation.

6.6.5 Cross-Border Enforcement Challenges

Transboundary rivers may present challenges in enforcing laws that extend beyond national borders. This subsection critically assesses the challenges associated with cross-border enforcement and coordination. The chapter proposes strategies for enhancing collaboration with neighboring countries, establishing joint enforcement mechanisms, and overcoming legal and logistical hurdles in transboundary river protection.

6.7 Institutional Weaknesses

Institutional weaknesses within the framework for river protection can undermine the effectiveness of conservation efforts. This section critically examines identified weaknesses in the key institutions responsible for enforcing river protection laws, exploring areas where organizational shortcomings may exist, and proposes measures to strengthen institutional capacities.

6.7.1 Insufficient Regulatory Powers

Effective river protection requires institutions with adequate regulatory powers. This subsection critically analyzes the regulatory powers vested in key institutions responsible for enforcing river protection laws. The chapter proposes measures to enhance regulatory powers, ensuring that institutions have the authority needed to address emerging challenges and enforce compliance effectively.

6.7.2 Limited Coordination Among Regulatory Bodies

Coordination among regulatory bodies is essential for holistic river protection. This part critically examines the existing coordination mechanisms among institutions involved in river conservation. The analysis identifies gaps in collaboration, communication, and joint decision-making, proposing strategies to improve coordination and foster a more integrated approach to river protection.

6.7.3 Inadequate Community Engagement Strategies

Effective river protection involves active participation from local communities. This subsection critically analyzes the strategies employed by institutions to engage with and involve local communities in conservation efforts. The chapter proposes measures to enhance community engagement, including the development of outreach programs, educational initiatives, and participatory decision-making processes.

6.7.4 Limited Technological Capacities

Technological capacities are integral to modernizing and optimizing river protection efforts. This part critically examines the technological capabilities of institutions responsible for river conservation, including data collection, monitoring, and analysis. The chapter proposes strategies to improve technological capacities, such as investing in advanced monitoring technologies and providing training for personnel.

6.7.5 Challenges in Adapting to Environmental Changes

Environmental conditions are dynamic, requiring institutions to adapt swiftly to changes. This subsection critically assesses the adaptability of institutions to evolving environmental challenges, including climate change impacts on rivers. The chapter proposes measures to enhance institutional resilience and flexibility, ensuring a proactive response to emerging threats to river ecosystems.

6.8 Community Participation and Awareness

Community participation and awareness are pivotal for the success of river protection initiatives. This section critically examines the existing strategies for involving local communities in river conservation efforts, identifies areas where participation and awareness may be lacking, and proposes measures to enhance community engagement.

6.8.1 Effectiveness of Outreach Programs

Outreach programs play a crucial role in disseminating information and engaging local communities in river protection. This subsection critically analyzes the effectiveness of existing outreach programs, evaluating their reach, content, and impact. The chapter proposes improvements to outreach strategies, considering cultural sensitivities, linguistic diversity, and the utilization of various communication channels to maximize effectiveness.

6.8.2 Community Involvement in Decision-Making Processes

Meaningful community involvement in decision-making processes is essential for fostering a sense of ownership and responsibility. This part critically examines the extent to which local communities are included in decisions related to river protection. The analysis explores opportunities for enhancing participatory mechanisms, such as community consultations, stakeholder forums, and collaborative planning initiatives.

6.8.3 Challenges in Communicating Environmental Risks

Effective communication of environmental risks is crucial for raising awareness and encouraging responsible behavior. This subsection critically assesses the challenges in communicating complex environmental risks associated with rivers to local communities. The chapter proposes strategies for overcoming language barriers, simplifying technical information, and utilizing culturally relevant communication methods to improve risk communication.

6.8.4 Access to Information and Education

Access to information and education is fundamental for empowering communities to actively contribute to river protection. This part critically examines the accessibility and adequacy of information and educational resources related to river conservation. The analysis identifies gaps in information dissemination and proposes measures to improve access to educational materials, training programs, and resources for local communities

6.8.5 Integration of Traditional Knowledge

Local communities often possess valuable traditional knowledge about rivers and ecosystems. This subsection critically analyzes the integration of traditional knowledge into river protection initiatives. The chapter proposes measures for recognizing and incorporating traditional wisdom, ensuring that conservation strategies align with the cultural and ecological insights of local communities.

Chapter 7:
Recommendation and Conclusion

7.1 Recommendation

7.1.1 Legislative Amendments

The existing statutory provisions related to river protection should undergo comprehensive review and reform. Legislative amendments are crucial to address identified ambiguities and gaps in the legal framework. Consideration should be given to updating and modernizing laws to reflect evolving environmental challenges. This includes specifying clear standards for permissible pollutant levels, incorporating adaptive management approaches, and establishing mechanisms for periodic review and amendment.

7.1.2 Strengthening Enforcement Mechanisms

Effective enforcement is pivotal for the success of river protection laws. Strengthening enforcement mechanisms involves enhancing the capacity of regulatory bodies, investing in monitoring technologies, and imposing stricter penalties for violations. Collaborative efforts between law enforcement agencies, environmental organizations, and local communities should be encouraged to create a robust system that ensures compliance with river protection regulations.

7.1.3 Enhancing Public Participation

Public engagement is essential for the success of river protection initiatives. Legal reforms should emphasize the importance of involving local communities, non-governmental organizations, and other stakeholders in decision-making processes related to river management. Establishing mechanisms for public consultation, information dissemination, and citizen science initiatives can foster a sense of responsibility and ownership among the public, contributing to more effective river protection.

7.1.4 International Cooperation

Rivers often traverse national boundaries, requiring collaborative efforts between countries to address transboundary pollution and ecological issues. Recommendations for reform should include measures to enhance international cooperation in river protection. This involves establishing bilateral and multilateral agreements, sharing best practices, and creating frameworks for joint research and monitoring. International bodies and conventions should be leveraged to facilitate coordination among nations for the sustainable management of shared river resources.

7.1.5 Education and Awareness Programs

Public awareness and education play a vital role in fostering a culture of environmental responsibility. Recommendations for reform should include provisions for education and awareness programs targeting various stakeholders, including policymakers, industry players, and the general public. These programs should emphasize the importance of rivers, the consequences of pollution, and the role individuals and communities can play in conservation efforts.

7.2 Conclusion

In conclusion, the examination of legal mechanisms for river protection in Bangladesh, along with a comparative analysis of international practices, reveals both strengths and weaknesses in the current framework. The identified gaps in statutory provisions, enforcement mechanisms, institutional capacities, and community engagement underscore the need for immediate attention and reform.The study has demonstrated that while Bangladesh has made strides in recognizing the importance of river protection, there are challenges that must be addressed to ensure the sustainable conservation of its rivers. Ambiguities in statutory definitions, resource constraints affecting enforcement, institutional weaknesses, and gaps in community participation all contribute to the vulnerability of river ecosystems.To enhance river protection, there is a pressing need for comprehensive legal reforms. Clarity in statutory language, strengthened enforcement mechanisms, improved institutional capacities, and increased community participation are essential components of a more effective framework. Drawing lessons from successful international practices, particularly in adaptive management, community engagement, and technological integration, can inform the evolution of Bangladesh's river protection strategies.

The implications of neglecting these issues are far-reaching, affecting not only the environment but also the socio-economic fabric of the nation. Sustainable development goals hinge on the health of river ecosystems, making it imperative to prioritize and invest in robust protection measures.The recommendations provided in this thesis offer a roadmap for policymakers, regulatory bodies, and stakeholders to fortify river protection in Bangladesh. Collaborative efforts, involving government agencies, non-governmental organizations, local communities, and international partners, are paramount for successful implementation.

As Bangladesh navigates the challenges of the 21st century, a resilient and adaptive legal framework for river protection is essential. This thesis serves as a call to action, urging all stakeholders to commit to the conservation and sustainable management of the country's rivers, ensuring their vitality for current and future generations.

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