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Laws relating to Prosecution Service in Bangladesh: A Critical Analysis

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The Laws relating to Muslim Women-Initiated Divorce in Bangladesh: An Overview from Right-Based-Approach



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Manuscripts submitted for publication must be in three copies, double-spaced typescript or electronic print-out on A4 size (8.5"×11") white sheets with margins of 1" on all sides and pages consecutively numbered. The manuscript should have a title-page with the title of the article and the author's name, designation and contact address. The author's name or anything that may identify the author should not appear anywhere in the text paper. An abstract in English must be provided within 200-300 words at the beginning of the article. Submissions should be addressed to the Editor in Chief, Rajshahi University Law Journal, Faculty of Law, University of Rajshahi, Rajshahi 6205, Bangladesh.

Water Rights and Pollution Prevention in Bangladesh: A Comprehensive Legal Analysis with Reference to Sustainable Development

Mohammad Imam Hossain*

Altaf Hossain**

Abstract: *Water pollution's intricate interplay with Sustainable Development (SD), water rights and the challenges faced by countries like Bangladesh. The global pursuit of sustainable development underscores the paramount importance of improving water quality, mitigating pollution, and ensuring safe water access, especially as outlined in SDG 6. Bangladesh grapples with a complex amalgamation of geographical, demographic, and socio-economic vulnerabilities, hindering its progress in achieving Sustainable Development Goals (SDGs). Rapid urbanization, industrialization, and limited safe water access converge to fuel a dire public health crisis attributed to water pollution. Water pollution, marked by detrimental alterations to water's physical, chemical, and organic attributes, results in toxic water unfit for consumption or essential purposes like agriculture. This pollution's toll on global public health is stark, leading to diseases like cholera and typhoid, causing deaths. The fundamental human right to life encompasses safeguarding against environmental hazards, making safe and affordable drinking water pivotal. Aligning efforts to preserve water quality with SDGs and the Post-2015 Development Agenda is crucial. Despite international and municipal legal obligations and various regulatory bodies in Bangladesh, including landmark court decisions, water-related SDGs remain elusive. This article highlights the research gap and the absence of a coherent governmental strategy. Through identifying deficiencies in water-related laws, policies and regulations, this study seeks to shed light on current state of water pollution, ramifications and a comparative study with SDGs.*

Keywords: MDGs, SD, SDGs, UDHR, NDCs and *suo motu*

1. Introduction

The Sustainable Development Goals (SDGs) provide a framework for the member states of the United Nations to promote sustainable development and address pressing global challenges. Improvement of water quality by reducing pollution, avoiding emissions, minimizing the release of hazardous chemicals and substances, halving the

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proportion of untreated wastewater and significantly increasing recycling and safe reuse within 2030 is a key concern of SDGs.¹ Bangladesh, like many other countries, faces significant challenges in achieving SDG-6 i.e. access to water particularly pollution free water. Bangladesh is highly vulnerable to water pollution due to its geography, population density, and socio-economic conditions. The country has a large population with limited access to safe water, and as a result, water pollution is a significant public health issue. Additionally, the country's rapid industrialization and urbanization have led to increased pollution of water bodies.

Water pollution means direct or indirect harmful changes of physical, chemical and organic properties of water.² In other words, it is toxic water that cannot be drunk or used for essential purposes like agriculture, and which also causes diseases like diarrhoea, cholera, dysentery, typhoid and poliomyelitis that kill more than 500,000 people worldwide every year.³ Once water is contaminated, it is difficult, costly, and often impossible to remove the pollutants. Bangladesh is environmentally endowed with water resources on an annual basis, with an extended network of rivers crisscrossing the country.⁴ Bangladesh has around 310 rivers distributed all around the country.⁵ Groundwater is conventionally available in aquifers spread all over the country, from a depth of a few meters to about 20 meters below the surface. Bangladesh positions at number 86 among 142 countries with respect to drinking water quality.⁶ Drinking water sources, both surface and groundwater are debased with coliforms, harmful metals, and pesticides all throughout the nation. Different drinking water quality parameters set by WHO are every now and

¹ See, <https://www.un.org/sustainabledevelopment/>, last visited on 16 December 2022

² Section 14, *The Water Act*, 2013 (Act No. 14 of 2013)

³ 'Water pollution: how to protect our source of life', available at <https://www.iberdrola.com/sustainability>, accessed on 22 March 2021

⁴ A.U. Ahmed, *River Pollution: Concerns and Expectation*, Bangladesh Environmental Lawyers Association, BELA, Dhaka, 2009, p.144

⁵ H.A.M Sheikh, *Bangladesher Nod-nodi O Teerborti Janopad (in Bengali)*, ABOSAR, 46/1 Hemendra Das Road, Sutrapur, Dhaka-1100, 2016, p.14

⁶ M.A. Arefin and A. Mallik, *Sources and Causes of Water Pollution in Bangladesh: A Technical Overview*, BIBECHANA., 2017. Vol-15, pp. 97-112

again damaged.⁷ This unsafe surface water from lakes, ponds, wells, and rivers expose a variety of water-related diseases. The UNCED estimates that 80% of all diseases and more than one-third of deaths in developing countries are water-associated. Every year, hundreds of thousands of people, particularly children, die of various waterborne diseases.⁸

Right to life is a fundamental right⁹ and it includes among others, free from environmental hazards.¹⁰ Safe and affordable drinking water is fundamental human rights and without it people are unable to take the first step out of poverty.¹¹ Still today, 80 percent of global wastewater goes untreated, containing everything from human waste to highly toxic industrial discharges. It is important that actions to protect and restore water quality are linked to efforts to achieve the SDGs and the Post 2015 Development Agenda.¹² SDGs emphasize the need for accessible and well-managed water resources while international and municipal laws mandate preventing water pollution. Despite existing regulatory efforts, Bangladesh struggles to meet water-related SDGs, facing rising concerns about SDGs, water rights, and pollution. Notably, innovative research in this field is lacking, and governmental policies remain ineffective. This research addresses critical challenges in Bangladesh's water sector, identifying gaps in current regulations, and exploring national and international legal frameworks. By examining water pollution's current status and impact, this study aims to contribute through comparative legal analysis, striving towards SDGs attainment.

⁷ R. Faruque and Y.A. Choudhury, *Improving Water Resource Management in Bangladesh*, C. Anbiah 81275, Agricultural and Natural Resources Division South Asia-Department 1, the World Bank. 1996, p.52,

⁸ <https://press.un.org/en/2003/sgsm8707.doc.htm>, last accessed on 30 October 2023

⁹ Article 32, *The Constitution of the People's Republic of Bangladesh*

¹⁰ *Dr. Mohiuddin Farooque and other vs Bangladesh and others*, Writ Petition No. 891 of 1994, per ABM Khairul Haque, J at para 42

¹¹ See, <https://www.undp.org> and <https://www.eda.admin.ch/agenda2030/>, last accessed on 22 February 2022

¹² Deborah V. Chapman, *A Snapshot of the World's Water Quality: Towards a global assessment*, ISBN Number: 978-92-807-3555-0, *Executive Summary*, 2016, last accessed on 16 March 2023.

2. Statement of the Problem

The very nature of water pollution is both a relative and cumulative phenomenon, emphasizes the continuous, ongoing nature of the matter attempting to regulate it. Water pollution arises from industrial waste entering water bodies, disrupting aquatic ecosystems. Human activities, including improper waste disposal and using water for bathing and cooking, further degrade water quality. Acid rain compounds the problem. Depleted dissolved oxygen worsens pollution, often originating from soil pollution runoff. Bangladesh faces a dire situation with pollution surpassing limits, imperiling aquatic life and public health. About 1,176 industries discharge untreated waste, heavily polluting rivers daily.¹³ The acceptable level of arsenic in drinking water is 0.05 mg/L for Bangladesh but in some places, it is found more than 70 times higher than that standard.¹⁴

Groundwater pollution occurs when pollutants are released to the ground and make their way down into groundwater. It also can occur naturally due to the presence of a minor and unwanted constituent, contaminant or impurity within the groundwater, during which case it's more likely referred to as contamination rather than pollution. Before the invention of arsenic contamination in Bangladesh, groundwater would have been considered a safer source of beverage. Arsenic contamination of groundwater in Bangladesh is now considered the world's largest case of pollution. Arsenic is highly toxic in its inorganic form. Contaminated water used for drinking, food preparation and irrigation of food crops poses the greatest threat to public health from arsenic. Long-term exposure to arsenic from drinking-water and food can cause cancer and skin lesions. It has also been associated with cardiovascular disease and diabetes. In utero and early childhood exposure has been linked to negative impacts on cognitive development and increased deaths in young adults.¹⁵

¹³ JICA, 2012, available at <https://openjicareport.jica.go.jp>, last accessed on 07 October 2023

¹⁴ Bangladesh: State of the Environment, 2001, available at <https://doe.portal.gov.bd>, last accessed on 29 October 2023

¹⁵ See, <https://www.who.int/news-room/fact-sheets/detail/arsenic>, last accessed on 29 October 2023

Bangladesh is the ninth most polluted country in the world. Bangladesh is one of the countries with the most polluted water quality around the globe. Bangladesh receives water, 74% from trans-boundary, 24% from rainfall and 2% from groundwater.¹⁶ Over the past 20-30 years, 97% of people in Bangladesh have turned to getting their water from underground sources.¹⁷ Accessibility of drinking water in Bangladesh has increased over the last decade, and the adverse impact of unsafe drinking water on health continues.¹⁸ Groundwater quality is posing a great threat due to intensive use of natural resources and increased human activities.¹⁹ Main causes of pollution are industrial effluent (textiles, tanneries, pulp and paper mill, fertilizer), municipal waste, chemical fertilizer and pesticide, oil and lube spillage from sea and river ports.²⁰ Arsenic contamination in the groundwater is a common phenomenon of Bangladesh where about 57 million people in Bangladesh drink water containing arsenic and 9136 deaths per year due to arsenic related diseases.²¹ The quality of the water is crucial to the survival of millions of people in Bangladesh, though only 70% of the population now has access to safe drinking water.²²

Polluted water is the world's biggest health risk and continues to threaten both quality of life and public health in most of the countries of the world. Clean and plentiful water provides the foundation for prosperous communities. Clean water, constantly required for

¹⁶ Compendium of Environment Statistics 2009 by Bangladesh Bureau of Statistics, available at https://unstats.un.org/unsd/China_UNSD_Project, last accessed on 29 October 2023

¹⁷ See, www.hydratelife.org, last accessed on 29 October 2023

¹⁸ WHO, 2008. Guidelines for Drinking-Water Quality, 3rd ed. WHO, Geneva, Switzerland, available at www.who.int/publications, last accessed on 29 October 2023

¹⁹ H Nash, 'Groundwater Quality. Water Resources Bulletin', 2009. Vol. 28, no. 3, pp.525-533. The data given above is only available upto the given date, we couldn't find updated data from the source.

²⁰ Compendium of Environment Statistics 2009 by Bangladesh Bureau of Statistics, on 01 January 2010, available at bbs.portal.gov.bd/sites/default/files/, last acceded on 28 October 2023

²¹ Ibid

²² Millennium Development Goals (MDG: Bangladesh Progress Report, Feruary, 2005-GOB-UN, also available at Abdullah Al Faruque, *Environmental Law: Global and Bangladesh Context*, New Warsi Book Corporation, Dhaka, 2021, p. 395

survival, is still on the verge of crisis in Bangladesh. Drinking water quality in urban as well as in rural areas of Bangladesh is at high risk. Bangladesh is not only facing the problem of inadequate water supply but also a serious threat due mainly to the scarcity of safe water.²³ Quality of water indicates water acceptability for human consumption. Water quality depends on water composition influenced by natural processes and human activities. Water quality is characterized on the basis of water parameters (physical, chemical, and microbiological), and human health is at risk if values exceed acceptable limits.²⁴ Sustainable water quality is important for drinking, irrigation and domestic purposes. Groundwater quality has become a major concern in Bangladesh.²⁵ The central part of Bangladesh is facing the problem of declining water quality due to several reasons such as shifting of river natural direction, improper management of water bodies, climatic variability and anthropogenic activities. Arsenic contamination and mobilization into groundwater also affect the water quality in central Bangladesh.²⁶

Enhancing water security has been an international priority for the last several years. Through Millennium Development Goals (MDGs) and other efforts and SDGs the international community has given priority to the quantity side of water security by expanding the access of people to a safe water supply. The growing priority being given to water quality is reflected in various targets in the Sustainable Development Goals.²⁷ There are obligations in international and municipal law to prevent water pollution. Several laws and regulatory authorities are available to prevent water pollution of Bangladesh. The environment court and supreme court of Bangladesh gave several judgments to

²³ Morshed Hossan, et al, 'Supply Water Quality in Urban Bangladesh: A Case Study of Chittagong Metropolitan City', *Asian Journal of Water, Environment and Pollution*, Vol. 11, No. 4, 2014, pp. 27-38.

²⁴ Akter, et al, 'Water Quality Index for measuring drinking water quality in rural Bangladesh: A Cross-sectional Study', *Journal of Health, Population and Nutrition*, Vol.35, No. 4, 2016, PP.01-12

²⁵ <https://www.researchgate.net/publication/344284899>, last accessed on 29 October 2023

²⁶ Bodrud-Doza et al. Characterization of groundwater quality using water evaluation indices, multivariate statistics and geo-statistics in central Bangladesh. *Water science*, 2016, Vol. 30, pp. 19-40; also available at <https://doi.org/10.1016/j.wsj.2016.05.001>, last accessed on 28 October 2023

²⁷ *Ibid*,

prevent water pollution. Despite all the regulatory mechanisms, the water pollution situation is decreasing day by day and citizens of Bangladesh are losing their right to get pollution free water to save their life.

2.1 Methodology of the Article

International laws corresponding the Stockholm Conference, 1972; the Universal Declaration of Human Rights, 1948 and the Rio Declaration, 1992 emphasize the interplay among environment protection, human rights and sustainable development.²⁸ The SDGs offer a comprehensive framework for worldwide collaboration. Bangladesh's constitutional provisions reflect its commitment to safeguarding natural resources and citizens' rights.²⁹ Legal measures such as the Bangladesh Environment Conservation Act, 1995 and the Bangladesh Water Act, 2013 and concerned rules target water pollution prevention. The Environment Court and Department of Environment play crucial roles.³⁰ Identifying deficiencies in water-related laws, policies and regulations, this comprehensive legal analysis seeks to shed light on current state of water pollution, ramifications and a comparative study with SDGs.

3.1 SDGs, Water Rights, International Laws and policies regarding Water Pollution

Universal Declaration of Human Rights (UDHR), 1948 is not solely an environmental agreement, the UDHR recognizes the right to a standard of living adequate for health and well-being, which includes the right to a clean and safe environment. This declaration underlines the intrinsic connection between human rights and environmental protection.³¹ The United Nations Conference on the Human Environment, held in Stockholm in 1972. It marked a significant milestone in international environmental policy by acknowledging the importance of environmental protection, sustainable development

²⁸ <https://legal.un.org/avl/ha/dunche/dunche.html>, last accessed on 29 October 2023

²⁹ Article 18A of the Constitution of the Peoples' Republic of Bangladesh relate with Protection and improvement of environment and biodiversity

³¹ <https://www.un.org/en/about-us/universal-declaration-of-human-rights>, last accessed on 05 June 2023

including protection of water resources. The declaration highlighted the interconnectedness of environmental issues and the need for cooperation among nations to address global environmental challenges.³²

Rio Declaration on Environment and Development was adopted during the Earth Summit (UN Conference on Environment and Development) in Rio de Janeiro in 1992. It consists of 27 principles that guide sustainable development and environmental protection. The declaration emphasizes the rights of present and future generations to a healthy environment, as well as the importance of public participation, precautionary measures, and equitable development.³³ The Paris Agreement is an international treaty within the United Nations Framework Convention on Climate Change (UNFCCC). It was adopted in 2015 and aims to limit global warming to well below 2 degrees Celsius above pre-industrial levels, with efforts to limit it to 1.5 degrees. The agreement establishes a framework for countries to set and achieve nationally determined contributions to reduce greenhouse gas emissions and enhance climate resilience, that will impact on preserving water pollution.³⁴

The Sustainable Development Goals (SDGs) are a set of 17 global goals adopted by all United Nations Member States in 2015 as part of the 2030 Agenda for Sustainable Development. These goals aim to address a wide range of social, economic, and environmental challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice. The SDGs provide a comprehensive framework for international cooperation and development efforts. Improvement of water quality by reducing pollution, avoiding emissions, minimizing the release of hazardous chemicals and substances, halving the proportion of untreated wastewater and significantly increasing recycling and safe reuse within 2030 is a key concern of SDGs.³⁵ Bangladesh, like many other countries, faces

³² <https://www.un.org/en/conferences/>, last accessed on 06 May 2023

³³ <https://www.un.org/en/conferences/rio1992>, last accessed on 04 July 2023

³⁴ <https://unfccc.int/process-and-meetings>, last accessed on 07 September 2023

³⁵ <https://www.un.org/sustainabledevelopment>, last accessed on 16 December 2022

significant challenges in achieving SDG-6, particularly in preventing water pollution.³⁶

3.2. SDGs, Water Rights, Policies and Laws regarding Water Pollution Prevention in Bangladesh

The commitment of Bangladesh to environmental protection and sustainable development is reflected in the constitutional provisions. A legal foundation is provided for citizens and organizations to undertake actions against activities that might inflict harm upon the environment and natural resources, such as water resources. The environment, along with natural resources, including biodiversity, wetlands, forests, and wildlife, is intended to be protected and enhanced by the state for the well-being of present and future citizens. The right to life and personal liberty of citizens is guaranteed and enforced by the High Court. The state is engaged in endeavors to foster international peace, security, and cooperation, encompassing the addressing of environmental concerns.³⁷

The regulatory landscape for water pollution in Bangladesh underwent a series of transformations, commencing with the enactment of the Water Pollution Ordinance of 1970. This initial regulation was subsequently supplanted by the Environmental Pollution Control (EPC) Ordinance of 1977, which primarily aimed at preventing pollution. Though, the EPC Ordinance underwent repeal in 1995, giving way to the Bangladesh Environment Conservation Act of 1995. This legislative shift signified a reorientation towards a broader focus on environmental conservation and pollution control. In addition to these pivotal legislations, several other laws contribute to the regulatory framework governing water-related issues in Bangladesh. These include the Inland Water Transport Authority Ordinance 1958, the Removal of Wrecks and Obstructions in Inland Navigable Water Ways Rules of 1973, the Water Supply and Sewage Authority Act of 1996, Bangladesh Water Development Board Act of 2000, the Water Resources Planning Act of 1992, the Wetland Protection Act of 2000, the Management of Groundwater for Agricultural Use Act of 2018 and

³⁶ <https://www.un.org/sustainabledevelopment/>, last accessed on 06 June 2023

³⁷ Article 18A, 32 and 44 of the Constitution of Peoples Republic of Bangladesh

the Water Act of 2013. These legal instruments collectively form the comprehensive legal architecture aimed at addressing various facets of water management and pollution control in the country.³⁸

The institutional structure of Bangladesh is characterized by 40 ministries or departments overseen by the Prime Minister's Office and the Cabinet Office. The uniqueness of Bangladesh's administrative action is demonstrated by the Committee on Monitoring and Implementation of SDGs by the office of the Prime Minister. The SDGs required an assessment and funding strategy indicating that \$928.48 billion in additional resources will be required for the complete implementation of the SDGs from 2017 to 2030. Funding this supplementary amount can be perceived as a formidable challenge not only within the SD regime but is also a commonly encountered situation in other universal multilateral funding ecosystems.³⁹ Human rights and international environmental law are intrinsically linked to the idea of sustainable development. SD restates constitutionalism and states a developmental objective. Bangladesh must align its legal framework and policies with both the SD aim and international environmental law.

4. Categories of Water Pollution in Bangladesh

Bangladesh is one the severely environmentally affected countries of the world. Water pollution in Bangladesh is a common phenomenon. The water supplied by concerned authorities in major cities i.e. Dhaka, Chittagong, Rajshahi is undrinkable. Water pollution is exceeding the limit in most of the water sources and has become a great threat to the survival of aquatic species. Water pollution, including pollution of both the marine and freshwater especially water of the river which highlighted that the water of Bangladesh should immediately be conserved. Water pollution of Bangladesh may be divided into three

³⁸ <http://www.doe.gov.bd/site/page>, last accessed on 06 June 2023

³⁹ Shahabuddin Mohammad et al. 'Bangladesh and International Law' in Siddique Md. Abu Bakar (ed.) *Sustainable Development*, Routledge, London and New York, 2022, pp. 171

categories, such as- (i) Surface Water Pollution i.e. Pollution of river water, (ii) Pollution of marine water and (iii) Groundwater pollution.⁴⁰

4.1 Surface Water

Oceans, lakes, rivers, and all the other blue areas on the globe map is surface water, which makes up almost 70% of the planet's surface. Surface water from freshwater sources (i.e. sources other than the ocean) accounts for more than 60% of the water supply to households in the United States. But a significant portion of the country is at risk. Although plants and animals need these nutrients to grow, they have become a major pollutant due to agricultural waste and fertilizer runoff. The discharge of municipal and industrial waste also contributes most of their toxicity. There is also all the random waste that industry and individuals dump directly into waterways.⁴¹ Floodplains, lakes, ponds, and rivers are Bangladesh's main sources of surface water. The rivers are being contaminated by the widespread discharge of hazardous and untreated industrial waste. The overuse of agrochemicals is another factor contaminating surface water.⁴²

4.1.1 River water pollution

Bangladesh is a riverside country. The river is the most important water source in Bangladesh. But these rivers pollute day after day. Bangladesh's rivers are the worst victims of pollution. In particular, the rivers in Dhaka city district are heavily polluted. Rapid and unplanned urbanization, industrialization, brick factories, dyeing plants, tanneries are encroaching on the river. Slum dwellers use unsanitary open-air latrines and wash clothes; Even cows and goats bathe in the river. Toxic waste is dumped into rivers because most industries do not have wastewater treatment plants. According to an industry survey conducted by Bangladesh Center for Advanced Study (BCAS) in 2009, only about 40% of industries have Environment Treatment Plant (ETP). In 10% of industries, ETPs are under construction and about 50% of industries do not have ETP facilities. That means more than 50% of the waste discharged by industries goes into the river without any

⁴⁰ www.thedailystar.net/environment/pollution, last accessed on 07 August 2023

⁴¹ *Ibid*

⁴² Abdullah Al Faruque, *Environmental Law: Global and Bangladesh Context*, New Warsi Book Corporation, Dhaka, 2021, p. 40

treatment. Some rivers are used by farmers to rot the jute. Oil spills on boats and various watercraft.⁴³ Rivers have been the primary sources of fish production in Bangladesh since the beginning of time.

The use of pesticides by farmers is also a cause of river pollution. Due to river pollution, the dissolved oxygen levels in the water of many rivers have reached deadly levels. Due to the excessive discharge of pollutants during the rainy season, agricultural land becomes polluted, loses its ability to grow crops and is therefore not used year-round. Sometimes pollutants enter the food chain and eventually kill birds, fish, and mammals. According to the United Nations Scientific Committee on the Effects of Atomic Radiation in 2000 (UNSCEAR), the normal radiation risk level from radiation is 0.5. The scientists in their study received 0.6507 for external radiation risk and 0.82 for internal radiation risk. The pollution was so severe that almost no aquatic life could stand it and eventually dead fish were found floating on the river's surface. These dead fish decay gradually and contribute greatly to the pollution of river water. Because jute vegetables are rotting in river water, river water quality is getting worse and worse, aquatic organisms die due to lack of oxygen. Industrial pollutants such as lead, cadmium, iron, copper, and organic waste from leaky sewage systems can accumulate in rivers. Called bioaccumulation, this process can seriously affect water quality and species survival. More importantly, the bioaccumulation of metals in fish, crabs and other edible aquatic species can lead to health problems down the food chain. In addition, it can destroy water aeration systems, the self-cleaning process of rivers.⁴⁴ These polluted river water supply has obvious consequences on public health and drinking contaminated water is a primary cause of mortality in Bangladesh.

4.2 Marine Water Pollution

The term 'marine' is most frequently associated with seas and oceans. It may thus reflect water that contains high salt concentration like in seas and oceans. Marine portrays a deeper sense; much deeper than sea or ocean. A mere sea is a large stretch of salty water, but marine environment comprises the sea water fishes and other organisms that thrive in the depths of the water, totally lacking the warm touch of the

⁴³ <https://fairbd.net/water-pollution>, last accessed on 07 August 2023

⁴⁴ <https://www.fao.org/3/i7754e/i7754e.pdf>, last accessed on 07 August 2023

sun. Impacts of climate change on marine water are a burning issue in all over the world while pollution through many other activities should be focused. Due to the continued high level of CO₂ emissions in the atmosphere, seawater chemistry is changing which is causing it to be more acidic. Ship breaking activities near by the coast and in the marine water also worsen the condition. Accidental or deliberate, operational discharges and spills of oil into the water are the most obvious and visible causes of pollution of the marine environment.⁴⁵ Wastes are discharged into the sea can negatively affect biodiversity, food and human health. Marine water pollution is part of international law and it can not be covered by municipal law.

4.3 Groundwater Pollution

Groundwater pollution is also known as groundwater pollution. This occurs when pollutants are released into the soil and enter groundwater. It can also occur spontaneously due to the presence of an undesirable minor component, contaminant or impurity in the groundwater, in which case it is more likely to be termed as contamination, rather than pollution. Although groundwater is not directly exposed to surface polluting activities, many natural and man-made activities cause groundwater pollution. Several physical, chemical and biochemical processes alter the properties of groundwater by adding new elements or increasing existing concentrations. Before the discovery of arsenic contamination in Bangladesh, groundwater was considered a safer source of drinking water. Arsenic contamination in groundwater in Bangladesh is currently considered the largest case of water pollution in the world. Groundwater in Bangladesh is also contaminated from several man-made and natural sources. The most common man-made sources are infiltration of industrial and municipal wastes dumped into the ground or into surface water. In addition, saline intrusion or seepage contaminates groundwater. Extensive use of agrochemicals can lead to groundwater contamination. Leaking sewers, septic tanks or toilets also contaminates groundwater.⁴⁶ The significant factor contributing to water pollution in Bangladesh is considered to be groundwater contamination and its impact on human health.

⁴⁵ <https://www.usgs.gov/faqs/why-ocean-salty>, last accessed on 28 October 2023

⁴⁶ <http://en.banglapedia.org/index.php?>, last accessed on 07 August 2023

Rain falls and penetrates deep into the ground, filling the cracks, crevices and voids of the aquifer becomes groundwater, one of the richest natural resources. The least visible but the most important. Some people in the southern countryside, it is their only source of fresh water. Groundwater becomes contaminated when contaminants from pesticides and fertilizers, leached waste from landfills and septic systems enter the aquifer, rendering it unsuitable for its intended use. human. to use. Removing contaminants from groundwater can be difficult and expensive. Groundwater can also spread contamination away from the original source of contamination as it seeps into streams, lakes, and oceans.⁴⁷ Bangladesh ought to establish a workable and adaptable set of laws and guidelines to stop and lessen groundwater contamination.

5. The Role of Regulatory Authority and Judiciary to Prevent Water Pollution and Achieve SDGs

The main causes of failure to prevent water pollution stem from weak regulatory i.e. Department of Environment (DoE). The institutional frameworks as well as poor management conditions in water resource management. The legal and institutional framework, which defines both fundamental rights and the right to drinking water, must be clearly defined and properly applied to control water pollution. The requirement of good governance in water resource management is very important to prevent water pollution. In Bangladesh, there are few laws on preventing water pollution. Furthermore, they are not implemented effectively due to inadequate institutional measures and lack of adequate governance, bureaucratic decision-making processes, corruption and poorly defined responsibilities of the authorities in charge. prevent water pollution. Currently, water pollution is treated within the broader framework of environmental protection legislation. In Bangladesh, there is no separate regulatory body to control water pollution. Considering the seriousness of the water pollution problem in Bangladesh, it is necessary to have a separate legal and institutional framework to address the water pollution problem comprehensively. Measures to prevent water pollution face problems such as inadequate institutional structure; lack of human resources, limited autonomy and lack of adequate management. Existing laws are also not properly enforced due to lack of enforcement mechanisms, weak criminal sanctions, lack of detail on offenses, and complex complaint

⁴⁷ *Ibid*

procedures. An effective regulatory framework to protect water quality should make full use of policy instruments, including regulation, voluntary measures, market-based tools and information.⁴⁸

The Supreme Court of Bangladesh under the writ jurisdiction on the petition of the Human Rights and Peace Foundation on the degradation of the Turag River, issued 17 guidelines to save rivers and regions water from contaminated and invaded land. In the ruling, the court ordered the The National River Conservation Commission (NRCC) to remove those responsible for the appropriation and contamination of river land from contesting any ballots. The court declared the river to be a living entity, which means that the river is a legal person, a legal person. The court said in its ruling that rivers have their own identity and must be protected. The Court also found that the National Commission for the Protection of Rivers should be empowered to take action *suo motu* rather than simply reporting to the government and awaiting orders. The court recognized the important role rivers play in sustaining human habitation and called for strong action against the criminal syndicates involved in appropriating the river.⁴⁹ Prevention of water pollution and achievement of SDGs is a challenge through regulatory authority inactiveness and petition-based imposition of higher court jurisdiction.

6. Suggestions

A comprehensive examination of existing international and municipal legal obligations related to water pollution in Bangladesh requires proper application. The effectiveness of regulatory bodies and landmark court decisions may be evaluated to identify areas where legal frameworks can be strengthened for better alignment with the SDGs. The existing governmental strategy concerning water pollution in Bangladesh needs investigation, and the coherence of policies with the SDGs may be examined to highlight any gaps or inconsistencies. A comparative analysis of water pollution in Bangladesh against international benchmarks and best practices may be conducted, categorizing areas where Bangladesh falls short or excels in comparison to global standards. This comparative perspective can offer

⁴⁸ <https://www.un.org/esa/sustdev/sdissues/water/BonnConferenceReport.pdf>, last visited on 7 August 2023

⁴⁹ Human Rights and Peace for Bangladesh (HRPB) VS. Bangladesh Writ Petition No. 13989 of 2016, also available at Abdullah Al Faruque, *Environmental Law: Global and Bangladesh Context*, New Warsi Book Corporation, Dhaka, 2021, p. 404

valuable insights into areas of improvement and potential strategies for aligning national efforts with international expectations. The role of community engagement and awareness in addressing water pollution challenges needs exploration. Strategies to enhance community involvement, education, and awareness are needed to improve water quality and achieve the SDGs. A comprehensive health impact assessment related to water pollution in Bangladesh and the consequences of waterborne diseases such as cholera and typhoid needs to be assessed. The role of public-private partnerships in water management and pollution control needs assessment. Successful case studies from other regions will be examined, and their applicability to the Bangladeshi context needs evaluation. Addressing these aspects may defend a comprehensive interplay between water pollution, Sustainable Development Goals, and the challenges faced by Bangladesh.

6. Conclusion

The challenges posed by water pollution and its profound impact on sustainable development, particularly in the context of Bangladesh, underscore the urgent need for comprehensive and effective measures. The Sustainable Development Goals (SDGs) stand as a beacon of hope and a roadmap toward a future where clean and accessible water is a reality for all. However, the path to achieving SDG 6 remains fraught with obstacles, especially in nations like Bangladesh, where the confluence of geography, population density, and socio-economic factors amplifies the gravity of the issue. Bangladesh's struggle with water pollution is a stark reminder of the complex interplay between industrialization, urbanization, and environmental health. The contamination of vital water sources, both surface and groundwater, poses a dire threat to public health, perpetuating a cycle of waterborne diseases that disproportionately affect vulnerable populations, particularly children. The staggering statistics of water-related deaths and the toll these diseases take on communities underscore the urgency of this challenge.

While international and municipal laws, including the efforts of regulatory bodies and judicial interventions, aim to curb water pollution, the existing framework faces limitations in addressing the scale and complexity of the issue. The need for innovative research and strategic policy formulation is evident, as it is crucial to bridge the gap between the existing legal mechanisms and the ground realities of water pollution in Bangladesh. This research paper serves as a critical

step toward understanding the multifaceted dimensions of water pollution and its implications. By identifying weaknesses in current water-related laws, policies, and regulations, and by conducting a comparative legal analysis within the national and international contexts, this study sheds light on the pathways that can lead to effective change. Moreover, it emphasizes the inextricable link between water quality and the broader spectrum of sustainable development goals, emphasizing that the attainment of clean water is not only a fundamental human right but a catalyst for poverty alleviation and overall societal well-being. In this pursuit, the research not only exposes the gravity of the challenge but also offers a ray of hope. By highlighting the gaps in the legal framework, this paper catalyzes the discourse surrounding water pollution, galvanizing stakeholders to collectively strive for meaningful change. It underscores the imperative of integrating actions to protect and restore water quality with the overarching goals of sustainable development, urging governments and international bodies to recognize the urgency of their interconnectedness. The implications of this research extend far beyond the pages of this paper, resonating with the heart of the SDGs' aspiration for a sustainable future. As we collectively navigate the complex water policy, regulation, and environmental stewardship, may this research serve as a catalyst for informed action, guiding us toward a future where the right to clean water is not just a promise, but an attainable reality for Bangladesh.