

Laws Regulating Water Pollution in Bangladesh

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Abstract Water pollution is not only the problem of Bangladesh but also a global problem. Due to its geographical location, Bangladesh experiences water abundance in the wet season and lack in dry season. Environmental issues have become major concerns due to impact on public health and development of Bangladesh. Water pollution in Bangladesh is amplified by population growth, poverty, urbanization, industrialization, poor sanitation, excessive use of pesticides and fertilizers in agriculture, inefficient solid waste management and lack of consciousness. Dhaka city is one of the most polluted cities in the world. Department of Environment (DoE) is the main institution in Bangladesh to address water pollution issue. Legislation directly or indirectly related to protection of water pollution is present in Bangladesh. The study evaluated existing environmental laws regulating water pollution and practice in Bangladesh. This study reveals that compliance and enforcement or implementation of these legal frameworks is not satisfactory, resulting in continuing adverse impact. The study uses academic research to articulate a comprehensive solution to the problems through better regulatory and institutional regime changes and its proper application. It concludes with suggestions for effective regulatory measures to control water pollution in the country.

Keywords: water pollution, environmental law, industrialization, Bangladesh

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1. Introduction

Bangladesh is richly endowed with water resources on an annual basis, with an elaborative network of rivers criss-crossing the country. Bangladesh has now 310 rivers [1,2]. Bangladesh receives an average 2300mm rainfall annually, but the availability is characterized by wide seasonal as well as spatial variability [3]. There are about 1,288,222 ponds and about 10,000 *haors* (Extended depression between the levees of a river; saucer shaped with a deep central part with is perennial), *baors* (Water body similar to an oxbow lake) and *beels* (Low-lying depression on the flood plain that generally retains water throughout the year) in Bangladesh (Banglapedia: A National Encyclopedia of Bangladesh). In addition to these groundwater and coastal water are the sources of water resources in Bangladesh. Groundwater is conventionally available in aquifers spread all over the country, from a depth of few meters to about 20 meters below the surface. In Barind areas, it may be 35 meters to a few hundred meters deep [4]. Coastal water comprises series of estuaries and coastal lowlands. Despite the abundance of surface water, there has always been the question of quality. The surface water sources are being misused as a sink for highly polluting wastewaters from domestic as well as industrial sources. Bangladesh

positions at number 86 among 142 countries with respect to drinking water quality [5]. Drinking water sources, both surface and groundwater are debased with coliforms, harmful metals and pesticides all through the nation. Different drinking water quality parameters set by WHO are every now and again damaged. A few researchers worked on water resource development, water management, water policy, flood control policy and water governance in Bangladesh such as [6-10].

This unsafe surface water from lakes, ponds, wells and rivers expose a variety of water-related disease. The UNCED estimates that 80% of all disease 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. Water pollution has been happening in all places both urban and rural in Bangladesh. The development of brickfields around the city, the presence of tanneries that dump chemical waste into water bodies, river grabbing, and growing industries around the city, are contributing to the water pollution. The dumping of municipal wastes, hospital wastes and toxic environmental discharges from mostly industries pollute both surface and ground water sources. The water resources of Bangladesh become a major health hazard due to arsenic contamination. Bangladesh is agriculture based country. Pollution is also caused silently and widely by the use of fertilizers and pesticides in agriculture. Bangladesh has environmental

laws. But environmental degradation and water pollution are still great threat to present and future generation. The objectives of the study are to discuss the sources of water pollution in Bangladesh. To discuss existing environmental laws in Bangladesh combating water pollution and identifying lacuna thereto. Finally, to suggest effective regulatory measures to control water pollution in Bangladesh.

2. Materials and Methods

This study examined the law and practices as regards water pollution in Bangladesh. The study is a secondary evaluation of existing environmental laws regulating water pollution in Bangladesh. The secondary literature and instrument, statutory and case law, relevant public records, available statistical data, reports of various NGOs, opinion of experts were reviewed and incorporated to complete the study. Purposive sampling method was used to carry out this segment.

2.1. Study Area

Water related main legislations are applicable to whole Bangladesh. Therefore, out of the total 64 districts, Rajshahi, Kurigram, Sylhet, Natore, Bagerhat, Dhaka and Bandarban (Seven districts) representing barind western, barind northern, haor/baor, beel, coastal, plain land and hill tract area respectively were selected (Figure 1).

3. Results and Discussion

3.1. Water Governance Bodies and Institutions in Bangladesh

Water resources institutions are to implement public water plans for the development of infrastructure, the monitoring of water regimes, and the enforcement of regulations. Water Act 2013 and different existing legislations have facilitated implementation and institutional functioning of the institutions connected to water resources management in Bangladesh.

The development of institutions and organizations affecting water resources management in Bangladesh can be traced to the 1950s. At that time, the East Pakistan Water and Power Development Board Authority was formed and given authority to manage water in East Pakistan, what was to eventually become Bangladesh. After the independence in 1971, the Board was abolished and the Bangladesh Water Development Board was created in 1972, which became the principal agency for managing water resources and controlling flood, drainage and irrigation projects. After 1972, a number of government agencies, NGOs and other private organizations either emerged or engaged in water development projects in Bangladesh.

Currently, 13 different ministries along with 35 government organizations have been identified which are entrusted with the task of developing Water Resources Management in Bangladesh. The main agencies and their main area of responsibilities are as follows (Figure 2).

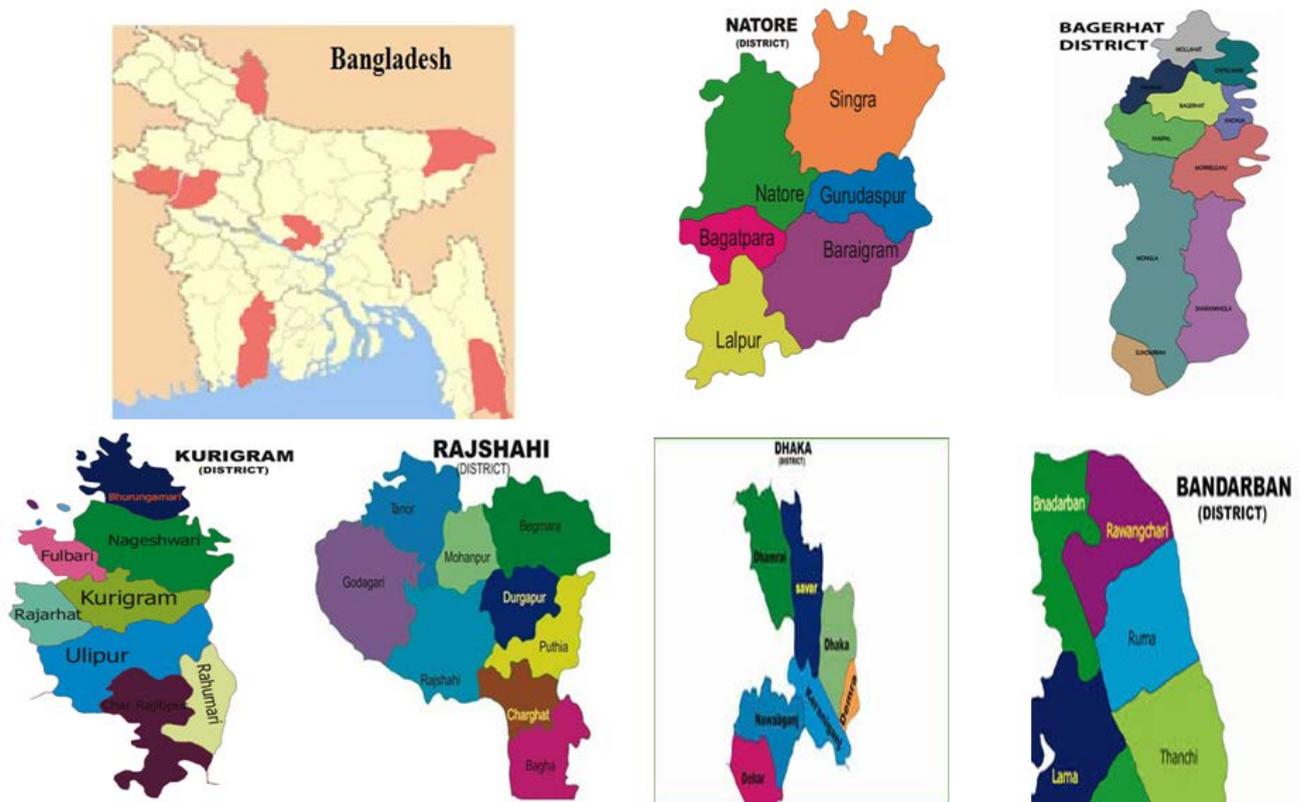


Figure 1. Selected study areas of Bangladesh

WATER GOVERNANCE BODIES & RELATED INSTITUTIONS IN BANGLADESH

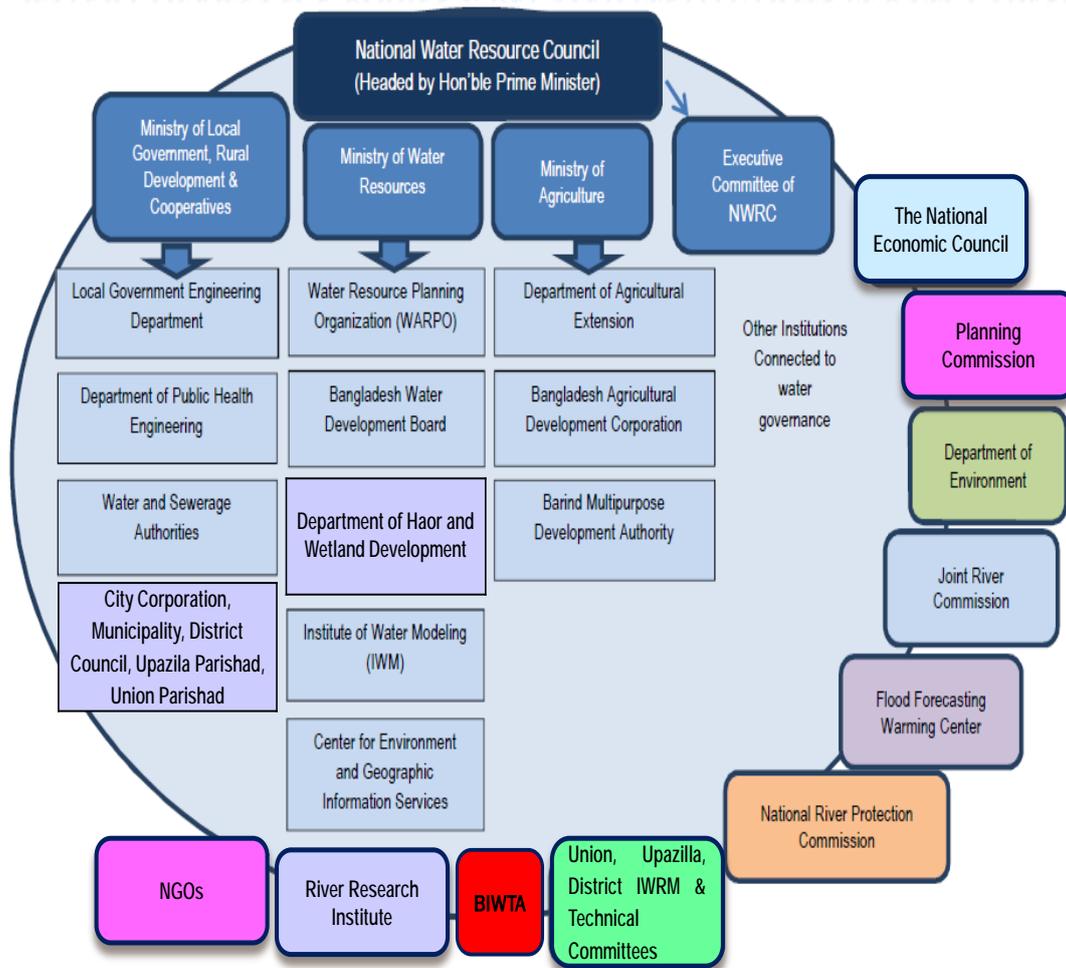


Figure 2. Water governance responsible institutions in Bangladesh

3.2. Main Sources of Water Pollution

3.2.1. Industrial Waste and Effluent

Industrial nodes in the country are mostly located the banks of the rivers, and the industrial units discharge their effluents directly into the rivers or nearby water bodies without any treatment. The most polluting industries are textiles, paper and pulp, chemicals/pharmaceuticals, food processing, cement and leather tanning are the main source of water pollution in Bangladesh. In central Bangladesh, the waters of the Buriganga, Balu, Turag and

Sitalakhya river are severely polluted by industrial liquid waste. The water quality of these rivers are so degraded that they are completely unusable for any domestic purposes, particularly in the dry season. The National Water Policy 1999 of Bangladesh, Environment Conservation Act 1995, Environment Conservation Rules 1997 have highlighted the effluent discharge problem as a critical water management issue, and has set broad guidelines to prevent water pollution caused by industries.

Region-wise number of industrial establishments and polluting industries are shown in the following table:

Table 1. Region-wise number of industrial establishments and polluting industries

Region	No. of Establishments	Textiles, apparels & Tanneries	Paper, paper products & Printing	Chemicals, plastics & petroleum	Non- metallic mineral manufactures
NW	4,403	545	113	181	360
NC	12,133	4,093	707	1242	733
NE	1,120	55	20	47	132
SE	2,518	346	68	83	549
SC	1,408	132	29	80	160
SW	849	72	39	42	199
Total	24,937	5,718	1078	1903	2359

NM: North West, NC= North Central, NE=North East, SE=South East, SC=South Central, SW=South West
Source: Main Source: Islam, 2011; Updated data by Authors 2014-2017.

Above [Table 1](#) shows the numbers of polluting industries in different regions out of the total industries in Bangladesh.

3.2.2. Inadequate Sanitary Facilities

Inadequate sanitation facilities pose a serious environmental threat in Bangladesh.

3.2.3. Groundwater Pollution

Groundwater in Bangladesh is also polluted by a number of anthropogenic and natural sources. The most widespread anthropogenic sources are the infiltration of industrial and urban wastes disposed on the ground or in surface water bodies. Also intrusion or infiltration of saline water contaminates groundwater. The arsenic contamination of ground water has become a major disaster for Bangladesh. About 80 million peoples are at a risk of arsenic contamination [11].

3.3. Environmental Laws of Bangladesh Regulating Water Pollution

The *National Water Policy (NWPo)* adopted by the MoEF describes principles and directions for water planning and utilization towards fulfilling the national goals of the entire population, as well as the protection of the natural environment. In line with international legal developments, Bangladesh has promulgated policies and enacted legislations as a framework for the protection of inland water resources from pollution. The *Constitution of Bangladesh* does not explicitly provide for the right to a healthy environment, but Article 31 and 32 set out the fundamental 'right to life' and the Supreme Court, the interpreter of the Constitution, has liberally interpreted the constitutional 'right to life' as extending to the right to a safe and healthy environment⁴⁷ and, including anything that affects life, public health and safety.

Legislation for the control, prevention and abatement of water pollution in Bangladesh dates back to the East Pakistan *Water Pollution Control Ordinance 1970*, which was replaced by the *Environmental Pollution Control Ordinance 1977* and is considered the first regulatory legislation of this kind of the country. The government revised the old laws by enacting the *Bangladesh Environment Conservation Act 1995* [12,13]. Although various legislations have been enacted to deal with inland water pollution, the question remains as to their implementation due to inadequate legal provision and institutional weaknesses.

The Ministry of Environment and Forest (MoEF) was established in 1989 to address the emerging environment-related issues, and the government of Bangladesh started to enact environmental laws in response to the national conservation strategy. The Department of Environment (DoE) of the MoEF in Bangladesh has a mandate to regulate and enforce environmental regulations, including regulations for the control of inland water resources. However, in most cases the service of DoE remains limited to issuing toothless cautionary notices.

The Ministry of Water Resources (MoWR) is the apex body of the government of the People's Republic of Bangladesh for the development and management of the

water resources of the country. The Ministry also has an implementing arm called the Bangladesh Water Development Board (BWDB). According to Water Act 2013, Water Resources Planning Organisation (WARPO) is the main institution involved in water resource management. This institution is responsible for national water planning, monitoring, formulation of water legislation and regulations, inter-sectoral coordination of water plans and for maintaining the central data system.

The *National Environment Policy (NEP)* was formed in 1992 and emphasizes the need for the ratification of relevant international documents.

Legislation directly or indirectly related to protection of inland water pollution is present in Bangladesh.

3.3.1. The Constitution of Bangladesh

The Constitution of People's Republic of Bangladesh (hereinafter the Constitution) has been amended 16 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).

3.3.2. Water Resource Planning Act, 1992

This Act was enacted on 30th January 1992, with a view to develop water resource and equitable usage thereof. Under sections 3 and 4 of this Act the Water Resource Planning Organization is to be created having its head office in Dhaka. The main function of the Organization are detailed in section 7 and consists of promulgation of plan relating to development of water resource and development of national policy regarding scientific use and preservation of water resource amongst others. This Act repealed the Water Resource Planning Ordinance, 1991.

3.3.3. The Territorial Water and Maritime Zones Act 1974

Section 6 (Conservation Zone) - the Government may declare such zone in marine water. This act provides for the declaration of the territorial waters and maritime zones. This act describe about territorial waters, contiguous zone, economic zone, conservation zone, continental shelf, control of pollution and power to make rules. The government may with a view to preventing and controlling marine pollution and preserving the quality and ecological balance in the marine environment in the high seas adjacent to the territorial waters, take such measures as it may deem appropriate for the purpose. *But voice and choice, gender issue, civil society participation, corruption, transparency and accountability are not clearly spelled out in this act.*

3.3.4. The Agricultural Pests Ordinance, 1962

This Ordinance was passed to provide for the prevention of the agricultural pests in Bangladesh. According to section 2(b), "agricultural pest" means a pest, insect or weed mentioned in the Schedules I, II, III and IV to this Ordinance; and as per section 2(d), "crops" include all

agricultural or horticultural crops and all trees, bushes or plants. Section 2(f) defines “Inspector” as an officer appointed under this Ordinance to perform the functions of an Inspector. Government may, by notification in the official Gazette, prohibit-(a) the employment of such methods of cultivation as held the spread of agricultural pests either generally or with respect to any particular crop and (b) the transport or sale of any infested crop. Every occupier of land in which any crop is cultivated shall be bound to carry out the preventive measures as may be prescribed in respect of such crop.

Whoever contravenes the provisions of section 3 shall be punished for a first offence with fine which may extend to five hundred taka, and for every subsequent offence with imprisonment which may extend to three months or with fine which may extend to one thousand taka or with both.

This Ordinance does not contain any provision for community consultation. Though it addressed environment pollution issue but it has no coordination with subsequent main legislation (Environment conservation Act 1995) regulating environment pollution.

3.3.5. Bangladesh Environment Conservation (ECA) Act, 1995 (Amended in 2010)

The Act is dedicated to the “conservation, improvement of quality standards, and control through mitigation of pollution of the environment” (Environmental Conservation Act 1995). The 1997 The Bangladesh Environmental Conservation Act passed in 1995, for the conservation of environment, improvement of environmental standard and control and mitigation of pollution of environment, the DG may give direction for the closure, prohibition or regulation of any industry [Section 4(3)].

Other important features of this Act are as follows:

- First to address the environment in a comprehensive way, establishment of the Department of Environment (DoE), Environmental Clearance Certificate, power to make Rules, legal action, providing substantive and procedural provisions and declaration of ecologically critical area
- No Industrial unit or project shall be established or adopted without obtaining environmental clearance from DoE (Section 12)
- For the conservation of environment, improvement of environmental standard and control and mitigation of pollution of environment, the DG may give direction for the closure, prohibition or regulation of any industry [Section 4(3)]
- Penalty for non-compliance with such direction is imprisonment not exceeding 10 years or fine not exceeding 10 lakh taka or both (Section 15)

3.3.6. The Environment Conservation Rules (ECR), 1997

The Environment Conservation Rules was formulated in exercise of the powers conferred by section 20 of the Bangladesh Environment Conservation Act, 1995 (Act 1 of 1995), 1997 clearly describe the declaration of ecologically critical area, procedure for issuing environmental clearance certificate, pollution under control certificate, determination of environmental

standards, application relating to pollution or degradation of environment, procedure for hearing of appeal, various services and their fees *etc.* It sets the Environmental Quality Standards (EQS) to control quality of air, water, noise, emissions and discharge. Projects are categorized into four classes (Green, Orange-A, Orange-B and Red) according to their potential threat and impact to environment.

3.3.7. Criticism of ECA 1995 and ECR 1997

This Act emphasized on mainly industrial pollution instead of looking water quality, safety and pollution caused by other than industrial entities. Climate change and its potential impacts are not taken into account and have not been incorporated into the planning, management and use of water resources which is an important issue for water resource management. The Act and rules highlight the need to conserve the environment from pollution and particularly in the development of water management through determining various water standards, but this act does not clearly point out about user community participation in environmental management. Implementation of the act is the responsibility of the Department of Environment (DoE) under Ministry of Environment & Forests. But DoE has office in 23 districts only. Moreover it has serious lack of manpower. There is no provision in the Bangladesh Environment Conservation Act 1995 to make institutional coordination between DoE and WARPO or other water agencies.

3.3.8. Environment Court Act, 2010

In 2010 the Environment Court Act, 2010 has been passed and the Act of 2000 has been repealed. The present Act is aimed to establish one or more Environment Court/s in each district & to establish Environment Appellate Court. It defines the jurisdiction of the Environmental Court for trial of offence or for compensation under environmental law (ECA 1995). The enacted ECA and ECR did not appear to be suitable for traditional Court (*Adalat*) system in Bangladesh where huge number of cases needed to be disposed in quick time. Guiding legislations: ECA 1995, ECR 1997, The Code of Civil Procedure 1908, The Code of Criminal Procedure, 1898, Penal Code 1860.

3.3.9. Salient Features of the Environment Court Act

- Environment court constitutes one Judge of the rank of Joint District Judge.
- Provides for the establishment of one or more Special Magistrate Court/s with the Magistrates of the first class or Metropolitan Magistrates in each District to deal with offences punishable with less than 5 (five) years imprisonment or 5 (five) lac taka as fine or both
- DG, DoE can file the case directly with the special magistrate’s court or file a complaint with the police station under criminal procedure.
- DG, DoE or anyone directed by the court can enter any place for inspection, search, collect evidence or seizure.
- Investigation carried out by an Inspector or any officer subordinate to the DG, DoE. He will have the same powers as an OC of a police station.

3.3.10. Jurisdiction of the Environment Court and Special Magistrate Court

- Trial of offence or for compensation under environmental law.
- Can impose penalty for offences under any environmental law, to confiscate equipment or a transport used in the commission of such offence or an article or other thing involved with the offence, and to pass order or decree for compensation in appropriate cases.
- Can only take cognizance of an offence or receive any suit for compensation on the written report of an Inspector or any other person authorized by the Director General.

3.3.11. Weaknesses of Environmental Court Act

- Only entitled to dispose cases under ECA 1995 and Brick Kiln Control Act 2013 and ignores other environmental laws prevailing in the country.
- This Act has not recognized the common people's right of access to Environment Courts directly. Where Sec. 17 of the Bangladesh Environment Conservation Act, 1995 says that, where a person or a group of persons or the public suffers loss due to violation of a provision of this Act or the rules made there under that person, group of persons, the public or the Director General on behalf of that person, group of persons or the public may file a suit for compensation before the Environment Court; but Sec. 7(4) of the Environment Court Act, 2010 imposes a bar that, no Environment Court shall receive any claim for compensation under environmental law except on the written report of an Inspector of the Department of Environment (DoE). Even Sec. 6(3) of the Environment Court Act, 2010 says that, no Special Magistrate Court shall take cognizance of an offence except on the written report of an Inspector of DoE. There is an exception of this provision which is more complicated; that is, if the Environment Court/Special Magistrate Court is satisfied that a person presented a written request to the said Inspector to accept a claim for compensation/ a complaint and no action was taken within 60 (sixty) days after such request, and that such claim/ complain deserves to be taken into cognizance for the purpose of trial, then the Court may, after giving the Inspector or the Director General a reasonable opportunity of being heard, directly receive the claim for compensation/ complain without such written report, or may, if it considers appropriate, direct the said Inspector to investigate the claim/offence. So it is clear that the common people have no right to file a suit in the Environment Court directly. Too much dependent on the executive bodies of the government rather than judiciary.
- No provision for appeal to higher courts such as High Court Division and Appellate Division of the Supreme Court of Bangladesh (deviation from the conventional legal system).
- Number of environmental courts currently not sufficient.

3.3.12. Cases in Environment Court

Under the Environment Court Act, 2000 (Amended 2010) the government established three Environmental Courts in Dhaka, Chittagong and Sylhet divisions and an Environment Appellate Court in Dhaka. The environment court was introduced to hear cases concerning environmental pollution under ECA 1995. There are high numbers of incidents as regards water and other environmental pollution all over the country, but cases are not frequently filed to avail legal remedy. The numbers of cases filed in the Environment courts in last seven years are mentioned below.

Table 2. Number of cases filed in the Environment Court in last 7 years

Year	Dhaka		Chattogram	
	Filing	Disposal	Filing	Disposal
2012	24	14	18	1
2013	9	3	16	4
2014	9	1	28	0
2015	8	2	4	3
2016	4	1	19	3
2017	6	1	25	1
2018	17 (10 th October)	0	25 (6 th August)	0

The only Environment Appellate Court of the country situated at Dhaka starts its journey from 2005. Till November 2018, total 51 appeals have been filed in this court. No appeal was filed in the year of 2015. Only 4 appeals in the year of 2016 and 4 appeals in 2017 were filed. No appeal in the year 2018 (till November) has been filed yet in the said Court. Now 7 cases are pending in this court.

Although promotional activities by environmentalists against pollution are increasingly gaining force in the country, the above numbers indicate that affected people are unwilling to seek justice owing to snags and complexities in the environmental law, complicated legal procedures, delayed disposal of cases, low rate of conviction and lack of adequate courts *etc.*

3.3.13. Water Supply and Sewerage Authority Act, 1996

Water Supply and Sewerage Authority Act, 1996 was enacted to develop water supply and sanitation system and to deliver water supply, sewerage and storm water drainage services. It provides for autonomous corporate management structures of Water Supply and Sewerage Authority (WASAs) which are answerable to their respective Boards of Directors representing a range of stakeholders. No person can abstract, treat, pump, preserve or supply of water or construct sewerage, pumping and treatment plant within its jurisdiction. But the authority is not at all concerned about the industrial effluents. Matter of ensuring water quality has been neglected in this act. There is no provision for monitoring water table, collecting data, maintaining database and long term planning for sustainable use and management of water resources.

3.3.14. Local Government Laws

Corporations shall make adequate arrangements for removal, collection and proper disposal of refuse (Section

77 of the Chittagong City Corporation (CCC) Ordinance, 1982; Dhaka City Corporation sec. 78; Rajshahi City Corporation sec. 77; Khulna City Corporation sec. 75; Barisal City Corporations sec. 85 and Sylhet City Corporation sec. 85).

- Local Government (*Union Parishad*) Act 2009 (Lowest level of local government)
This Act has given Union Parishad a few tasks of water management in its 2nd schedule.
- Local Government (*Pourashava*) Act 2009 (District Level Local Government)
By the Act Pourashava has been given some of the authority of water management. Article 11 of the 2nd schedule of the Act says about permission for personal source of water in Pourashava area. Discharge of water is discussed in Article 12 and provision of government water body is mentioned in Article 16.
- Local Government (City Corporation) Act 2009
City Corporation has been entrusted with some of the authority of managing water resources in the areas under its jurisdiction.
- Upazila Parishad Act 1998
Upazila Parishad is entitled under 2nd schedule of the Act to manage water resource to a small context.
- District Council (Zila Parishad) Act 2000
District Council has been authorized to manage water resources (water supply, discharge of water, conservation of water and water resources *etc.*) in the areas under its jurisdiction by this Act.

As local public representatives are included in the IWRM committees under Water Rules 2018, they should be more empowered by law.

3.3.15. Brick Manufacturing and Brick Kilns Establishment (Control) Act 2013

This Act has been passed to establish control over brick manufacturing and brick kiln establishment for the conservation and development of environment and biodiversity. This Act came into force from 1st July 2014, and permits two years' time limit to convert the brick kilns into modern technology and shuffle thereof. Environment Courts are empowered to take cognizance of any offence punishable under this Act.

After five years of enactment of this Act, now the question arises as regards feasibility and enforceability of the provisions of this Act. Following are the challenges to face for implementation.

- The Act imposes prohibition on establishment of brick kilns within the boundaries of several areas, like residential, preserved or commercial area; City Corporation, Municipality or Upazila headquarters; public or privately owned forests, sanctuary, gardens or wetlands; agricultural land; Ecologically Critical Area (ECA); and areas adjacent to these areas. For instance: as per law no brick kiln can be kept or established in an ECA and within one kilometer distance from the boundaries of ECA. In 2009 Department of Environment (DoE) declared the four rivers around Dhaka city as ECA. On the other hand almost all the brick kilns of Dhaka city are situated in the banks of these rivers. Again the law prohibits to keep or to establish brick kiln in the

agricultural land and within one kilometer distance from the boundaries thereof. The Act further provides that, no brick kiln can be kept or established within minimum half kilometer distance from upazila, union or rural roads made by the LGED. Ordinarily in the both sides of LGED made roads there is strip plantation (one type of social forestry). Social forestry is a part of privately owned forest where brick kiln cannot be kept or established in and within one kilometer distance. The law disallows to keep or to build up brick kiln within one kilometer distance, from any special structure, railways, educational institutions, hospitals, clinics and research institutions. With all these restrictions in mind, it recommends to build up brick kiln in such a place where there is no human portability. By scrutinizing these provisions it is presumed that, in the reality of this small sized and densely populated country it is very difficult to find out such appropriate place to build up brick kiln in Bangladesh.

- The law provides obligatory provision to manufacture least 50 percent hollow brick in the brick kilns of modern technology which is less pollutant, energy efficient and with advanced technology. If all the brick kilns are changed over into modern technology such hardship in site selection is not considered as sensible to the specialists.
- Brick manufacturers can only cut or collect soil from dead pond, canal, swamp land, creek, deep tank, rivers, *haor-baor*, char land and fallow land with the approval of appropriate authorities. But the law has not defined appropriate authorities and not prescribed the procedure.
- The law strictly prohibits the use of wood as fuel in brick kilns. Brick manufacturers can only use coal as fuel containing prescribed standard of sulfur, ash, mercury or similar material. Till now the government has not determined any standard or quality for coal.
- There is a lack of Environment Courts to try offences under this Act and there is a lack of manpower in Department of Environment to enforce laws.

This Act should be amended in light with the field level study considering the issues mentioned with the participation of people. At the same time for the effective implementation of this Act concerned institutional frameworks should be strengthened and necessary by-laws should be framed.

3.3.16. Food Safety Act 2013

This Act was enacted to make provisions for the establishment of an efficient and effective authority and for regulating, through coordination, the activities relating to food production, import, processing, stock, supply, marketing and sales, so as to ensure the rights toward access to safe food through appropriate application of scientific process, upon repealing and reenacting the existing laws connected thereto. Its aim is to ensure the rights toward access to safe food for the protection of human health and life.

3.3.17. National River Protection Commission (NRPC) Act 2013

Complying with the direction of Hon'ble High Court Division in Writ Petition No. 3503 of 2009, this Act had been passed to form National River Protection Commission.

- The river commission is composed of a chairman and four members, including hydrologist, environmental expert and lawyer.
- The commission will advise the government and coordinate the activities of ministries involved in management of water and river.

Criticism

The NRPC Act 2013 does not give any explicit guidelines and signs on implementation instruments for actualizing the Act. There are some indistinct arrangements that are unlocked to misleading explanation. The Commission is merely recommending body without any statutory power; it would not be able to take any action if any of its decision is not implemented.

3.3.18. Water Act 2013

Strengths

- 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.
- As per this Act, all forms of water (*e.g.*, surface water, ground water, sea water, rain water and atmospheric water) within the territory of Bangladesh belong to the government on behalf of the people.
- The formation of the high-powered National Water Resources Council (henceforth termed as the Council) with the prime minister as the head. An Executive Committee under the Ministry of Water Resources will implement the decisions taken by the Council.
- The private landowners will be able to use the surface water inside their property for all purposes in accordance with the Act.
- A worthwhile initiative is the requirement for permits/licenses for large scale water withdrawal by individuals and organizations beyond domestic use.
- Without prior permission issued by the Executive Committee, no individuals or organizations will be allowed to extract, distribute, use, develop, protect, and conserve water resources, nor they will be allowed to build any structure that impede the natural flow of rivers and creeks.
- The priority order for water stressed area as described in the Act is as follows: drinking water > domestic usage> irrigation> fish culture> biodiversity > wildlife> in stream flow> industry> salinity control> power generation> recreation> miscellaneous.

3.3.19. Water Rule 2018

- It provides details about enforcement of several available mechanisms, such as compliance orders, protection orders, removal orders, imprisonment and fines/compensation, the maximum amount of

surface water or groundwater that can be withdrawn by individuals or organizations, clearance certificate by Executive Committee in terms of water related projects.

The Figure 3 shows that Bangladesh has total 56 water related Acts or Ordinances. Among those, 8 laws have been enacted in the British period (before 1947), 14 laws have been passed in Pakistan period (1948 to 1971) and 34 laws have been passed in Bangladesh period (1972 to till date). So Bangladesh has a good number of water laws.

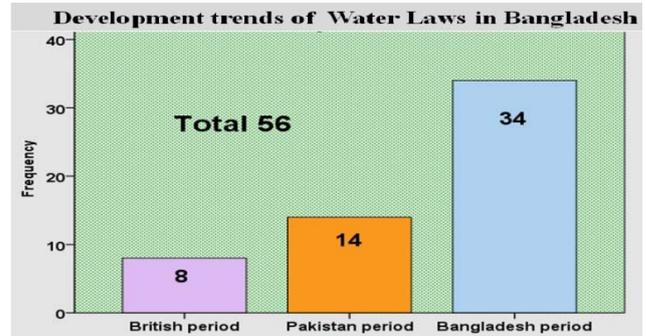


Figure 3. Development trends of water laws in Bangladesh.

3.3.20. Weaknesses of the Bangladesh Water Act 2013

Following are the areas in Water Act 2013 which can be improved:

- The Act remains indefinable without a comprehensible pledge by the government to ensure the quality of water for diverse beneficial uses as delineated in the Environmental Protection Act.
- This law does not correlate well with the Environment Protection Act, 1995.
- There are no provisions found for punishment related to industrial discharges.
- There are no provisions for establishing discharge standards and also for the establishment of ETPs. It generally speaks about water management.
- The unlimited power vested upon the Executive Committee without any liability has the potential for misuse of the Act.
- The maximum penalty for violations is set to five years of imprisonment and/or monetary penalty of Tk.10, 000. This monetary penalty may encourage many people to pay the penalty instead of abiding by the law. Punishment related to water quality degradation caused by industrial discharge and other sources of pollution is not adequately addressed in the Act.
- The people – the ultimate owner of water resources – are not authorized to file complaints and law suits against other individuals, including the government agencies, who are in non-compliance with the Act.
- Previous water policies required that the government should develop a water code to make sure rational use of water for all needs, water rights and management. However, the issue is absent in the latest Water Act 2013.
- There are no guidelines relating to non-point water pollution sources like fertilizer and pesticides in the Water Act 2013, and some in significant cites in the National Water Policy (NWP) 1999.

- The Water Act 2013 uses the lowest planning unit *i.e.* Mouza and its plot numbers to identify point-water sources for ground water conservation using tube wells. However, the plot demarcation lines demonstrating the boundaries of haor, baor and alike natural surface water sources are not demarcated in the same mode.

3.3.21. The Ground Water Management Act, 2018

The Ground Water Management Act, 2018 has repealed previous Ground Water Management Ordinance, 1985. This Act is to manage the ground water resources for agricultural production. This document describes the effects of law that are inconsistent with the ordinance, Upazila irrigation committee, license for tube well and existing tube well, suspension and revocation of license, cancellation of license, supply of tube well by corporation, power to make rules and power to exempt.

But this Act has no provision related to civil society participation. The Act does not address industrial, commercial and other abstraction, protection of groundwater (*e.g.* recharge, conjunctive use of surface and ground water, rain water harvesting, long term planning, punishment of water mining *etc.*), integrated use of ground and surface water, absence of central monitoring/regulation mechanism, safe and sustainable abstraction of ground water, monitoring of quantity and quality of groundwater, water pollution and water safety issues.

3.3.22. Pesticides Act, 2018

This Act repeals Pesticides Ordinance 1971. It only says about license for selling or manufacturing pesticides, but there is no mention of pollution or environment protection issues.

3.3.23. Role of Apex Court in Controlling Water Pollution

Supreme Court has played significant role in controlling water pollution by pronouncing some landmark judgment in the Public Interest Litigation (PIL) cases filed by NGO or individuals.

The Appellate Division, in the case of Dr. M. Farooque (Pioneer of Environmental Lawyer) vs. Bangladesh has reiterated Bangladesh's commitment in the 'context of engaging concern for the conservation of environment, irrespective of the locality where it is threatened.' This was a full court consensus judgment and the court decided:

"Article 32 and 32 of our constitution protect right to life as a fundamental right. It encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life can hardly be enjoyed. Any act or omission contrary thereto will be violative of the said right to life."

3.3.24. Water resources related Cases in Apex Court

Some of the important cases are discussed below.

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:

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

3.3.24. Human Rights and Peace for Bangladesh and others vs Bangladesh and others

Writ petition no 3503 of 2009

Protecting the four rivers of Dhaka

Human Rights and peace for Bangladesh filed Writ Petition No. 3503 of 2009 before the High Court Division challenging pollution, illegal encroachment, land filling, and to remove temporary and permanent structures/buildings on the four (4) rivers in and around Dhaka city namely Buriganga, Turag, Balu and Shitalakha. High Court Division in its judgment dated 21.03.2010 called upon the Government to take the 3 following measures:

- Constitute a "National River Protection Commission" comprising concerned experts to free all rivers of the country from encroachments and pollution, ensure proper protection/management, development and navigability of the rivers;
- Following recommendations of the said River Protection Commission, take/adopt short term and long term plan to develop all rivers of the country;
- Adopt necessary, effective and speedy measures to bring back navigability of the Buriganga, Turag, Balu and Shitalakha rivers.

Besides, Hon'ble Court ordered the respondents to demarcate the original territories of the rivers through survey as per CS or RS Map and restoring the said rivers to their original condition, to declare concerned rivers as ecologically critical area, to remove all kind of obstruction from the rivers, to evict all illegal shops and constructions

on river bank, to re-excavate Jamuna-Dhaleswari, Dhaleswari-Buriganga, Old Brahmaputra-Bangshi-Turag, Jamuna-Punglikhal, Turag and Tongi canals within 5 years.

Considering all the above phenomena, the government of Bangladesh should establish sufficient environmental court and changed the restricted legal system to file a suit regarding environmental pollution. More power and autonomy should be given to the Department of Environment (DoE) Necessary skilled man-power as required by (DoE) should be appointed for performing its act smoothly. Strengthening its investigative functions is needed. Mass people should be made aware about water related regulations. Their participation must be ensured in policy making and project implementation. The local public representatives should be lawfully authorized to control water pollution. Local government laws should be amended for dynamic engagement of Local Government on water sector and environmental protection. Regulatory bodies of DoE can be decentralized to monitor the industrial sector more effectively and to ensure that ETPs are operated consistently. Talks and review of ground water extraction and ETP monitoring processes by Department of Textile (DoT) would be recommended. Monitoring capacity of DoT might be increased in this respect. National River Protection Commission (NRPC) Act 2013 should be amended to provide a mandate to the NRPC to take necessary actions for proper implementation of its decision or separate River Act can be introduced. Procedural complexities to file a suit in Environmental Court should be removed so that it can be easily accessible to common people. As Industry is one of the major actors of water pollution in Bangladesh, so Ministry of Industry (MoI) should be included in the National Water Resources Council (NWRC) and executive committee. The Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and Bangladesh Knitwear Manufacturers & Exporters Association (BKMEA) should also be involved in decision making. WARPO, DoI and DoE should review methods and penalties for non-compliance to water extraction and pollution regulations. The process for prosecuting non-compliance should be reviewed and simplified. Government should be more active in implementing water related laws. Transparency and accountability in water sector must be ensured to attract National and international Donor support as well as for sustainable water resources management.

4. Conclusion

In Bangladesh, there are environmental laws and rules for protection and conservation of water resources. These legislative frameworks in Bangladesh, however, include issues of inland water pollution. But the protection and

conservation of the water resources is still a transient issue of the day in spite of such laws. It is noticeable that there has been lacking of proper, effective and timely enforcement of the laws on the subject matter. Some of the previous laws contain inadequate penalty and those are almost obsolete now due to lack of proper amendment. Existing national legislation may establish a basis for protecting inland water from pollution but further work is required to design a comprehensive legal framework and devise measures of the implementation of such laws. The Bangladesh Water Act, 2013 provided a comprehensive framework for integrated and sustainable water resources management in Bangladesh. As legal framework of water management is vested on diverse ministries and bodies, so coordinated approach and proper implementation of laws can control water pollution in Bangladesh.

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