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Legal Regime of Water Partnership: The Case of Bangladesh

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Water scarcity and hazards are now frequent all over the world. An estimated 300 million people in 26 countries currently suffer from water scarcity. By 2050 approximately two-thirds of the world population in some 66 countries will face from moderate to severe water shortage. More than 1 billion people live without a daily supply of fresh water and more than twice that number has inadequate sanitation. Attributes of the "global water crisis" are already with us, and complex problems are looming ahead. Managing scarce water resources for increasing demands in an equitable and sustainable manner has been one of the main challenges of the 21st century. Owing to limitations, problems are acute for developing countries.

Bangladesh has been a victim of water crisis and its hazards. The country is a land of rivers. It has one of the most complex river systems in the world forming an interlacing grid.[1] The principal rivers of this network are: the Ganges (Padma), the Brahmaputra (Jamuna) and the Meghna. The Padma flows south east of the country after it enters and breaks into hundreds of distributaries of which the largest are the Madhumati and the Arial Khan rivers. There are about 230 rivers in the country. Out of these 54 rivers originating from India and 3 rivers originating from Myanmar fall into the territory of Bangladesh and finally meet the Bay of Bengal.[2]

In March-2000 a record number of member states endorsed the "Hague Declaration on Water Security" the member states assured that they will take essential measures to provide water security. Under Global Water Partnership, Bangladesh has formulated National Water Policy and Integrated Water Management Plan (NWMP).The Bangladesh Water Partnership has developed Bangladesh Water Vision 2025 and its Framework for Action (FFA). The common objectives of the above stated programme are to ensure water availability to all, introduce appropriate institutional changes, and develop a legal and regulatory environment and sound environmental management.[3]

In Bangladesh the management of water is regulated exclusively in the interest of the people and through shared policies with the neighbours too. However, it is found that the existing laws in the country relating to water do not serve people's interest even territorially. In addition it can be said that the existing laws cannot be effective extra-territorially.[4] Under the prevailing circumstances, needs arise to implement the existing regulations properly and the provisions effectively and to frame new laws and regulations to meet shortcomings thereof.

The purpose of the paper is to make an acquaintance with the theme of the existing water laws and regulations of territorial and extraterritorial concern.

Sources of Water

The natural surface water resources in Bangladesh are mainly obtained from the country's dense network of river systems, including the tributaries and distributaries of the three major river systems, the Ganges-Padma, the Brahmaputra-Jamuna and the Meghna.[5] About 90 per cent or more of Bangladesh's annual runoff enters the country from outside its borders. Apart from the major rivers there are numerous perennial seasonal wastelands like dighis, haors, baors, daha, danga, beels and jheels. The monsoonal rain water also meet the needs of people to a considerable extent. In addition people also extract ground water for drinking, domestic purposes, irrigations, industrial use etc., from shallow tube wells, deep tube wells and hand made or artificial wells. The preliminary estimates at the inception phase of the NWMP indicates that cross-border flows into the country amount to around 1010 billion cubic meters (BCM), and an additional 340 BCM is generated from local rainfall, averaging 2300 mm. Of this total quantum of available water (1350 BCM); about 190 BCM of water is lost in the atmosphere through evaporation and its transpiration, while the remaining1160 BCM flows into the Bay of Bengal.

The case of Bangladesh regarding availability of water is quite interesting because it experiences both flood and drought. Eighty per cent of it is concentrated in the five- month monsoon period of June to October. In order to meet the scarcity of water during the lean season, sea water after proper purification could be used; however, it is difficult and costly to do it. In fact, there are limitations on the part of the least developed Bangladesh for use of seawater to meet the needs.

Natural Hazards

Bangladesh faces hosts of problems due to its geographical location. The territory of Bangladesh is being submerged by floods that occur frequently unnoticed; tidal bores of the Bay often seriously affect the coastal zone of the country; the sea level is rising and the low-lying areas are getting inundated by surges.[6] In absence of any controlling mechanism to govern these hazards the problems are getting aggravated. Although, sea waters appear in the land territory but such waters cannot be stored up to be treated as sources of water. In reality, these waters cannot be made useful to meet the needs.

Climate changes throughout the world are not now uncommon. Owing to these, radical changes are taking place in the various spheres of Bangladesh. Although, known as the monsoon area in the world, but at present the country is now loosing this entity. Rainfall is not up to par as it rained earlier in the country.

Bangladesh often experiences droughts for prolonged periods during pre-monsoon and monsoon due to erratic and delayed rainfall causing serious problems for domestic and municipal water supply, agriculture, fisheries, navigation etc. During the dry season (November to April) the country largely depends on ground water and surface water available in the major rivers. Over the last three decades the dry-season flows of the trans-boundary rivers passing through Bangladesh have been experiencing gradual reductions from the normal historic flows. It results from barrages, diversion structures etc. on the rivers in their upstream zones. India started large-

scale diversion of the dry-season flows of the Ganges by constructing the Farakka Barrage in 1975. Barrages and diversion structures have also been built by India on the Teesta River and about a dozen others.[7]

At present content of arsenic in ground water has increased above the requisite limits in different regions of Bangladesh causing hardship to people.[8] Efforts are being made at various levels by the Government as well as by the NGOs to create awareness among public about the nature of the problem. However, due to scarcity of funds and other pressing problems of the country, government has failed miserably to ameliorate the grievances of the people. In order to solve the problems pertaining to water and save people from arsenic poisoning the poor developing countries are in dire need of funds[9]

In respect of rivers, Bangladesh is a lower riparian state whereas its neighbour India falls under the category of upper riparian state. This gives rise to a fact that waters of the common rivers between Bangladesh and India cannot be subject to exclusive authority of any state. Neither Bangladesh nor India can exercise its authority exclusively. The problem of water management could only be resolved through holistic approach, taking the problems of the affected people of both the countries.

Contextual Essence

Ecology as natural resource law is now in full focus of national and global attention. Pollution has come to stay in its diverse stings, and the whole humanity is out on a crusade for environmental balance. Environmental management is an extensively broad and dynamic field, involving a wide range of professions in science and engineering, humanities and social sciences, law and business. It is hard to predict how it is likely to change in the next few years. But what is clear is that it will become more and more important as the planet's natural resources are stretched further and further by an ever-growing and demanding population. Over and above, it is possible to envisage that environment stands as all inclusive in scope.[10]

General Approach

In Bangladesh pollution problems have been adventitious to the developmental programs and its campaign to eradicate poverty. The efforts to boost progress have simultaneously put immense pressure on natural resources of the country. Irrigation facilities have also adversely affected the local environment, leading to rise in salinity. Eradication of poverty has warranted for the exploitation of natural resources of the country, like land, forests, and water to cope with the escalated need for employment for shelter involving housing schemes, for fuel, fodder and furniture.[12]

Consumption of timber has increased manifold due to intense biotic pressures owing to increasing population and livestock and pressure on wood industries to meet the rising demands have resulted into deforestation. Deforestation has resulted into uneven availability of water, exhibiting and alternating cycle of flood and droughts; untreated human wastes in town and cities and domestic discharges have contaminated the quality of surface and ground waters. The overall picture is dismal and appalling. The help of meteorologists and the hydrologists could be

considered very vital in managing the vast quantities of water flowing from the rivers and the judicious management of water could also help in the generation of hydro-electric energy and proper distribution of water for irrigation and industry.[13]

Water Recharge Ability

The alluvial plain of Bangladesh constitutes a huge aquifer with reasonably good transmission and storage properties. Heavy rainfall and annual inundation help the ground water to be substantially recharged. The first assessment of ground water was made in 1984. The estimates suggested that the available recharge of ground water was 21 BCM. Recently the National Minor Irrigation Development Project (NMIDP) has developed a model to forecast growth in minor irrigation through ground water using in less conservative assumptions for recharge than the MPO.

Water Demand

In Bangladesh six sectors are the major users of water e .g .agriculture (for irrigation), domestic and municipal, fisheries, navigation, industry and environment (including salinity control). The National Water Plan of 1991 projected a water demand for all purposes for the year 2018 at 24,370 million cubic meters during the critical dry month of March, (in the projections the impact of possible climate change has not been taken into consideration). The total supply of water from various sources for March 2018 was estimated at 23,490 million cubic meters-leading a short fall of 880 million cubic meters.

Water Quality

Surface and ground water sources sometime contain hazardous materials above their concentrations, detrimental for human health. In Bangladesh for drinking purposes over 97% of ground water is abstracted by shallow tube-well. In recent times, it has been reported that ground water contains arsenic and its concentration is above the safe limit of 0.05 mg/liter in as many as 59 districts out of 64 districts.[13] In many areas, especially southwest of the country, tube-well water containing iron and other metal ions concentrates at limits higher than the limits set by the Bangladesh Standard for Drinking Water Quality. The major causes of wide spread deterioration of the quality of ground water are natural and are sometimes influenced by human activities. Moreover, the main reasons for deterioration of the quality of surface water are the resultant of various human activities. Indiscriminate defecation in the open, discharge of untreated effluents from industry, misuse of agrochemical, discharge of oily-material from water born vessels and discharge of household and other wastes in streams are the main reasons. Apart from human beings the aquatic species both flora and fauna are highly susceptible to pollutants in the water.

Present Water Use

The overall aquatic environment of Bangladesh is highly dependent on spatial and temporal availability of water. Primary physical phenomena such as floods, flash floods, low-flow conditions and tidal bores are all caused either by too little or too much water. All these factors have adversely affected the environment. Smaller channels, wetlands, and ponds get dried up

during low-flow conditions resulting in fragmentation of aquatic habitats and loss of bio-diversity. Low flow also causes an increase in the concentration of pollutants of homestead, industrial and agricultural origin.

Furthermore, there are secondary physical impacts on pollution caused by saline intrusion, and erosion. Increased soil and river bank erosion and subsequent higher sediment load in streams can reduce primary production by obstructing sunshine. Enhanced sediment loads are affecting Sundarbans.[14] Tidal bores bring saline waters and cause an increase in the salinity of the soil and water systems in the coastal areas. Lack of fresh water flow in winter also increases salinity.

During dry months water concentration is reduced due to vapour-transpiration and irrigation by ground water. As a result the small-scale water bodies become smaller. In such conditions, the concentration of various pollutants increases and the water bodies turn into breeding grounds for pathogens.

Ownership of Water

Ownership of water relates to private ownership and government ownership. Private surface or ground water can be used privately by the owner. Practically, ownership of water vests in the state, the individual has only water use rights. The Agricultural Pesticides Ordinance 1971, was promulgated to control import, manufacture, sale etc of pesticides. The Bangladesh Environmental Protection Act, 1995 has a provision for taking clearance from the concerned environment authorities before setting up of industry, however, the ordinance has failed miserably.[15]

Land Administration Manual regards water as “jalmahal”. Jalmahal includes enclosed water generally known as hoar, boar ,beel, zheel, lakes, cole, dighee, ponds, doba etc which are favourable for pisciculture. It also includes the sea and river water. There are about 10,000 jalmahals in Bangladesh on whose behalf Upa-Zila / Pourashava / Pour Corporation authorities conduct lease of the jalmahals of an area up to 20 acres each. Jalmahals exceeding 20 acres are controlled by the Board of Land Administration.

Legal Regime

The concept of ‘water partnership’ is used by concerned states to denote their activities arising from the partnership in connection with the use of Global water partnership, it signifies participation of states in the distribution and utility of water particularly of trans-boundary concerns.[16] Bangladesh water matters are governed by the Canal Act, 1864; the Irrigation Act, 1876; Penal Code, 1876 [Ss. 277, 290, 426]; the Criminal Procedure Code, 1898 [Ss. 386, 387, 389]; the Forest Act, 1927; East-Bengal Municipal Act, 1948; the Forest Act, 1950; the Protection And Conservation of Fish Act, 1950; the Embankment & Drainage Act, 1952; the Town Improvement Act, 1953; the Inland Water Transport Authority Ordinance, 1958; the Ground Water Management Ordinance, 1958; the Private Forests Ordinance, 1959 and the Prevention of Interference with Aids to Navigable Water Ways Ordinance, 1962. However in practical terms the laws are not adhered to and water supply projects are little taken into account. Little attention is paid to cost recovery and to operation and maintenance of the existing

facilities. Waterborne sewage has been introduced only in parts of Dhaka and at other places the sanitary situation is very unsatisfactory. Limited sewerage systems waste disposal facilities coupled with rapid urbanisation is likely to aggravate the problem of sanitation.

Floods are in reality a Ganges-Brahmaputra-Meghna (GBM) regional issue. Bangladesh, being the lowest riparian of the GBM river systems, faces the burnt of the floods. In order to address the problem there is a need for active cooperation amongst the countries of the GBM region for flood management. A comprehensive scheme of collection, transmission, and exchange of real-timer hydro meteorological data among the GBM countries could promote efficiency in flood forecasting and disaster preparedness in Bangladesh. Storage of a part of the monsoon flows of the major rivers and proper management of catchments in the upstream regions could play a significant role but to do that effective and meaningful cooperation among the co-riparian is indispensable.

River training works can be an important element in this respect. The Canals Act, 1864; the Embankment and Drainage Act, 1952; the Irrigation Act, 1976 encourage the respective authority to such types of construction while S-3 (3) (a) (ii) of the Protection and Conservation of Fish Act, 1950 is controversial with the said Acts. In order to meet the ongoing exigencies Bangladesh has passed laws and the country is in active consideration to pass more laws through its different mechanisms.[17] Till date number of laws have been approved, the Agricultural Pesticides Ordinance, 1971; Statute of the Indo-Bangladesh Joint Rivers Commission, 1972; Bangladesh Water and Power Development Boards Order, 1972; Statute of the Indo-Bangladesh Joint Rivers Commission, 1972; the Bangladesh Fisheries Development Corporation Act, 1973; Territorial Waters and Maritime Zones Act, 1974; the Environment Pollution Control Ordinance, 1977; the Bangladesh Irrigation Water Rate Ordinance, 1983; Land Administration Manual, 1987; Water Supply and Sewerage Authority (Amendment) Act, 1990; Water Resource Planning Act, 1992; the Environment Protection Act, 1995; Water Supply and Sewerage Authority Act, 1996; the Environment Protection Act, 2000; Bangladesh Water and Power Development Boards Order, 2000; the Development Authority (Formation) Act, [KDA, RDA, CDA. RAJUK]

Apart from the above stated laws the country is in active consideration of providing more laws to deal with water matters. However, care must be taken to meet the needs by those laws. Therefore, water use rights should boost national interests in compliance with global, regional and sector-level uses.

National Perspective

Exponentially growing popula-tion and ever increasing demand for irrigated agriculture, urbanisation and industrial development are placing a far more burden on water. At the same time human intervention in natural flow of river is upsetting the ecological balance. Man made structures created on river courses and uncontrolled water extractions are the major impediments. Over the last three decades, use of ground water in Bangladesh has increased tremendously in the absence of its development. At present ground water accounts for 73 per cent of the country's total consumptive water use. Almost 95 per cent of the drinking water is derived from ground water sources. It is said that ground water utilisation has almost reached a saturating point in the country. In the southwest region of Bangladesh, the ground water is being increasingly

contaminated by salinity. Overexploitation of ground water has lowered the water table down to irrevocable levels. As a result ponds, tanks, beels, khals, stream, and other water sources and reservoirs are being dried up and water supplies to meet the needs of the people are also being impeded.

In Bangladesh the main source of irrigation water is ground water (68.5 per cent) in 1996/97. In effect, it reduces the ground water level in dry season. As a precautionary measure it should be noted that the boring depths of shallow tube wells (STWs) should not be within 10 to 20 meters because, it is the root zone of the trees. The National Minor Irrigation Development Project (NMIDP) suggests for setting up of STWs at progressively greater depths. A significant reduction in the use of ground water for irrigation is possible without adverse impact on productivity of crops by some agronomic measures. Rain water harvesting could meet a portion of the total water supply demand but very little has been done in this direction. However it has been found that little attention is paid on cost recovery. In absence of sound financial system there has been low level of maintenance, inefficient consumer services, leakage, wastage and pilferage through illegal connections.

Acknowledging the magnitude of the problems government of Bangladesh has announced some innovative policies to meet the challenges of water in the 21st century, National Water Policy, Integrated Water Management Program, and Bangladesh Water Vision, 2025. Practically speaking, the existing laws and regulations relating to water, water rights, users responsibilities, water licensing and administrative aspects are not adequately enforced.

The principal legal inadequacy is the lack of a comprehensive legal framework relating to water, water and drainage rights and the facilities for the upholding of those rights. The gaps in laws have to be filled up to make it updated, at the same time, a pragmatic enforcement mechanism must be evolved. Therefore, it is essential to revise and consolidate the existing laws governing the ownership, appropriation, utilisation, exploitation, development, conservation and protection of water resources.

Global Perspective

It is not to contradict navigation as the only one of the uses of river of trans-boundary concern. Other long established uses are irrigation, water mills, water supply for domestic and industrial purposes, fishing and timber floating, while the ongoing hydroelectric exploitation of river has become very noteworthy. At present a considerable volume of treaty-practice by which riparian states have regulated their interests in particular rivers and which is not reconcilable with the view that a riparian state is legally free to do anything that it pleases with the water of an international river.[18] Post-war treaties and negotiations concerning the Nile, the Jordan, the Indus, the Mekong, the Colorado, the St. Lawrence river as well as other rivers and arbitration between France and Spain concerning the waters of Lake Launox appear to confirm that some broad principles of international river law have come into existence.[19] These broad principles are:

i. Where a river system drains the territories of two or more states, each state has the right to have that river system considered as a whole and to have its own interests taken into account together with those of other states;
ii. Each state has in principle an equal right to make the use of the water within its territory, but in exercising this right must respect the corresponding rights of other states;
iii. Where one state's exercise of rights conflicts with the water interests of another, the principle to be applied is that each is entitled to the equitable apportionment of the benefits of the river system in proportion to their needs and in the light of all the circumstances of the particular river system;
iv. A state is in principle precluded from making any change in the river system which would cause substantial damage to another state's rights of enjoyment without that other state's consent;
v. It is relieved from obtaining that consent, however, if it offers the other state a proportionate share of the benefits to be derived from the change or other adequate compensation for the damage to the other state's enjoyment of waters;
vi. A state whose own enjoyment of the water is not substantially damaged by a development in the use of a river beneficial to another state is not entitled to oppose that development.[20]

The Ganges, the Brhamaputra, and the Meghna are the principal trans-boundary rivers for Bangladesh and India. The Bangladesh and India issue as regards the Ganges water share seems to have been settled through the Ganges-Treaty (1996). Legally the treaty enables to say that Ganges water share is not a matter of a single state's exclusive jurisdiction. Since this treaty, both the countries are under an obligation to comply with the treaty.[21]

The new arrangement is as follows: if the Ganges flow at Farakka is 70,000 cubic feet per second (cusecs) or less, both countries are to receive 50%; with a flow of between 70,000 and 75,000 cusecs Bangladesh receives 35,000 cusecs and India receives the rest; with a flow of more than 75,000 cusecs or more India receives 40,000 cusecs and Bangladesh receives the balance (Article II(ii) and Anne x 1). Further provision is made for the situation where the flow falls below 50,000 cusecs (Article II(iii)). The sharing arrangements are to be reviewed every five years and if no agreement can be reached on adjustments, India is to release at least 90% of Bangladesh's share as provided by Article II. From a practical point of view, there is no guarantee clause in the treaty. In both countries, views are being raised to support and oppose the treaty. However, it accelerates objectives of water partnership and from this point of view, the two countries can be regarded as promoting 'water partnership' in their interests. Virtually, its goal should aim to promote the interests of riparian regions as the heritage of river bounties. The Rio- 1992 principles on water and environment will then be rewarding to the flora and fauna.[22]

Although internal rivers are in the sway of the riparian states but practically, there is a need for the lower riparian state to come forward to the upper riparian state for use of waters to meet their needs. The upper riparian state should not be of the view that it is the sole arbiter to use and control waters within its territory. There seems an obligation for the upper riparian state to look rationally at the needs of the lower riparian state. There is nothing to question that from the geographical point of view, the upper riparian state is more or less in a favourable position. But all riparian states should think themselves to have come into existence as a single community of river bounties. Eventually, it is the heritage of the riparian. It enables to come to a point that all

riparian states whether upper or lower should assert their claims to use river waters not only for self interests but also must look at others interests rationally and equitably. One's necessity seems to be the greatest to him; it would be rational and equitable if it takes into account others necessity as the greatest equally.

To deal with 'water partnership' in respect of the boundary and trans-boundary rivers, there is need to promote justice by the rule of law, principles of equity and good conscience together with the distributive principles of social justice.[23] It then cannot be contradicted that the big and powerful state has an obligation to contribute to the greatest extent. With the achievement of social justice the needs as to water partnership for the states can be met. The legal regime for advantaged and disadvantage groups has to take an account for distributive attributes. In other words, there is a treatment of distributive attributes for the ends of justice.[24] The objectives of social justice will be attained if it can ensure benefit to all taking into account some liberal treatment to the unprivileged.[25] Ultimately, its goal will result from the rules and principles of international law. Emphasis should be given on Art. 33 of UN Charter to settle dispute amicably. Inevitably, it is to mention that inter-state matters are required to be adjudged by the principles of international law, convention, judicial decisions and state practices.[26]

Conclusion

There are a number of enactments, statutes and ordinances etc. that govern surface and ground waters of Bangladesh for use as to agriculture, domestic use, industrial use, navigation, hydro-power, fisheries and all other matters. Provisions of the machineries are effective within its own territory. The need of the hour is to provide more provisions to fit the present changing situations caused by climate changes, droughts, environmental hazards, arsenic contamination, rising of sea-level and so forth. Pursuant to these situations, there is a need of scientific data of all concerned so that it can help enrich a data base study about 'water partnership'. This sort of substantial study will promote a stable regime if the riparian states are empirically rooted in joint survey for getting the data. In essence, it will enable to take measures for the long term viability of 'water partnership'. Regarding 'water partnership' the Ganges Treaty may be considered as one of the bases to promote it regionally. But care must be taken to ensure interests of the states relating to the 'water partnership' for Bangladesh and its neighbors. Generally, it is required that 'water partnership' be enriched by all riparian States without discrimination as to geographical position, scientific, technological and socio-economic development. But needs must be met for one surrounded by inevitabilities. That is to say, the least developed and most the environmentally vulnerable and geographically disadvantaged Bangladesh should be privileged and accommodated through the norms of equality, rationality and equity.[27] As to the ongoing changes all over the world, it is reiterated that the 21st century will go ahead with the innovation of new doctrines to harmonize the needs for all. In fine, there are urges for 'global water partnership' in letter and spirit that 'river bounties are the common heritage of the riparian'.

Endnotes

1. M. Habibur Rahman, *Delimitation of Maritime Boundaries (1991)*, Rajshahi, pp.267-275. For details of data see *Bangladesh Water Vision, 2025*.

2. Frank Debenham & William. A Burns (eds.), *Illustrated World Geography,* Mc. Grow-Hill; New-York, 1960, p. 436.

3. The objectives of Water Law Network are to: (I) collect, collate and analyze the legal instruments on water resources; (ii) exchange information on the formulation and implementation of water resources law and regulations; (iii) exchange cross fertilization of ideas from a found legal regime on water resources; (iv) provide facilities for analytical studies on water resources law and (v) form a network of institutions on water law.

4. National Water Policy, Integrated Water Management Programme, and Bangladesh Water Vision, 2025 are taking innovative steps to meet the challenging demand for water in the 21st century and to make a sustainable water network for the country. However, the existing laws and regulations relating to water, water rights, users responsibilities, water licensing and administrative aspects are not adequately enforced. See Dr. Mohiuddin Fareque v. Bangladesh, 49 (1997) *Dhaka Law Reports*, pp. 1-29.

5. L. Dudley Stamp, *A Regional Geography Asia,* Longmans, 1964, p 53.

6 .M. Habibur Rahman, *Delimitation of Maritime Boundaries,* Rajshahi, 1991, p. 273.

7. B.M Abbas, *At: The Ganges Waters Dispate*, University Press Pubs., Dhaka, 1982.

8. Dr. Mustafa Abdur Rahim, "Arsenicosis and its remedy", *The Independent*, Dhaka, 15 March 2002, p. 10.

9. It is not possible for Bangladesh to meet water demands with its limited funds and technology. Bangladesh water hazards cannot be eradicated without it being funded to implement water partnership as per its aims and objectives.

10. M. Habibur Rahman, "The Role of Law and Technology for Maintaining Environment", *Dhaka Law Reports*, 47 (1995), p. 81.

11. In Bangladesh there is no law on 'water partnership', The Partnership Act, 1932 does not cover what to be meant by 'water partnership'.

12. Everyone's United Nations, 7th edn, *United Nations*, New York, 1964, p. 534.

13. E. H. G. Dobby, *Monsoon Asia,* vol. v , University of London Press, 1961, pp 247-248; L. Dudley Stamp, *A Regional Geography Part IV Asia,* Longmans, 1964, p. 53.

14 .The Agricultural Pesticides Ordinance, 1971[(S-29A(2)(I)& 2(p)] regulates the use of pesticides. The Environment Protection Act, 1995 asks for environmental release letter before the placement of industry .In a gazette notification, Government identified 903 industries as environment pollutants and asked for pollution control by three years, and notified that no industry should be placed without pollution control requirements. No effective steps were

taken even after eight years of that notification. Subsequently, a writ petition was filed in the High Court Division of the Supreme Court of Bangladesh in 1994 as to pollution control for environment. See Dr. Mohiuddin Faruque v. Bangladesh, 49(1997) *Dhaka Law Reports* , pp. 1-29

15. *Land Administration Manual* , 1987, pp 311-317.

16. Everyone's United Nations, 7th edn., *United Nations*, New York, 1964, p. 8.

17. According to Art. 152 of the Constitution of the People's Republic of Bangladesh. Law means any Act, ordinance, order, rule, regulation, bye-law, notification, or other legal instrument, and any custom or usage having the force of law in Bangladesh. Laws are coming into being in the country through these mechanisms.

18. The laws inherited and framed by Bangladesh are exclusively applicable to its people within the territory. Water partnership ad regards the riparian state cannot be concerned only with its own needs, practically, the concerned riparian states must be related. As such, one's territorially effective provisions cannot be applicable to other states. Bangladesh laws whether inherited or self-framed have limitations to keep pace with scientific and technological developments. The country is required framing and adapting laws as per needs- territorial, regional and global too.

19. A river is purely 'national' which lies wholly from its source to its mouth within the territory of one and the same state. But those rivers which have been called 'boundary rivers' and 'not national' rivers, are not owned by one and the same state but two or more states. An international river is typed as a river the navigation of which has been declared free and open to the vessels of all nations and placed under some form of international guarantee . H. Lauterpacht (ed), *Oppenheim's International Law- A treatise II*, 7th edn., Longmans, 1952, p 772.

20. Sir Humphrey Waldock (ed) J.L.Brierly, *The Law of Nations,* 6th edn. Clarendon Press, Oxford, 1963, pp. 231-232.

21. H. Lauterpacht (ed), *Oppenheim's International Law- A treatise II* , 7th edn. (1952), p. 772; J.G. Starke, *An Introduction to International Law*, 7th edn. 1972, Butterworths; pp. 207—209; Charles G. Fenwick, *International Law*, 4th edn.(1975) pp. 461—466; Sir Hunphrey Waldock (ed): J J..L.Brierly *The Law of Nations*, 6th edn., 1963, pp. 227-232; K.R.R. Sastry, *Studies in International Law* , E.L.H. Calcutta, 1953, pp. 156-160; George W. Keeton & George Swarzenberger (eds), *F.J.Berber Rivers in International Law*, 46, Stevens & Sons, 1959, pp.138-157..

22. Bangladesh-India : Treaty on Sharing of the Ganges Waters at Farakka [Done at New Delhi, December 12, 1996. + cite as 36 I.L.M. 519 (1997)].

23. The extracts of the Rio Declaration on Environment (1992) (Principles 2 & 6) deal with the position of states as regards environment and the needs of the least developed and those environmentally vulnerable.. According to, Principle 2 : States have, in accordance with the

Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction and according to, Principle 6 : The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.

24. Asma Jahangir, *Distributive Justice, The Independence of Judges and Lawyers*, International Commission of Juries, Geneva, 1989, pp. 65, 70.

25. Justice Ranganath Mishra, *Distributive Justice*, *The Independence of Judiciary,* International Commission of Jurists, 1990, Geneva, p. 34.

26. Statute of the International Court of Justice, Art. 38.

27. To be acquainted with the term “Geographically Disadvantaged State” see United Nations Convention on the Law of the Sea, 1982, Art. 69 & 70.