Equitable and Reasonable Utilization of Water Resources: A Critical Analysis in Context of Indo-Bangladesh Ganges Water Sharing

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Abstract

Water resource is the key element for development. The Asian countries are developing in nature. The region of South Asia is the home to several major river systems. The artificial division of drainage for political reasons as well as increasing pressure on water for many factors like development has given rise to many disputes. On the other hand, in the era of emerging environmental law, the sustainable and ecological dimension of the water resources cannot be ignored. According to Article V of the UN convention of the law of the non-navigational uses of International Water resources, the watercourse states must ensure the equitable and reasonable utilization and participation. Hence this paper will try to study the manner of equitable and reasonable use of water resources in South Asia. In order to narrow down the scope of the study, the paper will take issue of the Ganges water sharing between India and Bangladesh. It paper will try to analyse how far the principle of equitable and reasonable utilization of water resources by the watercourse states has encouraged the factor of sustainability. Furthermore, the paper will try to appreciate the course of the dispute between the two nations and try to find out how balance between development and ecology will be achieved. It will also try to analyse the problem behind the subjectivity of the term 'equitable' and 'reasonable'; how it affects other factors.

Keywords: Water-sharing, Helsinki Rules, Reasonable and Equitable Utilisation, Ganges Dispute, International Rivers.

1.0 Introduction

The theoretical basis of the principles of international water law coverts the aspect of trans-boundary water resources management. There is a well-

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developed theoretical understanding been adopted by the branch of study. The historical aspect related to trans-boundary water sharing is must need. Generally there are three major theories which have played strategic role in trans-boundary water sharing before the contemporary discourse related to equitable and reasonable distribution came in to picture. They are namely: theory of absolute territorial sovereignty, theory of absolute territorial integrity and theory of limited territorial sovereignty.

Historically speaking states have exercised absolute sovereignty over the rivers and other natural resources located within their States territory, irrespective of its trans-boundary effect.[3] The principle of absolute territorial sovereignty is known as the Harmon Doctrine after the name of United States Attorney General Harmon. After his famous argument in the light of absolute sovereignty to a dispute between the United States and Mexico over the polluting of the Rio Grande River, the year 1895, Harmon contended that the context of international law placed no obligation or responsibility upon the United States and, therefore, the dispute was political as opposed to legal question to be resolved between the nations.[4] As per the Harmon Doctrine, an upstream State can freely deplete or utilize a river's flow within its boundaries without considering the right and interest of downstream State. With the pace of time, the principle of prior appropriation came into discourse, which was distinct in context but yet similar in notion. That is restrictive theory of water allocation, which neither favours the upstream nor the downstream State, but rather the State that puts the water to use first, thereby protecting those uses which existed prior in time.[5]

This is a time concept and practically speaking, any State along a watercourse may thus reasonably be able to establish prior rights to use a certain amount of water depending on the date upon which that water use began. The principle is inequitable because, it is irrational and very lest thought, for example the principle does not take into consideration where one State lags behind another in the economic or technical ability to develop its river use.

In direct contrast to the Harmon Doctrine and prior appropriation is the principle that lower riparians have an absolute right to have an uninterrupted flow of the river from the territory of the upper riparian, no

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3 Alexandre Kiss and Dinah Shelton, *International Environmental Law* (Transnational Publishers Inc 1991) 119.

4 Special Rapporteur, Second Report on the Law of the Non-Navigational Uses of International Watercourses by Stephen C. McCaffrey (21 May1986) [hereinafter simply referred to as the 'McCaffrey Second Report'].

5 Johan Lammers, *Pollution of International Watercourses* (Springer 1984) 364.

matter what the priority. This theory, known as 'absolute territorial integrity', posits that a riparian State may not develop a portion of a shared river course if it will cause harm to another riparian State.[6] Like the Harmon Doctrine and prior appropriation, this theory has received little support among the international legal community.[7] It is viewed as inequitably placing a burden on upper riparians without exacting a similar duty on lower riparians. Therefore, the theory has only been invoked where the continued flow of water is critical to the lower riparian State's survival.[8]

Along with the water law doctrine the customary law Principle of *sic utere tuo it alienum non laedas*,[9] (which limits a State's actions to the extent that such actions injure another State,) has a very important legal standing in international water law. The *sic utere* doctrine is reflected in international water law theory through the principles of 'restricted territorial sovereignty' and 'restricted territorial integrity' (which are hybrids of the principles of 'absolute territorial sovereignty' and 'absolute territorial integrity' and form the basis for a compromise between the two).[10] Under these principles, every State is free to use its territorial water, provided that it in no way prejudices the rights and uses of other riparian States. The right to use water from a river basin is reflective of the needs of the riparian States that share that river.[11] Because of its ability to balance interests among States, this doctrine has been widely favoured in attempts to codify international water law, through both the Helsinki Rules[12] and the Draft Articles. It has also been clearly established through the case law as evidenced by *Spain v France* where the court upheld 'the sovereignty in its own territory of a State desirous of carrying out hydroelectric

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6 William L. Griffin, 'The Use of Waters of International Drainage Basins Under Customary International Law' (1959) 53 American Journal of International Law 50, 70 (quoting Lauterpacht Oppenhiem's *International Law: A Treatise* (8th edn, Longmans, Green and Co 1955).

7 James O. Thoermond III and Erickson Shirley, 'A Survey of the International Law of Rivers' (1988) 16(1) Denver Journal of International Law & Policy 139, 143.

8 Bonaya Adhi Godana, *Africa's shared water resources: Legal and institutional aspects of the Nile, Niger, and Senegal River systems* (Graduate Institute of International Studies, Geneva 1985) 38-39.

9 This common law maxim means that 'one should use his own property in such a manner as not to injure others'. See also *Chapman v Bennett* 169 N.E.2d 212, 214 (1960).

10 Joshua Getzler, *A History of Water Rights at Common Law* (Oxford Studies in Modern Legal History 2004).

11 Thoermond & Shirley (n 7) 146.

12 International Law Association, 'Helsinki Rules on the Uses of International Waters of International Rivers' (Report of the Fifty-Second Conference: Helsinki 1967) 477 [hereinafter simply referred to as the 'Helsinki Rules'].

developments' but acknowledged 'the correlative duty not to injure the interests of a neighbouring State'.[13]

The principles of *sic utere*, 'restricted territorial sovereignty', and 'restricted territorial integrity' share the basic concept that a riparian State may not use a river so as to substantially injure another riparian State. Although the three principals have different rationales, the result of each is similar: river use that causes substantial harm to another riparian is unlawful where the harm outweighs equitable reasons in favour of that use. Whether a river use is lawful under these three principles is decided by determining the degree of harm caused to the riparian State.

With this background, this is to note that, the Ganges River originates from the Central Himalayas and extends into the alluvial Gangetic Plains and drains into the Indian Ocean at the Bay of Bengal. It is a trans-boundary spreads across India, Nepal, China and Bangladesh where India shares the major portion (79%) of the total basin area. In contrast, Bangladesh is the furthest downstream country of the basin and shares only about 4% of the basin area, which nevertheless represents 37% of the total area of Bangladesh. In this context the water sheering between India and Bangladesh is a contentious issue.

2.0 Evolution

While the *sic utere* doctrine seems to embody the pragmatic views of policymakers and attorneys, a more progressive view of international natural resource issues supported by naturalists, engineers, and economists is the 'community of interests' concept.[14] The 'community of interests' approach treats the entire river as one hydrological unit that should be managed as an integrated whole. Each State within the basin has a right of action against any other basin State, such that no State may affect the resource without the cooperation and permission of its neighbours.[15] While this concept of managing a resource based upon its hydrological features as opposed to its political boundaries would be a positive step forward in protecting natural resources, relations among States have not yet evolved

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13 *Spain v France* 24 ILR 101,111-12 (1957) [hereinafter simply referred to as the 'Lake Lanoux Arbitration'].

14 Joseph W. Dellapenna, 'Surface Water in the Iberian Peninsula: An Opportunity for Cooperation or a Source of Conflict?' (1992) 59 Tenn. Law Review 803, 816-17.

15 Ved P. Nanda, 'Emerging Trends in the Use of International Law and Institutions for the Management of International Water Resources' (1976) 6 Denver Journal of International Law & Policy 239, 258.

to a similar level. However, the ILC's Draft Articles are directed toward the attainment of this goal.

The development of theoretical and customary law principles for international water resource allocation has led to several significant attempts to codify these principles. Since the beginning of this century, legal scholars and diplomats have attempted to develop a mechanism for regulating international water courses. In 1910, the Institute of International Law proposed a framework for regulating international waterways. In the following year, the Institute passed the Madrid Resolution on the uses of international rivers.[16] In the 1920s, the League of Nations adopted the only two existing multilateral treaties on the use of international waterways.[17] In 1966, the most significant codification of the principles of international law regarding trans-boundary water resources was completed through the International Law Association's (ILA) Helsinki Rules on the Uses of the Waters of International Rivers.[18] The foundation of the Helsinki Rules is that each State within an international drainage basin has the right to a reasonable and equitable part of the beneficial use of the basin waters. According to the ILA, this idea is 'a development of the rule of international customary law which forbids States to cause any substantial damage to another State or to areas located outside the limits of national jurisdiction'.[19] The Helsinki Rules, for the first time, incorporated the equitable use idea in stating that 'each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses' of a drainage basin's waters.[20] Unfortunately, however, the enforceability of the Helsinki Rules has been undermined by the ILA's status as an unofficial organization. As such, the ILA's resolutions cannot be legally binding in international law unless they are adopted in the form of a multilateral convention or followed by States as State practice.[21]

Due to an absence of binding legal authority for the regulation of international rivers, the United Nations began an international effort to create a legal framework to address this growing problem. This most

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16 Resolutions Adopted on the Subject of International Regulation of the Use of International Streams (20 April 1911), in Resolutions of the Institute of International Law 168-70 (James Brown Scott trans., ed., 1916).

17 *Colorado v New Mexico (Vermejo I)* (1982) 459 US 176, 184.

18 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses 1997, art 5(1) [hereinafter simply referred to as the '1997 UN Convention'].

19 Stephen McCaffrey, 'International Organizations and the Holistic Approach to Water Problems' (1991) 31 Natural Resources Journal 139, 144.

20 ibid (n 4).

21 Babu Ran Chauhan, *Settlement of International Water Law Disputes in International Drainage Basins* (E Schmidt 1981) 426.

recent and thorough effort to codify the law of international watercourses has been undertaken by the United Nations-affiliated International Law Commission in its Draft Articles on the Law of the Non-Navigational Uses of International Watercourses. In 1970, the General Assembly recommended that the ILC take up the study of the law of non-navigational uses of international watercourses with a view toward its 'progressive development and codification. . . .'[22] From this point until the submission of its Draft Articles in 1991, the ILC's experts worked with thirty-two governments through questionnaires and correspondence in drafting the articles.[23] The ILC has now transmitted the thirty-two articles which compromise the draft through the Secretary-General of the United Nations to the governments of member States with the request that their comments and observations be submitted back to the ILC by January 1993.[24] After considerable discussion during 1991–1997 on the ILC's draft, on 21st May 1997, the UN General Assembly adopted the Convention on Non-Navigational Uses of International Watercourses, widely known as the UN Watercourses Convention. This Convention codified the principles of sharing international watercourses building on the 1966 Helsinki Rules. Upon the request by Turkey, the General Assembly of the United Nations called for a vote on the resolution 51/229 adopting the UN Watercourses Convention. Out of 133 nations, 103 nations votes in favour (including Bangladesh, Finland, Jordan, Syria, USA, Mexico Slovakia and Nepal), 27 nations abstained (including Egypt, Ethiopia, India, Israel, Rwanda and France) and three nations votes against the Water Convention (Burundi, China and Turkey).[25]

3.0 Equitable and Reasonable Utilization

One of the most fundamental principles of international water law which emerged in the Helsinki Rules and is further developed by the Draft Articles is the idea of equitable utilization, or as Article 5 of the Draft Articles provides: 'equitable and reasonable utilization and participation'. And finally it took the shape of a treaty law in the year 1997. Article 5 of Convention on the Law of the Non-navigational Uses of International Watercourses 1997 has incorporated these principles.[26] This principle

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22 Joseph W. Dellapenna, 'Riparianism in 1 and 2 Waters and Water Rights, chs. 6-10 (Robert E. Beck ed., 1991).

23 Herbert A. Smith, *The Economic Uses of International Rivers* (PS King & Son Ltd 1931)144.

24 Fekri Hassan, 'Water History For Our Times' *IHP Essays On Water History* (UNESCO Publishing 2011).

25 The UN charge to the ILC to consider this topic was contained in General Assembly Resolution 2669 in 1970. The ILC referred a complete set of draft articles to the General Assembly for consideration in 1994.

reflects the emerging shared natural resource view of regulating the use of the international environment so as to manage the resource, as opposed to managing the individual political entity. 'Equitable utilization' in the Draft Articles stands for the idea that each State in an international drainage basin has an equal right to use the waters of that basin.[27] Precisely there are two fold effects of these principle: first, that international watercourses shall be used and developed to attain optimal utilization consistent with adequate protection of the particular watercourse; and second, that watercourse States shall participate in the use, development, and protection of international watercourses in an equitable and reasonable manner, including the duty to cooperate in the protection and development of it.[28] By providing that watercourse States 'shall participate' in the use and protection of an international watercourse in Article 5, both Draft Articles and the convention of 1997 expand upon the Helsinki Rules view of equitable use as a right to use a watercourse reasonably by creating a positive duty to protect that watercourse.[29]

In applying the equitable use concept to allocating water resources, the standard considers not what is an equitable use for that particular State's activities, but, rather, what is equitable in relation to other States using the same watercourse. The scope of a State's right of equitable use depends upon the facts and circumstances of each individual case, and specifically upon a weighing of several relevant factors.[30] Article 6 specifically provides six factors and circumstances which include: geographic and hydrologic factors, social and economic needs, effects of the use of the watercourse on another State, existing and potential uses, conservation and economic factors, and availability of alternatives. The Draft Articles also make clear that, of the uses to be considered, none is to be given priority.[31] Article 10 embodies this idea in providing that 'in the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses'. This principle, which is also found in the Helsinki Rules, encourages flexibility in the article's specific application to watercourses and further erodes the

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26 Report of the Fifty-Second Conference: The Helsinki Rules on the Uses of the Waters of International Rivers, 484 (August 1966).

27 ibid (n 17).

28 ibid (n 25).

29 ibid (n 26).

30 Report of the ILC, ibid (n 25) 84.

31 Ariel Dinar and others, *Bridges Over Water, Understanding Transboundary Water Conflict, Negotiation and Cooperation*, vol 3 (World Scientific Publishing Co Pte Ltd 2007) 64-65.

concept that there is a pecking order of traditional uses where developmental considerations supersede environmental protection.[32]

ICJ's decision of 25th September 1997 on the case, concerning the Gabcikovo- Nagymaros project[33] is a good example of the international applicability of the doctrine of equitable utilisation and obligation not to cause significant harm.[34] This case shows that an international watercourse is constrained in part by the limits of equitable use, in part by evolving environmental obligations and in part by considerations of sustainable development. The ICJ was presented with a controversy between Hungary and Czechoslovakia over a 1977 bilateral treaty on the Danube River regulating the development of a series of installations for improving the hydro-power generation, the environment and navigation, flood and ice control on the Danube River.[35] The main feature of the 1977 Hungary–Czechoslovakia treaty was the development of hydroelectric power and navigation, with projects to be carried out in each country at its own expense.[36] The dispute arose when Hungary unilaterally suspended the work (13th May 1989) on its portion causing Czechoslovakia (now Slovakia) in turn to unilaterally implement 'Variant C', one of the Czech/Slovak alternatives for developing the relevant section of the Danube. Variant C created a major decrease in the flow of Danube River downstream in Hungary.[37] Both countries had undergone dramatic political changes. Hungary determined that the project was environmentally unsound and attempted to unilaterally terminate the 1977 Treaty. On the other hand, Czechoslovakia/Slovakia argued that the project was environmentally sound, and that if any environmental issues arose, they could be adequately addressed within the 1977 treaty. The ICJ deliberated the case for four years, and decided in 1997 that both Hungary and Czechoslovakia/Slovakia had committed internationally wrongful acts and both parties are under an obligation to pay compensation.[38] The ICJ

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32 Tadesse Kassa, *International Watercourses Law in the Nile River Basin: Three States at a Crossroads* (Routledge Taylor and Francis Group 2013) 148-149.

33 <www.icj-cij.org/en/case/92/judgments> accessed 22 August 2020.

34 Report of the International Law Commission on the work of its Fortieth Session (9 May-29 July 1988), *Extract from the Yearbook of the International Law Commission* vol 11(2) (1988) 35.

35 Stephen McCaffrey, *The Law of International Water Course Non Navigation Use* (2nd edn, Oxford University Press 2007) 415-416.

36 Alex Grzybowski and others, 'Beyond International Water Law: Successfully Negotiating Mutual Gains Agreements for International Watercourses' (2010) 22 Global Business Development Law Journal 142.

37 3 ILC, Report of the International Law Commission on the work of its forty-sixth session. As quoted by Mohanned S. Helal, 'Sharing Blue Gold: The 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses Ten Years On' (2007) 18 Colo. J. Int'l Environmental Law and policy 356.

required that the settlement of accounts for the construction of the works must be resolved in accordance with the 1977 Treaty and related instruments. The ICJ decided the case on general international treaty law, but referred to Article 5 of the UN Watercourses Convention that focuses equitable and reasonable utilization of water resources in paragraph 147. On 21 August 2004, the Berlin Rules on water resources were approved in ILA's 71st conference held in Berlin. Unlike the Helsinki Rules and UN Watercourses Convention the Berlin Rules include not only the development of important bodies of international environmental law, but also international human rights law and the humanitarian rights law relating to the war and armed conflict.[39]

4.0 Critical Analysis of Equitable and Reasonable Share of Resources

The ILA adopted the Helsinki Rules on the Uses of the Waters of International Rivers at the 52nd conference, held at Helsinki in August 1966.[40] This document is widely known as the Helsinki Rules and, over the years, it has become widely acknowledged as basis for negotiation among riparian states over shared waters. Article V defines the relevant factors that should be considered in determining the reasonable and equitable share of water resources in an international drainage basin. These factors include but are not limited to: the geography of the basin, including the extent of the drainage area in the territory of each basin state,[41] the hydrology of the basin, including the contribution of water by each basin state, the climate affecting the basin, the past utilisation of the waters of the basin, including in particular existing utilization, the economic and social needs of each basin state,[42] the population dependent on the waters of the basin in each basin state, the comparative costs of alternative means of satisfying the economic and social needs of each basin state, the availability of other resources, the avoidance of unnecessary waste in the utilization of waters of the basin, the practicability of compensation to one or more of the co-basin states as a means of adjusting conflicts among uses, the degree to which the needs of a basin state may be satisfied, without causing substantial injury to a co-basin state. After considerable discussion during 1991–1997 on the ILC's draft, on 21st May 1997, the

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38 The UN Convention on the Law of the Non-navigational Uses of International Watercourses, adopted by the General Assembly of the United Nations by resolution 51/229, in its Fifty-first Session, on 21 May 1997, came into force, 17August 2014, arts 5, 6, 7(1) &7(2).

39 McCaffrey (n 35).

40 ibid (n 37).

41 Dante A. Caponera, *Principle of Water law and Administration National and International* (2nd edn, Taylor & Francis 2007) 213.

42 Grzybowski and others (n 36).

UN General Assembly adopted the Convention on Non-Navigational Uses of International Watercourses, widely known as the UN Watercourses Convention.[43] This Convention codified the principles of sharing international watercourses building on the 1966 Helsinki Rules. Article 5 adopts the theory of equitable and reasonable utilisation: 'Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits there from, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse'.[44] Article 5(2) requires watercourse states to participate and cooperate in the use, development and protection of the watercourse in an equitable and reasonable manner. Article 6(1) mentions that all relevant factors and circumstances should be taken into account in determining equitable and reasonable utilisation. These factors include: geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; social and economic needs of the watercourse states concerned; population dependent on the watercourse in each watercourse state;[45] effects of the use or uses of the watercourses in one watercourse state on other watercourse states. Existing and potential uses of the watercourse; conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; the availability of alternatives, of comparable value, to a particular planned or existing use.[46]

The application of Articles 5, 6(1) and 6(2) requires states to enter into consultations in a spirit of cooperation. However, this is to note that none of these factors mentioned in Article 6(1) can be defined precisely as they are broad and general. Accordingly, these can be defined and quantified in a variety of different ways.[47]

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43 ibid (n 38).

44 Margaret J. Vick, 'The Law of International Waters: Reasonable Utilization' (2009) XII (1) Chi.-Kent Journal of International and Comparative Law 145.

45 Atricia K. Wouters, Allocation of the Non-Navigational Uses of International Watercourses: Efforts at Codification and the Experience of Canada and the United States' *The Canadian Yearbook of International Law* vol XXX (University of British Columbia Press 1992) 45-46.

46 Godana (n 8) 55.

47 David J. Lazerwitz, 'The Flow of International Water Law: The International Law Commission's Law of the Non-Navigational Uses of International Watercourses' (1993) 1(1) Indiana Journal Global Legal Studies 259.

5.0 The India and Bangladesh Issue

The Ganges rises in the Himalaya and flows through India to Bangladesh, where it joins the Bramputra to form Padma, which empties in to Bay of Bengal through a Vast Delta. Between 1961 and 1975 India constructed a dam over river Ganges at Faraka. The main reason behind this construction was to supply water to the Calcutta Harbor. Bangladesh contented that this water is an indispensible need in the dry season, especially between November to May for irrigation. Bangladesh (the then East Pakistan) brought the matter before United Nation General Assembly between 1968 to 1976.[48] As per India's position, it contented that 99 percent of catchment of Ganges lay in India hence Ganges is an International river nevertheless asserted willingness to discuss the matter with East Pakistan in order to assure that Faraka Barrage would not cause harm.[49] But later on, India not only ceased to deny the internationality of Ganges but also accepted the principle that 'each riparian state was entitled to reasonable and equitable share of the water of an International river. This is to understand that, the cause of conflict was not principle oriented. The equitable and reasonable distribution of water is a well-accepted principle of international river water sharing. The problem lies with the subjectivity of the term 'equitable and reasonable.' It is very difficult to determine what is equitable. In this scenario India contented that the downstream country failed in two aspects, *firstly* it failed to provide sufficient technical data to permit assessment of the effect of the barrage and *secondly* increased the quantities of water it maintained that it required.[50] Bangladesh at the same time was of a view that, at least in the dry seasons it must be allowed to get the natural flow of the Ganga in order to satisfy the human and ecological need and very importantly pointed out that without the natural flow this will not be possible. Bangladesh's contention for need of the water was based on need for development and most importantly argued that there is no water sharing formula that fixed the right of one side at a static figure, which would be equitable. Bangladesh followed the principle of equitable utilization in order to establish its claim over water to be justified and fall under the ambit of equitable use. The argument made by Bangladesh was heavily depended on the vital need of water by alleging Indian use as a wasteful charter by claiming it to an entirely new use of the water of river Ganges. The presence of alternative

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48 Rakesh Tiwary, 'Conflicts over International Waters' *Economic and Political Weekly* (2006) 41(17) (29 April – 5 May 2006).

49 Richa Singh, 'Trans-boundary Water Politics and Conflicts in South Asia: Towards 'Water for Peace'' *A report of Centre for Democracy and Social Action. New Delhi, India* (Centre for Democracy and Social Action 2008).

50 Treaty between the Government of the People's Republic of Bangladesh and the Government of the Republic of India on Sharing of the Ganges/Ganges Waters at Farakka 1996.

was highlighted and at the same time unfeasibility of the alternative proposed by India (liking of the Brahmaputra with Ganges) was pointed out. Principle 21 of Stockholm Declaration 1972 was invoked by Bangladesh.[51] Principle 21 of Stockholm and Principle 2 of Rio is generally recognized today as expressing a basic norm of customary international environmental law. States have, in accordance with the UN Charter and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that the 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.[52]

The controversy was resolved by a bilateral agreement signed between India and Bangladesh in the year 1977. The 'Agreement on Sharing of the Ganges Water' was entered by both the Nations in a ministerial level meeting in Dhaka.[53] It provides for allocation of Ganges water in accordance with an annexure Schedule during the annual dry period. Initially, though the term of agreement was only for five years but the parties continued it till 1996, when the new accord was concluded. The new agreement was signed in the year 1996 and it is in a form of gentlemen's agreement meaning there by it would remain in force on a yearly basis unless terminated by one of them. A joint committee of the previously established joint River commission oversaw the implementation.[54] The preamble of the treaty refers the party's desires to find 'a fair and just solution without affecting the rights and entitlements of either country other than those covered by this treaty, or established by general principle of law or precedent'. The narration 'fair and just' can be equated to equitable and reasonable utilization.[55] Furthermore the Preamble of the treaty also included the maximum utilization of the river water. The agreement laid down a formula that has to be followed to share the water of river Ganges, which especially took the season wise need of the water for both the country. The agreement also laid down necessary agreement in the time of emergency like fall in the water flow. It also kept constancy with the principle of equity, fair play and no harm to the either

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51 Kimberley Thomas, 'Water Under the Bridge? Int'l Resource Conflict and Post-Treaty Dynamics in South Asia' (2012) (5) South Asia Journal.

52 M Q Mirza, 'The Ganges water-sharing treaty: risk analysis of the negotiated discharge' (2002) 2(1) International Journal of Water 57-74.

53 ibid

54 Robert G. Wirsing and others, *International Conflict over Water Resources in Himalayan Asia* (Palgrave Macmillan 2013).

55 Emma Condon and others, 'Resource Disputes in South Asia: Water Scarcity and the Potential for Interstate Conflict' (2009) (Workshop in International Public Affairs, Robert M. La Follette School of Public Affairs, University of Wisconsin-Madison) 10.

party. Though this treaty was signed before the 1997 UN convention but it has incorporated the major principle of the convention and ILC draft article in general and Article 5 and 7 in particular. [56]

6.0 Conclusion

Water resource is the key element for development. The region of South Asia is the home to several major river systems. The artificial division of drainage for political reasons as well as increasing pressure on water for many factors like development has given rise to many disputes. On the other hand, in the era of emerging environmental law, the sustainable and ecological dimension of the water resources cannot be ignored. According to Article 5 of the UN convention of the law of the Non- navigational uses of International Water resources, the watercourse states must ensure the equitable and reasonable utilization and participation. The Ganges Water Treaty determines the water-sharing arrangements between India and Bangladesh, however, its ability to suitably divide riparian water rights and foster co-operation is limited at best. India's construction of the Farakka Barrage has, in part, soured the bilateral relationship between the two countries. Both India and Bangladesh face increased pressure to meet rising water demands. There is little effective water agreement to sustain a co-operative bilateral relationship while meeting these demands. It is true that there cannot be any permanent solution to the water problem but this treaty does keep both customary water law and UN convention into consideration. The terms 'equitable and reasonable' sharing has a subjective nature and must be addressed by international community in more precise manner.

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