South Asia Watercourse Regimes: Reflection on the International Customary Norms of Water Law and the Role of SAARC

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Research Article

Abstract

South Asia is considered to be the most vulnerable region in terms of arrangements and management of shared water resources. In order to peacefully regulate and manage the South Asian watercourse regimes, five major international legal instruments and arrangements have been put into place. Most of these instruments have been negotiated in a different prevailing socio-economic and political atmosphere at a time when most of the existing international watercourse principles/rules were developing or at their earlier stage of development. For instance, Indus Water Treaty was negotiated and concluded in 1960 a time when the existing principle of "Equitable and Reasonable Utilization" and rule of "No Harm" had not been fully culminated in the international customary rules which they are today. While only a few South Asian watercourse treaties, such as Ganga/Ganges Treaty, incorporate the notions of "equity," others are silent about such concerns of "equity" and "equitable treatment" of shared water resources between the parties to the treaty. This shows an improper and inconsistent watercourse practice of South Asian countries. Against these backdrops, the paper seeks to analyze the extent to which South Asian Watercourse Conventions incorporates these customary principles of international law. The paper argues that the South Asian countries could sign the 1997 Watercourses Convention for the management of South Asian shared water resources. They could also establish an institutionalized cooperation mechanism under the mandate of the South Asian Association for Regional Cooperation (SAARC) for facilitating implementation and institutional monitoring of equity, adaptation, flexibility and reasonableness in the agreement of South Asian water-sharing.

Keywords: SAARC, Watercourse Regime, South Asia, Water Customary Norms of International Law

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1. Introduction

Water is not only an essential biological need and a valuable economic good but also the most political among natural resources.[2] Several transboundary water disputes emerged throughout the world generally and between India-Pakistan and India-Bangladesh in South Asia particularly. South Asia that accommodates around 1.891 billion population is one of the most water-stressed regions in the world where a freshwater crisis is the most significant contentious issue which needs to be addressed at all level of water governance.[3] There are multiple factors responsible for causing water-related issues and problems in the South Asian region. These factors include, but not limited to: increasing demand for water compounded by an exponential growth in the population; development considerations; water mismanagement; lack of cooperation and political solidarity; uneven distribution; environmental protection; water pollution; and climate change.[4] Therefore, the governance and management of transboundary water emerge as an important means of preventing conflict over shared water resources.[5] The most difficult challenge is to build up the most viable peaceful mechanism to sort out these problems of transboundary water before they take a form of violence between the States in South Asia. Indus Water Treaty (IWT) has been seen as a cornerstone for cooperation between India and Pakistan.[6] Likewise, the Mahakali Treaty[7] between Nepal and India and Ganga/Ganges Waters Treaty (GWT)[8] between Bangladesh and India are examples of water sharing arrangements in South Asia.

These instruments are, however, adopted in a different socio-economic and political context accompanied by diverse factors including hydrography, geography, and climatic change. They do not fully incorporate the developed norms of international environmental and water laws. Therefore, there is a need to revisit the instruments, or else, South Asian countries should ratify the United Nations Convention on the Non-Navigational Uses of International Watercourses (UNWC), 1997. Should institutional help be required, the South Asian Association of Regional

2 Holger P. Hestermeyer, *et al* (eds.), *Coexistence, Cooperation and Solidarity: Liber Amicorum Rüdiger Wolfrum* 1037–1064 (Martinus, Nijhoff, The Hague, 2012).
3 A.D. Tarlock, "Water security, fear mitigation and international water law" 31 *Hamline Law Review* 703–728 (2008).
4 K. N. Adhikari, "Conflict and Cooperation on South Asian Water Resources" 14 *IPRI Journal* 45–62 (2014).
5 J. Kraska, "Sustainable development is security: The role of transboundary river agreements as a confidence building measure in South Asia" 28 *Yale Journal of International Law* 465–504 (2003).
6 The Indus Waters Treaty, 1960.
7 Mahakali Treaty between India and Nepal, 1996.
8 Treaty between the Government of the People's Republic of Bangladesh and the Government of the Republic of India on the Sharing of the Ganga/Ganges Waters at Farakka, 1996.

Organization (SAARC) is on hand to monitor the equitable application of South Asian water-sharing arrangements and to ensure that South Asian countries are not harmed by each other actions. In light of these backgrounds, the first part of the paper briefly recapitulates the normative and institutional water-sharing arrangements of South Asian watercourse regimes, with a particular focus on IWT, GWT, and Mahakali Treaty. Second, it lays down the relevant customary norms that apply to transboundary shared water resources. It then analyses in part fourth whether South Asian watercourses regimes reflect those customary norms. Finally, the paper argues for South Asian countries to become a party to the UNWC, while establishing a parallel regional cooperative mechanism under the mandate of SAARC.

2. Normative And Institutional Arrangements For The Management And Sharing Of South Asian Water Resources

This part briefly describes the normative and institutional arrangements governing the management of shared waters resources of majors Rivers of South Asia, namely Indus, Mahakali, and Ganga.

2.1 Water sharing arrangements between India and Pakistan

Pakistan and India signed IWT in 1960 to provide a comprehensive solution regarding the flow and allocation of waters.[9] It allocates India control over eastern rivers (Beas, Sutlej, and Ravi) with some exceptional benefits in favor of Pakistan while allocates Pakistan control over western rivers (Indus, Chenab, and Jhelum) with a few exceptional benefits in support of India.[10] While articles II, III, and IV talk about water allocations, articles VI and VII are fully dedicated for future cooperation and exchange of data regarding flow and utilization of waters of all six rivers. The IWT is the only treaty in South Asia that developed an integrated system of basin development. The IWT was signed in a completely different political and climatic environment where Pakistan and India agreed in 1948 for temporary arrangements over water flow.[11] But Pakistan repudiated the arrangements in 1949 and proposed to take the matter to court, which India resisted.

9 Mary Miner *et al*., "Water Sharing Between India and Pakistan: A Critical Evaluation of the Indus Waters Treaty" 34 *Water International* 204–216 (2009).
10 *Supra* note 6, arts. II and III.
11 A.S. Qureshi, "Water Management in the Indus Basin in Pakistan: Challenges and Opportunities" 31 *Mountain Research and Development* 252–260 (2011).

Nevertheless, the culmination of IWT with the third party role played by the World Bank in 1960 is considered a significant achievement for both the countries as it has been able to resolve a few contentious issues between India and Pakistan.[12] The International Law Commission (ILC) has called the IWT as a prime case of equitable apportionment or utilization.[13] The efficacy of the IWT in resolving disputes concerning sharing and harnessing the Indus Waters can well be summarized in the words of Stephen M. Schwebel, where he aptly observed that "The Indus Water Treaty was a great achievement of Pakistan and India and of the World Bank, and it remains so;…and these proceedings are an illustration of its continuing vitality."[14] The role of transboundary water-sharing treaties has been positive in promoting the sustainable utilization and development of the river basins.

2.2 Water sharing arrangements between Bangladesh and India

Since the liberation of Bangladesh from Pakistan in 1971, several short-term arrangements between Bangladesh and India have been made regarding water sharing over the river Ganga which passes through several Indian states before crossing over to Bangladesh through Farakka barrage.[15] The construction of the barrage by India in 1975 triggered several controversies over the management and sharing of the Ganges waters at Farakka.[16] After lengthy negotiations of more than twenty years, Bangladesh and India signed the GWT in 1996 for thirty years. However, the GWT can be renewed if the two countries agree to decide so mutually.[17] The GWT lays down several normative provisions aiming at sharing the Ganges waters at Farakka. In this regard, Article II of the GWT says that India and Bangladesh will share waters at Farakka by "ten-day periods from the 1st January to the 31st May every year with reference to the formula at Annexure I." The formula given under Annexure I stipulates that if waters availability at Farakka remains 70,000 cusecs or less, each country will take a share of 50 percent.[18] If the availability of waters ranges from 70,000 cusecs to 75,000 cusecs, both the

12 *Ibid*.
13 Stephen M Schewebel, *The Law of the Non-navigational Uses of International Watercourses, Third Report on the law of non-navigational uses of international watercourses*, A/CN.4/348 and Corr.1, 1982, vol. II (1), para. 65.
14 Permanent Court of Arbitration, "Indus Waters Kishenganga Arbitration (Pakistan v. India)" THE HAGUE, Press Release, Sept. 1, 2012, *available at*: <https://arbitrationlaw.com/sites/default/files/free_pdfs/2012-09-01_-_pk-in_press_release_september_1_20120f67.pdf>. This PDF is available at <arbitrationlaw.com> and can be accessed at <https://arbitrationlaw.com/library/indus-waters-kishenganga-arbitration-pakistan-v-india-pca-case-press-release-september-1> (Last visited on Sept 5, 2020).
15 L. Hossain, "Bangladesh-India Relations: The Ganges Water-Sharing Treaty and Beyond" 25 *Asian Affairs* 131-150 (1998).
16 *Ibid*.
17 *Supra* note 8, art. XII.
18 *Id*., art. II read with Annexes I and II.

countries agreed that they would receive a stock of a minimum of 35,000 cusecs alternatively on ten-day periods.[19] However, if the water level crosses beyond 75000 cusecs, India's share will be fixed at 40000 cusecs while remaining will be released to Bangladesh.[20]

The GWT further ensures that the waters that will be provided to Bangladesh below Farakka won't be lowered apart from rational use by India.[21] Further, India's reasonable uses of waters cannot exceed 200 cusecs. The GWT also envisages institutional arrangements, such as the joint committee, to observe the daily flows of waters at Farakka.[22] The functional nature of the committee is technical, for instance, to collect the data and prepare the reports and transmit the same to both the governments.

2.3 Water sharing arrangements between Nepal and India

Water sharing arrangements between countries like India and Nepal are not immune to the political controversies between the two nations.[23] Legally speaking, the first international treaty between Nepal and India was signed in 1954 on the River Kosi.[24] However, the scope of the treaty was limited for irrigation, electricity generation, and to control the overflow of waters.[25] The treaty is criticized for being barrage centric and does not talk about water management at the Kosi River project. In 1959, the Gandak River Treaty signed by Nepal and India was also limited in scope to provide waters for irrigation and generation of electricity.[26] The Treaty ensures and protects the rights of Nepal as one of the riparian states.[27] This particular treaty aims at operation and maintenance of power projects rather than the management and protection of watercourse.[28]

The most crucial water treaty signed by India and Nepal is the recently concluded Mahakali Treaty of 1996, which governs several aspects of water sharing over the River Mahakali (also known as Sarada River).[29] The treaty envisages an idea of overall development of Mahakali

19 *Ibid*.
20 *Ibid*.
21 *Id*., art. III.
22 *Id*., art. IV.
23 K. Bahadur & M. P. Lama (eds.), *New Perspectives on Indo-Nepal Relations* 247–259 (HarAnand, New Delhi, 1995)
24 India-Nepal Agreement (revised in 1996) on the Kosi River Project, 1954.
25 K. Uprety and S.M.A. Salman, "Legal Aspects of Sharing and Management of Transboundary Waters in South Asia" 56 *Hydrological Sciences Journal* 641-661 (2011).
26 Gandak River Treaty between India and Nepal (amended 1964), 1959.
27 *Supra* note 25 at 645.
28 S.M.A. Salman and K. Uprety, *Conflict and Cooperation on South Asia's International Rivers: A Legal Perspective* 83-96 (The World Bank. Washington, D.C., 2002).
29 *Id*. at 97-118.

River, taking in the construction and operation of Sarda barrage, Tanakpur barrage, and Pancheshwar Multipurpose Project.[30] This treaty is most significant for several reasons. It provides Nepal a supply of 1000 and 150 cusecs of water from the Sarada barrage in the wet and dry season, respectively.[31] Additionally, India has to supply 350 cusecs of water for the Dodhara –Chandani community living in the Nepalese side of Territory.[32] Furthermore, India has been entrusted with a responsibility to preserve the river ecosystem. Thus, it has to sustain a flow of waters in the Mahakali River, waters that should flow at the rate of not less than 350 cusecs below Sarada barrage.[33]

Institutional arrangements under the Mahakali Treaty include the establishment of the Mahakali River Commission, which consists of representatives of both the countries equal in numbers.[34] The Commission's mandate is to seek information, inspect and provide experts evaluation of the water projects, and facilitate plans of actions.[35] Consequently, the plan is liable to make consideration for both countries regarding the protection and exploitation of the River Mahakali. However, both countries reserve the right to deal with the matter that otherwise falls within the competence of the Commission directly.[36]

3. Customary Norms Of International Law Applied To International Water-Sharing Arrangements

The customary norms of international shared water resources are broadly reflected in the state practices, treaty law, authoritative pronouncements of the ICJ, international arbitral tribunals, and in the work of ILC and International Law Association (ILA). These norms are related to the obligations of watercourse states to not pollute international rivers and to use shared water resources equitably and reasonably. Besides this, states are obliged to follow a few procedural obligations of customary law, including the commitments to pursue Environmental Impact Assessment (EIA) and a duty to co-operate. These customary norms that apply to share and utilization of international water resources are summarized as follow:

a. Principle of No-Transboundary Harm or Rule of No Harm;
b. Principle of Equitable and Reasonable Utilization of Waters;

30 *Supra* note 7, art. 3 (b) and (c).
31 *Id*., art. 1(1).
32 *Id*., art. 4.
33 *Id*., art. 1(2).
34 *Id*., art. 9.
35 *Id*., art. 9(3) (a)-(e).
36 *Id*., art. 9(6).

c. Principle of EIA;

d. Duty to Co-Operate.

The rule of No-Transboundary Harm is a foundational principle of international environmental law that is grounded in Principles 21 and 2 of the Stockholm and Rio Declarations, respectively, along with the ICJ ruling in the famous case of Gabchikovo-Nagymaros, 1997.[37] It states that states should ensure that "activities within their jurisdiction or control do not cause damage to the environment of other States."[38] In the context of waters law, it is an established principle that the utilization of shared water resources, including international rivers, is conditioned by the international obligation of watercourse states to strive towards the prevention of water pollution that might cause "substantial injury" to other watercourse states.[39] All watercourse states should take all reasonable measures to mitigate the volume of existing pollution. It is an obligation of due diligence. Countries should strive to protect the aquatic environment, the ecological integrity of international rivers through a precautionary approach, prevent the mixing of hazardous materials, and establish the standards of water quality.[40]

As for the customary norm of "equitable and reasonable utilization" of shared-water resources, it states that watercourse states are required to utilize the waters of international rivers in a manner to attain optimal and sustainable utilization with adequate protection to the watercourse and without jeopardizing the interests of other watercourse states.[41] This principle finds its traces in the ruling of the Permanent Court of International Justice (PCIJ) in 1929, where the Court held that "community of interests" becomes the basis of legal right where equality of all riparian states has to be respected.[42] The PCIJ, in this case, overruled the Harmon Doctrine, according to which a country is sovereign to use an international watercourse, without necessarily respecting the rights of downstream states.[43] It indicates that a state is not allowed

37 Owen McIntryre, "The Role of Customary Rules and Principles of International Environmental Law in the Protection of Shared International Freshwater Resources" 46 *Natural Resources Journal* 157 (2006);
38 This principle traces its background in Trail Smelter Arbitration (*U.S.* v. *Canada*), 3 U.N. Rep. International Arbitration Awards 1905 [1941]; see also Corfu Channel (*U.K.* v. *Albania*) (Judgment) [1949] ICJ Rep. 4, at 22.
39 Fifty-Second Report of the International Law Association (ILA), Helsinki Rules on the Uses of the Waters of International Rivers, 20 August 1966, Arts. IX and X; see also Joseph W. Dellapenna, "The customary international law of transboundary fresh waters" 1 *International Journal of Global Environmental Issues* 264 (2001).
40 Ludwik A. Teclaff and Eileen Teclaff, "Transboundary Toxic Pollution and the Drainage Basin Concept" 25 *Natural Resources Journal* 589 (1985).
41 Owen McIntyre, "Utilization of shared international freshwater resources-the meaning and role of "equity" in international water law" 38(2) *Water International* 112-129 (2013).
42 Case Concerning the Territorial Jurisdiction of the International Commission of the River Oder (Judgment No. 16) [1929] PCIJ Ser. A No. 23, at 27.
43 Stephen C. McCaffrey, "The Harmon Doctrine One Hundred Years Later: Buried, Not Praised" 36 *Natural Resources Journal* 965 (1996).

to use shared-water resources in a manner to deprive other countries of their rights of equitable and reasonable entitlements regarding that shared resources. The doctrine of "community of interests" was later incorporated by the ICJ in Fisheries Jurisdiction case and Gabchikovo-Nagymaros case.[44]

As for the EIA is a principle of general international law, it asks states to conduct an EIA when there is a threat that the measures taken in pursuance of proposed activity may adversely affect shared water resources.[45] However, it is not clear what could be the contents of the EIA.[46] It is left at the discretion of a state to decide and devise a mechanism to implement the process of EIA. States can take regulatory actions to safeguard the environment, although such actions may result in restricting the rights of another country over a shared watercourse.[47]

As for the duty to co-operate, it is a customary obligation of a state to co-operate, consult, and negotiate with other states to reach an equitable solution regarding the activities that may affect shared-water resources.[48] If a state is engaged in any activities that may result in water pollution and excessive use of international rivers, it has to notify other states for having their shared interests in the utilization of such international rivers not to be affected.[49] These are the procedural obligations linked to the substantive obligations of states to protect and conserve the environment and the interest of other countries concerning shared water resources.

4. Reflection and incorporation of the customary norms of international water law in the South Asian watercourse regimes

This part seeks to understand the extent to which South Asian watercourse regimes reflect customary rules of water law. In this regard, it analyses in detail the IWT, GWT, and Mahakali Treaty.

44 Gabchikovo-Nagymaros Project (Hungary/Slovakia) (Judgment) [1997] ICJ Rep. p. 7, para. 85; Fisheries Jurisdiction (*United Kingdom* v. *Iceland*) (Merits) [1974] ICJ Rep. 3 at 31; see also Lac Lanoux Arbitration [1957] 24 ILR 101, at 140.
45 Pulp Mills on the River Uruguay (*Argentina* v. *Uruguay*) [2010] ICJ Rep. p. 14, paras. 204-5.
46 P. Sands & J. peel, *Principles of International Law* 307 (CUP, Cambridge, 3rd Edition, 2012).
47 Dispute Regarding Navigational and Related Rights (*Costa Rica* v. *Nicaragua*) [2009] ICJ Rep. 213, paras. 85-9.
48 Stephen C. McCaffrey, *The Law of International Watercourses* 526-43 (OUP, Oxford, 3rd Edition, 2019).
49 *Ibid.*

a. Indus Water Treaty

IWT lays down general provisions regarding water sharing arrangements between two countries. To what extent the provisions of IWT can be construed to be corresponding to the customary norms, it is essential to discuss the Kishenganga Arbitration Award. The Award is a result of a water dispute between Pakistan and India over the Kishenganga Hydro-electric Project (KHEP), where customary environmental principles were appreciated and pronounced by the Court of Arbitration (CoA) in its interpretation of the IWT. The following principles are discussed in the Award.

Principle of no-transboundary harm

The CoA emphatically ruled that States should consider environmental protection against projects that may cause damage to the boarding States.[50] It also referred to the Iron Rhine arbitration while supporting the "principle of general international law" where stats should make efforts to preventing, or mitigating (if prevention is not practically possible), significant harm.[51] The tribunal found that India has to maintain under customary law to "minimum environmental flow," which is necessary for mitigating the significant trans-boundary impact of KHEP.[52]

The CoA also highlighted that the principles of prevention and due diligence are intertwined customary rules that ask a State in its territory "not to allow knowingly its territory to be used for acts contrary to the rights of other States." The CoA further added that the obligation to notify is essential to be performed as part of a State's duty to avoid environmental harm.

Sustainable development and EIA

The CoA considered the emerging principle of sustainable development. It reiterated that the principle of sustainable development also includes the requirement to undertake EIA in case the construction of large scale projects is involved.[53] In this context, it referred to the recent Pulp Mills case in which ICJ concluded that the state should prepare EIA report if any undertaking leads to a possibility of notable transboundary environmental degradation despite the prevailing uncertainty regarding the nature, scope, and content of the EIA under

50 The Indus Water Kishenganga Arbitration *(Pakistan* v. *India) (Partial Award)* [18 Feb. 2013] Court of Arbitration (CoA), paras. 258, 448-50.
51 *Id*. at 451
52 The Indus Water Kishenganga Arbitration *(Pakistan* v. *India) (Final Award)* [20 Dec. 2013] Court of Arbitration (CoA), paras. 112-116.
53 *Supra* note 50 at 258.

international law.[54] The CoA further added that the obligations of due diligence and prevention would be prima facie considered to be fulfilled if a development project passes through the process of EIA. It indicates that EIA is an essential requirement of the principle of prevention or due diligence.

Thus, CoA considered the principles of due diligence, sustainable development EIA, and protection, to be an important, basic and essential element for the entire life of the plan and project.

Protection of the ecology of the river

When both parties submitted their arguments on the interpretation of Article IV (6) of the IWT[55], Pakistan said that there is a breach of Article IV (6) as the "material damage" in terms of loss of natural habitat and ecosystem has been caused by KHEP. India argued that since the IWT does not provide for the invocation of international environmental principles, the arguments put forward by Pakistan based on ecological harm caused by the KHEP project become irrelevant to the current dispute.[56] The tribunal, instead of addressing the question of ecological harm, relied on a literal interpretation to avoid the issue of material damage. Finally, the CoA, while accepting India's version of understanding of Article IV (6), observed that India must sustain, not the volume of waters, but the physical paths of the river. By way of this interpretation, the CoA showed its reluctance while not applying and deliberately ignoring the developed principles of international environmental law.

Principle of equitable and reasonable utilization

It is quite surprising that although the dispute regarding the KHEP project is pertaining to South Asia's largest international watercourse, the CoA avoided mentioning the importance of UNWC. Many substantive provisions of the UNWC have been considered to be reflective of customary international law.[57] However, the CoA did not refer to the customary principle of "equitable and reasonable utilization" of the Indus River basin.[58] The reason for the CoA to avoid explicit mention of the UNWC could be that it might have treated the IWT as *lex specialis*

54 *Supra* note 45 at 205.
55 Article VI of the IWT says that "each Party will use its best endeavors to maintain the natural channels of the Rivers, as on the Effective Date, in such condition as will avoid, as far as practicable, any obstruction to the flow in these channels likely to cause material damage to the other Party."
56 *Supra* note 50 at 262.
57 Stephen C. McCaffrey, "An Overview of the UN Convention on the Law of the Non-Navigational Uses of International Watercourses" 20 *Journal of Land Resources and Environmental Law* 57 (2000).
58 *Ibid.*

rather than as a part of *lex generalis*. However, the CoA referred to India's "significant rights" regarding the utilization of waters of Western Rivers.[59] It indicates that the upper riparian state could enjoy "significant right" (or perhaps superior rights) against the rights of lower riparian. It seems to revive an outdated theory of "absolute sovereignty" (Harmon doctrine). This principle of absolute sovereignty, however, has been substituted by the doctrine of "community of interest" with "limited territorial sovereignty" over shared water resources.

b. Ganga/Ganges Waters Treaty

The GWT reflects the notions of equity, fairness, and no harm. The treaty is, however, silent about the contours and parameters of equity and how it could be measured. The GWT says that the waters sharing arrangements between India and Bangladesh are required to be reviewed at every five years interval.[60] Such a review that may require future adjustments to the GWT must be based on the principles of equity and fairness.[61] However, in a case where countries cannot form a consensus on adjustments following review, India will have to discharge below Farakka barrage waters not less than 90% of Bangladesh's share as prescribed under Article II.[62] As for the customary principle of "equitable and reasonable utilization" of waters, the GWT makes an implied reference of the "optimum utilization" of the water resources regarding flood management, river basin development, and generation of electricity for the common benefit accrued to the peoples of the two countries.[63] However, the GWT hardly provides any mechanism for sustainable use of waters and joined administration of the Ganga/Ganges basin.[64] Therefore, it is suggested that water-sharing arrangements over the Ganga/Ganges River must include all the states within the basin areas. The GWT seems to be anticipating a situation where the flow of waters at Farakka might be reduced significantly below 50,000 cusecs because of many reasons, including climate change.[65] Although the GWT does not mention climate change impacts explicitly, countries are nevertheless required in the situation of emergency to consult immediately following the norms of equity, fair play, and no harm to either party.[66] The GWT is, however, silent about the procedure that can be used to seek long-term sustainable solutions regarding waters crisis during the dry season. Bangladesh and India

59 *Supra* note 45 at 420.
60 *Supra* note 6, art. X.
61 *Ibid*.
62 *Id*., art. XI.
63 *Id*., preambular recitation 3.
64 *Supra* note 25 at 654.
65 *Supra* note 8, art. II (iii).
66 *Ibid*.

also agreed in 1996 through GWT that the principles of equity and no-harm will be the guiding principles for both the countries if, in the future, they sign any water-sharing treaties/agreements concerning other common rivers (such as Teesta River).[67] It indicates that GWT provides for a treaty framework for future water treaties between Bangladesh and India.[68]

The GWT, while incorporating the principle of "no harm," ensures that the working of the water-sharing arrangements will have no adverse impact on either of the parties to the treaty.[69] The nature of the "no harm" principle under the GWT is slightly different from Article 7 of the UNWC. While the UNWC treats the principles of "no harm" and "equitable and reasonable utilization" differently, the GWT places both the principles in the same position.[70] In this situation, Bangladesh, as a low riparian state, might claim in a parched region that it would be harmful to it if India utilizes the watercourse during the dry season.[71] Furthermore, while the GWT apportions the waters of Ganga River at Farakka, but it does not provide any mechanism for operating the Farakka barrage. It entails that Bangladesh can influence the operation of the Farakka barrage because India is duty-bound to release prescribed quantities of waters to Bangladesh and that Farakka barrage is a subject-matter of dispute settlement under the GWT. Ironically, unlike the Mahakali Treaty, the GWT does not provide any judicial settlement of disputes over Farakka barrage.

The GWT further recognizes the importance of customary norms of "cooperation" in reaching out to an acceptable solution to the problem of availability of Ganga waters during the dry season. The principle of cooperation holds significant importance for watercourse countries sharing waters of international rivers. In the case of GWT, the principle would arguably play a vital role in facilitating to augmenting of the flows of the Ganga/Ganges during the dry season.[72] Not only that, but cooperation can also help countries in managing and advancing the competing interests of South Asian countries based on their different domestic priorities. However, countries hardly have any agreed mechanism to augment the flow of the Ganga/Ganges during the dry season. Thus, it would not be easy to satisfy the common

67 *Id*., art. IX.
68 Surya P. Subedi, "Hydro-Diplomacy in South Asia: The Conclusion of the Mahakali and Ganges River Treaties" 93/4 *The American Journal of International Law* 953-96 (1999)."
69 *Supra* note 8.
70 Bharat H Desai, "Sharing of International Water Resources: the Ganga and Mahakali River Treaties" 3/2 *Asia Pacific Journal of Environmental Law* 172- 177 (1998).
71 *Supra* note 68 at p. 961.
72 *Supra* note 8, art. VIII.

requirements and dependency on the waters of both countries.[73] Arguably, the situation has been further deteriorated with the diversion of waters that have resulted in the destruction of breeding for the Gangetic species. Consequently, the fishing sector and agricultural diversity of the region have been severely compromised, leaving thousands of local peoples in vulnerable conditions.

c. Mahakali Treaty

The Mahakali Treaty neither explicitly incorporates the principle of "equitable and reasonable utilization" of waters, nor does the treaty highlight the importance of the "no harm" principle in the governance of waters of Mahakali River. However, both the parties are of the view that they have "equal entitlement in the utilization of the waters" of the Mahakali River. Scholars have interpreted the statement – "equal entitlement in the utilization of the waters" – as it reflects the notions of equitable and reasonable utilization since the equal utilization does not affect the current uses of both the countries.[74] However, the Mahakali Treaty explicitly provides that the interests of Nepal in terms of its water requirements and utilization of waters will hold prime consideration.[75]

As for the "no harm" principle, the Mahakali Treaty makes limited references to the concept of the "no harm" principle. The treat only requires the Mahakali River Commission to perform its mandate following the "principles of equality, mutual benefit, and no harm to either Party."[76] Similarly, the treaty takes care of the importance of the minimum flow of waters necessary for the survival of the Mahakali River.[77] Thus, each country is required not to hinder or dissuade the waters and path of the Mahakali River, adversely affecting its natural flow.[78] Local communities who are residing near to Mahakali River are, however, not precluded from utilizing the River waters for their consumptive uses.[79] Salman and Uprety hope that the Mahakali River basin may develop in a way that may follow an integrated approach to capitalize on the aggregate net benefit from the Mahakali River basin. However, the lack of

73 *Supra* note 25 at 654.
74 Ravindra Pratap, "Building Peace over Water in South Asia: The Watercourses Convention and SAARC" 4/1 *Athens Journal of Law* 7-26 (2018).
75 *Supra* note 7, Art. 5(1).
76 *Id*., art. 9(1).
77 *Id*., art. 1(2).
78 *Id*., art. 7.
79 *Ibid.*

cooperation and political forces in Nepal hardly allow resolving all matters that arise out of the functioning of the Treaty.

5. 1997 Watercourses Convention: Why South Asian Countries Should Become Parties To This Convention

The UNWC reflects rules of customary international law, which are otherwise hardly respected fully in the South Asian watercourse regimes. The UNWC recognizes the customary aim of "equitable and reasonable utilization" water resources to be shared. The Convention under Article 5 says that watercourse States shall utilize an international watercourse equitably and reasonably to attain sustainable utilization of waters while ensuring adequate preservation of the waterway and respecting the interests of other watercourse States. The Convention further incorporates under Article 7 the rule of No-harm, which requires watercourse States to adopt necessary measures to avert any potential significant impairment to other watercourses States. If the harm is otherwised happened, the place that caused such possibility is required to answer other necessary steps to reduce that harm.

Most importantly, the ICJ in Gabchikovo Nagymaros case quoted the UNWC as reflective of evidence that is necessary for strengthening the principle of "community of interest" in an international watercourse. The Court then applied this principle and found Czechoslovakia in breach of its obligation to not deprive Hungary of its entitlement to "equitable and reasonable share" of the natural resources of the Danube River.[80] McCaffrey writes that besides the principle of equitable utilization and the rule of No-harm, the obligation to "notify" and conduct EIA embodied in the UNWC are reflective of customary norms.[81]

None of the South Asian countries is a party to the UNWC, despite Pakistan and Bangladesh hold the status of downstream states in relation to India. The reasons for this are political and the long-standing position of South Asian countries to settle their disputes bilaterally.[82] Nevertheless, it is essential to mentions a few technical reasons that make South Asian countries uncomfortable with the UNWC. First, article 32 of the UNWC incorporates the "non-discrimination" clause, which allows individuals of any nationality to bring a domestic judicial

80 *Supra* note 45 at para. 152.
81 Stephen McCaffrey, "The contribution of the UN Convention on the law of the non-navigational uses of international watercourses" 1 *International Journal of Global Environmental Issues* 250 (2001).
82 K. Uprety, "A South Asian Perspective on the UN Watercourses Convention" *International Water Law Project Blog*, July 14, 2014), *available at*: <https://www.internationalwaterlaw.org/blog/2014/07/14/dr-kishor-uprety-a-south-asian-perspective-on-the-un-watercourses-convention/> (Last visited on Sept 5, 2020).

case claiming damages against significant transboundary harm resulting from activities related to an international watercourse. For instance, if a national of Bangladesh is likely to suffer substantial transboundary injury from Farakka Barrage, India cannot deny him/her access to the judiciary under its legal justice system. Second, article 33 of the UNWC lays down detailed dispute settlement procedures wherein case if the parties to the dispute failed to agree to settle their dispute through negotiation, mediation, conciliation, arbitration or the ICJ, the matter shall be referred to the compulsory Impartial Fact-finding Commission. South Asian countries may be unwilling to invite the Fact-finding Commission for the reasons that the Commission is authorized to inquire onto the construction and operation of the projects and that the governments of these countries may take this issue as seriously as amounting to intervention to the domestic affairs of a state. Nevertheless, South Asian nations can become parties to the Convention with separate and concurrent reciprocal arrangements agreed between them to settle their differences that they do not want to settle under the UNWC. The UNWC could play an essential role for South Asian countries to manage their water-related problems for the following reasons.

In the case of Bangladesh and India regarding water-sharing arrangements in the Ganga/Ganges River, both countries see arrangements system incapable of handling the prevailing problems in their respective regions. Bangladesh claims that its drinking water system and agriculture, forestry, and fishery sectors are primarily dependent on Ganges waters released by India through Farakka barrage.[83] The Ganges waters play a significant role in sustaining the ecology of the Bay of Bengal since the River helps in keeping the saline water out of the coast of the region.[84] India, on the other hand, while arguing that Bangladesh's demands could be met by alternative river systems, take a defense that it will face difficulties to flush the Hooghly and preserve Calcutta port.[85] Further, while India points out that variation in the discharge of Ganga waters is due mainly to low winter and summer rainfall compounded by natural climatic variability in northern India, Bangladesh argues that it is because of only water diversions upstream Farakka.[86] In this scenario, two countries could not be able to form a consensus because their allegations on each other are based mainly on broad observations and subjective evidence rather than a qualitative and quantitative evaluation of the water

83 Yearbook of the International Law Commission, *The Law of the Non-navigational Uses of International Watercourses*, Second Report, A/CN.4/332 and Corr.1 and Addl. 1, 1980, vol. II (1), para. 83.
84 *Ibid*.
85 *Id*., para. 82.
86 A.K. Gain and C. Giupponi, "Impact of the Farakka Dam on Thresholds of the Hydrologic Flow Regime in the Lower Ganges River Basin (Bangladesh)" 6 *Water* 2501–2518 (2014).

necessities of both the countries.[87] Since the GWT makes references to "optimum utilization" of waters and "fair and just" solutions to the waters problems at Farakka barrage. But they do not intend to establish "any general principles of law or precedent."[88] Therefore, the adoption by both the countries of the UNWC could be a better solution for them since the Convention provides enough flexibility with a sufficient degree of deference accommodating the diverse socio-economic interests of both low and upper riparian states.[89]

Similarly, waters sharing arrangements between Nepal and India are not free from controversies as Nepal claims that it receives an inadequate amount of water and electricity. Nepal also earlier rejected the 1992 agreement with India and replaced it with the Mahakali Treaty in 1996. Unlike the GWT, the Mahakali Treaty provides a limited reference for the "conservation" of the ecosystem of the Mahakali river basin since it only asks the Mahakali River Commission to come up with recommendations for the "conservation" of the river.[90] Furthermore, the Mahakali Treaty attempts to seize the future opportunity in the sense that if any project, other than Sarada, Tanakpur, and Pancheshwar project, is constructed and developed in the future, both the countries are bound to follow the principles outlined in the Mahakali Treaty. Thus, the Mahakali Treaty narrows down the scope for future projects to consider other factors, such as climate change, that may adversely affect the ecosystem of the Mahakali River basin. The UNWC could be a solution to this as article 6 of it provides that states should consider climate factors in the utilization of an international watercourse equitably and reasonably.

As for Pakistan and India, Kishenganga Arbitration Award could be viewed as an opportunity for advancing solidity and diminishing the possibility of inter-State conflicts.[91] However, the KHEP dispute has raised some crucial questions, including the continuing utility and relevance of the IWT; the appropriateness of the development models which lead to the creation of dams and reservoirs with irreversible eco system problem and the acceptance of non-country environmental obligations (such as avoidance of transboundary harm, sustainable development, and EIA); and the adequacy of relevant international judicial institutions to

87 *Id*. at 2504.
88 *Supra* note 8, preambular recitation 5.
89 *Supra* note 81 at 254.
90 *Supra* note 7, art. 9(3) (b).
91 K. Uprety, "The Kishenganga Arbitration: Reviving the Indus Treaty and Managing Transboundary Hydro politics" 14 *Chinese Journal of International Law* 497–543 (2015).

resolve technical and complex disputes on shared water resources.[92] Therefore, the UNWC could be seen as an opportunity as articles 8-19 of it lay down detailed normative provisions regarding cooperation, consistent interchange of data and information, and consultations and negotiations regarding the planned measures. Moreover, since South Asian watercourse regimes hardly fully endorse the governance of the ecosystem of the shared water resources, the UNWC in its part IV (between articles 20 and 28) lay down a normative framework for the protection and development of ecosystems of international watermark, preservation of the marine environment, and reduction of pollution of an international watercourse that may cause basic harm to the route of flow of water.

Based on the above discussion, it would be plausible to argue that the SAARC can play a crucial role in the governance and management of South Asian watercourse regimes. SAARC can be an effective mechanism at various levels, where cooperation is required as an essential feature of water governance in South Asia. Cooperation in the matter of shared water governance is a customary obligation and requires institutional support of SAARC.[93] SAARC can also adopt the regional South Asia Framework Convention on Transboundary Water Sharing, Governance, and Management in line with the UNECE Convention on the Proteccon and Use of Transboundary Watercourses and International Lakes, 1992.[94] It will facilitate SAARC countries to adopt an integrated and inclusive approach while incorporating the gaps identified in the South Asian watercourse regimes. It is pertinent to mentions that most of the objections of SAARC countries to the provisions of the UNWC are formulated before its foundation in 1985. SAARC institutionalized bodies, such as SAARC Secretariat and other Regional Centers, could be used to assess and monitor the complex technical issues involved in water-sharing arrangements. Institutional support would help to implement equity, reasonableness, and flexibility that are required in the South Asian water governance. Finally, SAARC countries can also devise a common institutionalized dispute settlement mechanism to avoid any conflict in the future. Needless to mention that South Asian countries members to SAARC can become a party to the UNWC while establishing a separate and concurrent

92 J. Moussa, "Implications of the Indus Water Kishenganga Arbitration for the International Law of Watercourses and the Environment" 64 *International and Comparative Law Quarterly* 697 (2015).
93 R. Moynihan and B.O. Magsig, "The Rising Role of Regional Approaches in International Water Law: Lessons from the UNECE Water Regime and Himalayan Asia for Strengthening Transboundary Water Cooperation" 23 *Review of European, Comparative and International Environmental Law* 43–58 (2014).
94 *Ibid.*

regional cooperative mechanism under the mandate of SAARC to facilitate and implement the provisions of the UNWC.

6. Conclusion

On the basis of above statements and points it can now be said that South Asian watermark regimes operate in isolation against the most desiring and commending integrated approach, an approach that is necessary for effectuating the rights and entitlements of the South Asian countries. An integrated approach is the most compelling demand of today's time in relation to Indus, Ganges, and Mahakali river basins. While India and Nepal share more than 600 tributaries of Mahakali, Kosi and Gandak rivers, there are around 500 small tributaries of Ganga River that enter into Bangladesh. Thus, India, Nepal, and Bangladesh should have in place an integrated system of water governance in the Gangetic region.

Both the GWT and the Mahakali Treaty primarily focus on the utilization and determination of the amount of waters rather than their conservation. Conservation and sustainable uses of waters are necessary for sustaining the Rivers, the life of River species, and the entire ecosystem of the River basin. The IWT, GWT, and Mahakali Treaty are criticized for their restrictive approach and limited scope. They do not fully incorporate the legal developments that have been taken place in the field of international law on watercourses and sustainable development. They are devoid of anticipating a situation where the waters from these aboard rivers could significantly constraint by variations in the climatic factors. While GWT is functional only for six months, it does not talk about the overall water management and ecosystem of the river. Since the GWT and Mahakali treaties are for limited periods of thirty and seventy-five years, respectively, it is expected that they would be revisited in taking into considerations developed principles of water laws and other factors relevant to the conservation of the eco - system and overall functioning of the rivers.

South Asian watercourse regimes are fragmented and not consistent with the spirit of the UNWC. The scope and nature of each treaty differ since their dependency on general principles law does not align with the customary water laws. Therefore, it is desirable for South Asian countries member states to SAARC to become a party, with any appropriate reservation or declaration, to the UNWC. The UNWC could bridge a gap associated with the South Asian watercourse regimes. In this regard, SAARC could play an important role in monitoring the equitable and flexible application of water laws to accommodate different competing interests in the South Asian water-sharing arrangements. Regular monitoring and cooperation are

essential to prepare for future consequences of climate change impacts. SAARC is an institutionalized body for all South Asian countries. Therefore, it will help cooperate to advance the interest of South Asian countries, with equal emphasis on mutual respect and recognition of development imperatives of each other. The role of SAARC becomes even essential to address complex issues of energy and food security that are directly linked to the governance and management of waters.

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