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Indo-Bangladesh Transboundary Water-Sharing of the Ganges and Teesta Rivers: Through the Lens of International Law and Practice

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ABSTRACT

Though international water law emphasises ensuring equitable and sustainable utilisation of water resources by all riparian states, most often transboundary rivers are used selfishly and unsustainably by upstream countries. Bangladesh and India, two neighbours in South Asia, share 54 rivers and Bangladesh stands as a downstream country for all of them. Amongst all the rivers, the Ganges and the Teesta are the most contested ones and this article has investigated the issues surrounding their sharing and utilisation. More specifically, the article has analysed the contested Farakka Barrage and bilateral arrangements especially the Ganges Water-Sharing Treaty, 1996, and related issues on the touchstone of existing legal architecture and jurisprudence. Also, the existing no-agreement situation of the Teesta River has been analysed in view of international law and practice. The author considers the Ganges Water-Sharing Treaty, 1996 as a milestone in the mutual relationship between India and Bangladesh, but at the same time suggests further improvement in line with international legal norms and practices. As regards the Teesta, the article argues that India's approach towards the Teesta River reflects a total disregard for the principle of equitable and reasonable utilisation and the principle of no-significant harm.

Keywords: Ganges; Teesta; Transboundary water-sharing; India; Bangladesh

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1. Introduction

Transboundary rivers are often subjects of disputes among states and have the potential for long-term contentions among nations. Even among friendly nations, transboundary water

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disputes can generate mistrust and tensions. Though there are established international law principles and norms on this issue, countries often try to evade those principles and norms by their actions resulting in over-exploitation, uneven distribution, and unsustainable use of water resources. Notably, the Sustainable Development Goals (SDG 6) call for integrated water resource management at all levels emphasising transboundary co-operation.[1] In the case of shared rivers, cooperative arrangements especially if based on an integrated water resource management approach not only promote the equitable water distribution among all riparian countries but also sustain the ecological balance of the rivers.[2] The increasing concern surrounding the impacts of climate change on freshwater resources puts added emphasis on the need for cooperative transboundary agreements and adaptive water governance.[3] However, given the immense hydropotential of some regions, transboundary co-operation regarding shared rivers in the form of benefit-sharing rather than mere water-sharing is gradually getting ground, which enhances both regional cohesion and socio-economic development.[4]

The issue of transboundary water sharing has been haunting both Bangladesh and India for a long time despite their deep historical and cultural attachments. These two countries are similar in their vast population size, economic prospects and constraints, and enormous demand for freshwater. The two countries share 54 rivers, Bangladesh lying as a lower riparian country for all of them. Amongst these rivers, the Ganges basin is one of the most contested ones. The length of the Ganges River is about 2,525 kilometres, of which about 80% is in India, approximately 18% in Bangladesh, and nearly 2% is shared by China and Nepal.[5] Despite being a truly international river, there is no basin-based initiative for the proper sharing and management of the Ganges River. India, having control of most of the area, prefers bilateral negotiation with other co-riparian countries. The Ganges Water-sharing Treaty concluded in 1996 with Bangladesh is an example of bilateral negotiations for water-sharing which took place after years of negotiations following the unilateral withdrawal of water by India due to the building of the Farakka Barrage. The 30 years treaty

[1] United Nations, 'Transforming Our World: the 2030 Agenda for Sustainable Development' Sustainable Development Goal 6, Target 6.5 (United Nations General Assembly, New York, 2015) United Nations General Assembly A/RES/70/1 (SDG Agenda).

[2] Surya P Subedi, 'Regulation of Shared Water Resources in International Law: The Challenge of Balancing Competing Demands' in Surya P Subedi (ed), *International Watercourses Law for the 21st Century: The Case of the River Ganges Basin* (Ashgate 2005), 16–17.

[3] Juan Carlos Sanchez and Joshua Roberts (eds), *Transboundary Water Governance: Adaptation to Climate Change* (International Union for Conservation of Nature and Natural Resources 2014).

[4] The Itaipu Hydroelectric Power Project over Parana River by virtue of the 1973 Brazil-Paraguay Treaty is a prominent example of bilateral co-operation over a shared river. Moreover the 1964 Columbia Treaty between Canada and the United States is another instance of benefit-sharing agreement in respect of the Columbia River. See Alistair Rieu-Clarke, 'Transboundary Hydropower Projects Seen Through the Lens of Three International Legal Regimes—Foreign Investment, Environmental Protection and Human Rights' (2015) 3(1) International Journal of Water Governance 27, 30–33.

[5] B S Chimni, 'A Tale of Two Treaties: The Ganga and Mahakali Agreements and the Watercourses Convention' in Surya P Subedi (ed), *International Watercourses Law for the 21st Century: The Case of the River Ganges Basin*, (Ashgate 2005), 63, 64.

will end in 2026 if not extended. On the other side, Teesta, the fourth largest transboundary river shared by India and Bangladesh, is lacking a mutual agreement as regards its water-sharing and conservation. The river originating in the state of Sikkim in India enters Bangladesh passing through the state of West Bengal in India and therefore a major portion of the river (almost 70.8%) flows through India.[6] As a result, India exercises all authority to control its flow by building dams severely impacting Bangladesh.

In this context, this article aims to focus on these two transboundary rivers, the Ganges and the Teesta. More specifically, with respect to the Ganges River, this article will analyse the contested Farakka Barrage and bilateral arrangements especially the 1996 Ganges Waters Treaty and related issues on the touchstone of existing legal architecture and jurisprudence, and further explore potential solutions or strategies for managing the post-Treaty period. After that, the article will explicate the implications of the existing no-agreement situation of the Teesta River in light of international law and practice and will also analyse the recently created geo-political tensions surrounding the proposed Teesta River project of Bangladesh, especially pursuant to the potential involvement of China. In doing so, this article will first briefly outline the theoretical and legal basis and established norms and principles of managing transboundary watercourses; and provide a background discussion of transboundary water-sharing in South Asia, especially the bilateral approaches of India towards its co-riparian neighbours. Finally, before making the conclusion which includes critical observations and suggestions for improving the status quo, the article highlights the successful international models for peaceful and equitable resolution of river disputes which offer valuable guidance and inspiration in the case of transboundary water-sharing between India and Bangladesh, more particularly, with regard to the Ganges and Teesta rivers.

2. Concept of Transboundary Water-Sharing: Theoretical Underpinnings and Legal Architecture

It is well-established that a state has a sovereign right over the natural resources within its territory.[7] But such rights become constrained when the state shares such resources (i.e.

[6] Kalyan Rudra, 'Sharing Water across Indo-Bangladesh Border' in Sumana Bandyopadhyay and others (eds), *Regional Co-operation in South Asia: Socio-Economic, Spatial, Ecological and Institutional Aspects*, (Springer, Cham 2017), 189, 196, 198 <https://doi.org/10.1007/978-3-319-56747-1_11>.

[7] Of course, a state's sovereign right over the natural resources within its territory is a shared one between the peoples and state itself. That means, state has an obligation to consult its peoples in decisions of management and development of its natural resources. See Permanent Sovereignty over Natural Resources, (14 December 1962) UNGA 1803 (XVII) <https://www.ohchr.org/en/instruments-mechanisms/instruments/general-assembly-resolution-1803-xvii-14-december-1962-permanent>; Common Article 1 of the International Covenant on Civil and Political Rights (ICCPR) and International Covenant on Economic, Social and Cultural Rights (ICESCR) also recognizes peoples' right over the natural resources. See International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 6 International Legal Materials 368 (ICCPR) art 1; International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 6 International Legal Materials 360 (ICESCR) art 1; Elena Blanco and Jona Razzaque, *Globalization and Natural Resources Law: Challenges, Key Issues and Perspectives* (Edward Elgar 2011) 14.

resources having a fluvial or dynamic nature) with other countries.[8] Customary international law obliges each state not to use its territory so as to cause harm to other states i.e. in the case of shared resources, by over-exploitation, unsustainable use, pollution, etc.[9] Water is an important natural resource and when such water is shared by more than one country, no single country can use or exploit the resources in such a manner as to impair the rights of other co-riparian countries. The true essence of the concept is best reflected in the two substantive principles of international water law, which are, the principle of equitable utilisation and the principle of no significant harm.[10] This part of the article will illustrate the concept of transboundary water-sharing in light of four different theoretical bases. Moreover, it will examine how international water law has addressed the issue and whether any binding international norm or practice can be deduced from the current jurisprudence.

Due to interpretational differences, there arise four theoretical approaches when it comes to sharing transboundary water resources, or more specifically, regarding uses of transboundary rivers other than for navigational purposes.[11] Among them, the first is the 'absolute territorial sovereignty theory' which gives a country full leeway to exploit the resources, even if they are shared, within its territory.[12] This theory is also called 'Harmon doctrine' named after the United States of America's Attorney General who took such a position favouring the absolute freedom of upstream states in his legal opinion on the conflict between Mexico and the United States over the diversion of Rio Grande waters by the United States.[13] Whereas, the theory of absolute territorial integrity is the opposite in which a downstream state claims an unqualified right to natural flow into it. Such an approach can prevent the upstream states from taking all sorts of development projects that might have the potential to affect the flow of water to downstream states.[14] Both positions are denounced as shortsighted and 'anarchic' in law.[15] Hence, both approaches are inappropriate in ensuring equitable shares in shared rivers among all the co-riparian

[8] Christina Leb, *Co-operation in the Law of Transboundary Water Resources* (Cambridge University Press 2013) 43.

[9] States' sovereign right over its natural resources coupled with the obligation not to cause transboundary harm is regarded as a customary norm as endorsed by a number of international instruments (i.e. Principle 21 of the 1972 Stockholm Declaration, Principle 2 of 1992 Rio Declaration, Art 3 of the 1992 Convention on Biological Diversity and so on) and invoked in a number of judicial decisions including *Trail Smelter Arbitration* (*United States v Canada*) (1941) 3 RIAA 1907; *Nuclear Tests case (Australia v France)* [1974] International Court of Justice Reports 253; *The Legality of the Threat or Use of Nuclear Weapons* (Advisory opinion) [1996] International Court of Justice Reports 226; *Lac Lanoux arbitration (France v Spain*) (1957) 24 International Law Report 101 etc. See more Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law* (4th edn, Cambridge University Press 2018) 202–210.

[10] Leb (n 8) 51.

[11] Malgosia Fitzmaurice and Gerhard Loibl, 'Current State of Development in the Law of International Watercourses' in Surya P Subedi (ed) *International Watercourses Law of the 21st Century: The Case of the River Ganges Basin* (Ashgate 2005), 19, 21.

[12] Leb (n 8) 44–45.

[13] SC McCaffrey, *The Law of International Watercourses: Non-Navigational Uses* (Oxford University Press 2001), 114–115.

[14] ibid 128.

[15] Herbert A Smith, *The Economic Uses of International Rivers* (King and Son Ltd 1931) 144.

countries. In between these two extreme positions, there are two other approaches that reflect the modern approaches to managing international watercourses. One is the theory of limited territorial sovereignty, which is hailed as best suited to address the actual relations among co-riparian states.[16] Such an approach recognises the 'equality of rights'[17] of both upstream and downstream states and entitles each riparian state to equitable and reasonable utilisation of shared rivers flowing through its land causing no significant harm to other sharing states.[18] The other is the theory of 'community of interests', first enunciated by the Permanent Court of Justice (PCIJ) in the *River Oder case* [19] and subsequently endorsed in other judgements.[20] In *Gabcikovo-Nagymaros Project (Hungary v Slovakia),* the International Court of Justice endorsed the theory and denounced Czechoslovakia's unilateral control of a shared water resource (Danube River) without regard to Hungary's right to equitable and reasonable use. The theory considers water as a 'common property' and emphasises its common management.[21] Consequently, the theory depreciates disproportionate and inequitable use of shared resources by any single country.[22]

Alongside the progression of theoretical bases of sharing transboundary waters, an impressive legal architecture has developed over time at the global level along with a number of bilateral and regional agreements which include several basin-based initiatives in different parts of the world.[23] The Helsinki Rules on the Uses of Waters of International Rivers, undertaken by the International Law Association (ILA) in 1966,[24] were a remarkable effort, though non-binding, in outlining the modalities of states' conduct as regards joint rivers. The Rules articulated the right of each basin state to 'a reasonable and equitable share

[16] McCaffrey (n 13) 171.

[17] The concept of 'equality of rights' is in consonance with the principle of sovereign equality of all states as enshrined in Art 2(1) of the United Nations Charter. As regards transboundary water resources, this principle does not mean equal share of all co-riparian states, rather it entitles each riparian state, whether upstream or downstream, to claim equally rights to an equitable share. See more Owen McIntyre, 'Substantive Rules of International Water Law' in Alistair Rieu-Clarke, Andrew Allan and Sarah Hendry (eds) *Routledge Handbook of Water Law and Policy* (Routledge 2017), 237.

[18] McCaffrey (n 13) 137.

[19] *Case relating to the Territorial Jurisdiction of the International Commission of the River Oder (Czechoslovakia, Denmark, France, Germany, Great Britain, Sweden, Poland)* [1929] Publications of the Permanent Court of International Justice Series A No 23.

[20] The theory was invoked in the *Lac Lanoux arbitration* in 1957. See *Lac Lanoux Arbitration (France v Spain*) (1957) 24 International Law Report 101. Moreover, it was also recognised by the International Court of Justice in the case of *Gabčíkovo–Nagymaros (Hungary v Slovakia)* [1997] International Court of Justice Rep 7, para 85.

[21] McCaffrey (n 13) 150.

[22] ibid 152.

[23] Alistair Rieu-Clarke, 'The Treaty Architecture for the Governance of Transboundary Aquifers, Lakes and Rivers' in Alistair Rieu-Clarke, Andrew Allan and Sarah Hendry (eds) *Routledge Handbook of Water Law and Policy* (Routledge 2017) 193–201; S C McCaffrey, 'The Evolution of International Law relating to Transboundary Waters' in Alistair Rieu-Clarke, Andrew Allan and Sarah Hendry (eds) *Routledge Handbook of Water Law and Policy* (Routledge 2017) 205–216.

[24] 'Helsinki Rules on the Uses of the Waters of International Rivers' in International Law Association Report of the Fifty-Second Conference (International Law Association, London 1966) (The 1966 Helsinki Rules).

in the beneficial use' of the international rivers considering the relevant factors in each case.[25] In 2004, the Helsinki Rules were updated and replaced by the Berlin Rules on Water Resources;[26] subsequently, followed by several other non-binding instruments.[27] The 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes initiated within the remit of the United Nations Economic Commission for Europe (UNECE) and later opened to all countries irrespective of region,[28] deserves mention for its focus on incorporating general rules concerning non-navigational uses of international rivers. The UNECE Convention while incorporating the equitable and reasonable utilisation and no significant harm principles[29] also emphasises the procedural obligations i.e. exchange of information,[30] joint monitoring and assessment,[31] consultations,[32] and so on.

The United Nations Convention on the Law of the Non-navigable Uses of International Watercourses, 1997 is the first global treaty in this area which is a sort of framework convention. The principle of equitable and reasonable utilisation is the overarching principle of this convention along with the obligation to refrain from causing significant harm and the general obligation of co-operation.[33] The Convention incorporates a set of procedural obligations including constant sharing of information,[34] informing of and consulting over intended activities,[35] and peaceful settlement of disputes.[36] Moreover, the convention expressly articulates the need for protection and preservation of the ecosystems of international watercourses.[37] However, the convention deliberately maintains

[25] ibid arts III, IV, V.

[26] Berlin Rules on Water Resources (2004) adopted at Berlin Conference of International Law Association.

[27] Recommendation on Environment and Health (25 March 1977) UN Water Conference, Mar del Plata, E/CONF.70/29; UNGA Resolution on the Human Right to Water and Sanitation (26 July 2010) A/64/L.63/Rev.1; UN Human Rights Council Resolution on Human Rights and Access to Safe Drinking Water and Sanitation (24 September 2010) A/HRC/15/L.1; UNEP Environmental Guidelines for Watershed Development (1982) UNEP EMG 3; OECD Council Recommendation, Control of Eutrophication of Waters (14 November 1974) OECD C(74) 220 etc.

[28] United Nations Economic Commission for Europe, *The 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (2004).

[29] United Nations, *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* 31 International Legal Materials 1312 art 2.

[30] ibid arts 6 and 13.

[31] ibid arts 4 and 11.

[32] ibid art 10.

[33] Art 5 of the 1997 Watercourses Convention stipulates the principle of equitable and reasonable utilisation. Art 6 provides for a non-exhaustive list of factors relevant to equitable and reasonable utilisation. Art 7 relates to obligation not to cause significant harm and Art 8 states a general obligation to co-operate. See United Nations, *Convention on the Law of Non-Navigational Uses of International Watercourses* 36 International Legal Materials 700 arts 5–8.

[34] ibid art 9.

[35] ibid arts 11–19.

[36] ibid art 33.

[37] ibid art 20.

'indeterminacy' in outlining its core principles.[38] For example, the convention does not offer any readymade formula for states to arrive at an equitable sharing.[39] Rather, Article 6 contains an open-ended list of factors relevant to the determination of the propriety of the utilisation of shared waters and leaves it largely to the circumstances of each case.[40] Many commentators consider this as intentional to accommodate all riparian states having conflicting interests.[41] Another unresolved issue is the relation of the principle of equitable and reasonable utilisation *vis-a-vis* the principle of no significant harm. Article 7 seems to adjust this confrontation to some extent by requiring all states to make their best efforts to prevent harm and if harm is caused nonetheless, to try to mitigate or eliminate such harm by consultation with the affected state.[42]

McCaffrey argues that the principles incorporated in the convention reflect customary rules of international law as increasingly being recognised by the international courts and tribunals and also evidenced in state practice.[43] L. Caflisch also concedes that despite its 'impressionistic' nature, two of its cardinal principles have been part of the customary international law: the principle of equitable utilisation and the principle of no harm.[44] McCaffrey also emphasised the customary strength of notifying conceivably injured neighbouring states of measures intended on a shared river.[45] Obviously, these customary rules of international water law can be of help in shaping the behaviour of states even when they are not parties to any binding treaty.[46]

3. Transboundary Water-Sharing in South Asia: India's Bilateral Approach and Fragmented Agreements with Co-riparian Neighbours

The issue of transboundary water-sharing in South Asia is a complex one, characterised by the 'power asymmetry', political scepticisms and outstanding bilateral issues among the co-

[38] Chimni (n 5) 94–97.

[39] 1997 Watercourses Convention (n 33) art 5.

[40] Chimni (n 5) 95; X Fuentes, 'The Criteria for the Equitable Utilization of International Rivers' (1996) 67 British Yearbook of International Law 337 <https://doi.org/10.1093/bybil/67.1.337>.

[41] Chimni (n 5) 96; E Benvenisti, 'Collective Action in the Utilization of Shared Freshwater: The Challenges of International Water Resources Law' (1996) 90(3) American Journal of International Law 384; L M Jacobs, 'Sharing the Gifts of the Nile: Establishment of a Legal Regime for Nile Waters Management' (1993) 7 Temple International and Comparative Law Quarterly 95, 101.

[42] SC McCaffrey and M Sinjela, 'The 1997 United Nations Convention on International Watercourses' (1998) 92(1) American Journal of International Law 97 <https://doi.org/10.2307/2998069>.

[43] SC McCaffrey, 'The Customary Law of International Watercourses' in Mara Tignino and Christian Brethaut (eds), *Research Handbook on Freshwater Law and International Relations* (Edward Elgar 2018) 174.

[44] L Caflisch, 'The Law of International Waterways and Its Sources' in RStJ Macdonald (ed), *Essays in Honour of Wang Tieya* (Martinus Nijhoff Dordrecht 1994) 115.

[45] McCaffrey and Sinjela (n 42).

[46] ibid; The *Silala case* is a leading example where the court decided the obligations of states *vis-à-vis* international watercourse under customary international law since neither of them was party to the 1997 UN Convention. See *Dispute over the Status and Use of the Waters of the Silala (Chile v Bolivia)* [2022] Judgement International Court of Justice Rep 614.

riparian countries,[47] and further exacerbated by the huge demographic pressure, growing water scarcity, and increasing water demand of the region.[48] Two major river basins of the world (the Indus River basin flowing through India, Afghanistan, and Pakistan;[49] and the Ganges-Brahmaputra-Meghna basin shared by India, Nepal, Bangladesh, Bhutan, and China[50]) span through South Asia, but there is no basin-based water-sharing agreement or regional initiative for joint management and development of water resources.[51] India, by virtue of its influential position in terms of economy, size, riparian position,[52] etc., managed to enter into several bilateral agreements with its co-riparian neighbours. Except for the 1960 Indus Waters Treaty with Pakistan in the negotiation of which the World Bank was involved and was also included as a party to the Treaty,[53] all other water-sharing agreements i.e. the 1996 India-Nepal Mahakali Treaty and the 1996 India-Bangladesh Ganges Waters Treaty were negotiated purely on a bilateral basis.[54] Though each agreement was concluded in the context of distinct dynamics between the negotiating parties reflecting particular focus and components, each of them, at least at bilateral levels, corresponds with the global move for

[47] Punam Pandey, 'The Ganges River Negotiation: Idealism of Regional Co-operation or Pragmatic Bilateralism' (2018) 74(4) India Quarterly 438, 439; Selina Ho, ' 'Big Brother, Little Brothers': Comparing China's and India's Transboundary River Policies' (2016) 18 Water Policy 32, 33–34; Surya P Subedi, 'The Legal Regime Concerning the Utilization of the Water Resources of the River Ganges Basin' (2003) 46 German Yearbook of International Law, 452–453; Salman M A Salman and Kishor Uprety, *Conflict and Co-operation on South Asia's International Rivers* (Brill Nijhoff 2002) 196; Salman M A Salman and Kishor Uprety, 'Hydro-politics in South Asia: A Comparative Analysis of the Mahakali and Ganges Treaties' (1999) 39(2) Natural Resources Journal 295, 300.

[48] Phoebe Koundouri and Angelos Alamanos, 'Hydro-politics and Hydro-diplomacy: The Case of South Asia' in Phoebe Koundouri and Angelos Alamanos (eds) *Elgar Encyclopedia of Water Policy, Economics and Management* (Elgar 2024) 121–125; Mandakini Devasher Surie, 'South Asia's Water Crisis: A Problem of Scarcity Amid Abundance' The Asia Foundation (25 March 2015) <https://asiafoundation.org/2015/03/25/south-asias-water-crisis-a-problem-of-scarcity-amid-abundance/>; 'South Asia's Water: Unquenchable Thirst' *The Economist* (19 November 2011) <https://www.economist.com/briefing/2011/11/19/unquenchable-thirst>; Ravindra Pratap, 'Building Peace over Water in South Asia' (2018) 4(1) Athens Journal of Law 7, 8; Islam M Faisal, 'Managing Common Waters in the Ganges-Brahmaputra-Meghna Basin' (2002) 22(2) SAIS Review 309–310; Robert G Wirsing and Christopher Jasparro, 'River Rivalry: Water Disputes, Resource Insecurity and Diplomatic Deadlock in South Asia' (2007) 9 Water Policy 231, 233.

[49] Wirsing and Jasparro (n 48) 233.

[50] ibid; Faisal (n 48) 309; Ambika Vishwanath, 'Paddling Upstream: Transboundary Water Politics in South Asia' Carnegie India (October 2018) 2; Notably, while India and Bangladesh share all three rivers' basin i.e. the Ganges, the Brahmaputra and the Meghna, China shares only two of them (the Ganges and the Brahmaputra), and Nepal and Bhutan are part of only one basin each (the Ganges and the Brahmaputra).

[51] Vishwanath (n 50) 2.

[52] India stands as an upper riparian from Pakistan and Bangladesh in relation to the Indus and the Ganges respectively, and lower riparian from Nepal in respect of the Ganges and from China in relation to the Ganges and the Brahmaputra. Ho (n 47) 33.

[53] Indus Waters Treaty Between the Government of India, the Government of Pakistan and the International Bank for Reconstruction and Development (signed 19 September 1960, entered into force 1 April 1960) (The 1960 Indus Waters Treaty).

[54] Salman and Uprety (n 47) 198.

transboundary co-operation with respect to shared rivers.[55] For example, the Indus Waters Treaty addresses the allocation and management of water resources between the two rival neighbours by dividing the six rivers of the Indus River basin into the western rivers (the Indus, the Jhelum, and the Chenab) and the eastern rivers (the Sutlej, the Beas and the Ravi) and allocating them to Pakistan and India respectively.[56] Moreover, as per the treaty, despite the division of the river basin, certain uses are allowed subject to certain conditions by each party in the rivers allotted to the other.[57]

India and Nepal, prior to the 1996 Mahakali Treaty, the two countries entered into two other agreements addressing particular projects concerning flood control, irrigation and hydropower, etc. i.e. the 1954 Kosi Project Agreement (revised in 1996) and the 1959 Gandak Project Agreement (amended in 1964).[58] The 1996 Mahakali Treaty was concluded aiming at the integrated development of the Mahakali River including the Sarada Barrage, Tanakpur and Pancheswar project,[59] and even addressing the need to allocate water to preserve the ecosystem.[60] Notably, Kosi, Gandak, and Mahakali are three tributaries of the Ganges river. However, despite the express provision of the principle of equitable and reasonable utilisation and high ideal of joint development of water resources, due to the ambiguity in certain provisions[61] and the Nepalese long-standing perception of inequitable treatment in those bilateral treaties, the 1996 Mahakali treaty has not yet been implemented.[62]

On the other hand, India and Bangladesh though share 54 rivers have only one bilateral agreement in place which was concluded in 1996 in the context of downstream effects through the construction of the Farakka barrage and providing for the sharing of the Ganges flow during the lean season but without addressing the need of augmenting the flow.[63] Moreover, though the treaty entrusts both countries to solve the water-sharing disputes with

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[55] ibid 195.

[56] The 1960 Indus Waters Treaty (n 53) arts II and III; Salman M A Salman, 'The Baglihar Difference and its Resolution Process: A Triumph for the Indus Waters Treaty' (2008) 10 Water Policy 105.

[57] ibid; Salman (n 56) 106.

[58] Pratap (n 48) 10; Trilochan Upreti, 'Equitable Utilization of Nepalese Water Resources: Bilateral and Regional Perspectives' in Surya P Subedi (ed) *International Watercourses for the 21st Century: The Case of the River Ganges Basin* (Ashgate 2005) 221, 223–224.

[59] The 1996 Mahakali Treaty addressed the concerns surrounding the 1920 Agreement on Sarada Barrage and redefined the modalities of the 1991 Agreement on Tanakpur Barrage. Moreover, the Treaty outlines a framework for the joint implementation of the Pancheshwar Multipurpose Project. Shawahiq Siddiqui, Shilpa Chohan and Vishwa Ranjan Sinha, 'Governance of the Ganges River Basin: A Comparative Analysis of Water Agreements and the UN Watercourses Convention' (International Union for Conservation of Nature and Natural Resources 2019).

[60] The 1996 Mahakali Treaty arts 1(2) and 7.

[61] The contention arises in respect of the interpretation of the terms 'existing consumptive uses' in art 3 of the Treaty. Art 3 provides that '…both the parties agree that they have equal entitlement in the utilization of the waters of the Mahakali River without prejudice to their respective existing consumptive uses of the waters of the Mahakali River…'. While existing consumptive uses of Nepal can be traced from the provisions of the Treaty, those of India cannot be traced leaving scope for liberally interpreted. See Upreti (n 58) 225–226.

[62] Salman and Uprety (n 47) 299–300; ibid 225.

respect of other rivers,[64] till now, no other water-sharing agreement has taken place except the temporary agreement regarding Teesta waters in 1983.

In South Asia, the bilateral negotiating strategy of India seems to have facilitated a number of bilateral agreements (except the Indus Waters Treaty which was through a third party's involvement) with respect to the transboundary rivers. However such a strategy fails to tap the huge potential that might have resulted from taking an integrated and regional basin-based water resources development approach.[65] Moreover, in the present setting, the bilateral agreements that have been already concluded are not without complications and easy to implement.[66] Comparing India's bilateral approach towards its co-riparian neighbours with China's, Selina Ho argues that India with a number of bilateral water agreements is on less good terms with its co-riparian neighbours than China is with its co-riparians sharing the Mekong River basin even without any agreement.[67] Furthermore, several bilateral agreements concerning the same river basin (i.e. four bilateral agreements exist in respect of different tributaries of the Ganges river basin, such as the 1954 Kosi Project Agreement, the 1959 Gandak Project Agreement, the 1996 Mahakali Treaty, the 1996 Ganges Water Treaty) result into fragmented regimes of river basin management. Moreover, excluding certain riparians from the agreements makes them less effective and robust.

4. Indo-Bangladesh Ganges Water Dispute, Responses and Agreements: Implications under International Law and Policy

Though the responses over sharing Ganges water are mostly bilateral, still they need to be scrutinised in light of accepted international law rules and practices. Bilateral or regional agreements over an international watercourse are not disallowed in international water law.[68] However, Member States are encouraged to synchronise such agreements with basic principles.[69] India and Bangladesh are not parties to the 1997 UN Watercourses Convention, and the latest and existing agreement between them (Ganges Water-Sharing Treaty,1996) predates the UN Convention. Still, these states cannot ignore established principles concerning the sharing of transboundary water resources in their existing or future bilateral agreements.

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[63] Treaty Between the Government of the People's Republic of Bangladesh and the Government of the Republic of India on Sharing of the Ganga/Ganges Waters at Farakka (12 December 1996).

[64] ibid art IX.

[65] Warsing and Jasparro (n 48) 232; Salman and Uprety (n 47) 198.

[66] Pratap (n 48) 11–15.

[67] Notably, China though shares Mekong River basin does not have any water-sharing agreement with other Mekong States. It is not a full member of Mekong River Commission which is constituted according to the Mekong Agreement entered into Cambodia, Lao, Thailand and Vietnam in 1995. However, since 1995, China has been a dialogue partner with Mekong River Commission. Ho (n 47) 34, 37.

[68] Art 3(1) of the 1997 Watercourses Convention provides, '(….) nothing in the present Convention shall affect the rights and obligations of a watercourse state arising from agreements in force for it (….)' See 1997 Watercourse Convention (n 33).

[69] 1997 Watercourse Convention (n 33) arts 3(2) (3).

4.1 Farakka Barrage and the Dawn of the Dispute

The dispute over the Ganges water revolved around the construction of the Farakka Barrage by India in West Bengal, approximately 16 kilometres away from the outer limits of the then East Pakistan (present Bangladesh) during the mid-twentieth century.[70] The barrage was to redirect waters from the Ganges to the Hoogly River to keep up its natural flow and to maintain the navigability of the Calcutta Port.[71] India did not notify Pakistan, the co-riparian country, about the plan it was going to take until the final decision.[72] When Pakistan began strongly opposing the construction of the barrage in the 1960's, India's approach was no better than Harmon's doctrine, as Nehru remarked: 'What India did with India's rivers was India's business'.[73] India in fact denied the international character of the Ganges river.[74] During that period, India's stance was full of contradictions as regards the principle of reasonable and equitable sharing.[75] The result was that the issue remained unresolved during the rest of the Pakistan period.

4.2 Temporary Arrangements with Bangladesh

In 1971, Bangladesh became independent and the construction of Farakka Barrage was also completed. Bangladesh had to accept it as a 'fait accompli'.[76] The two countries penned the Treaty of Friendship, Co-operation and Peace where one article focused on flood control, river basin development etc.[77] A Joint River Commission (JRC) was also established but with a limited role.[78]

In 1975, Bangladesh gave conditional consent to the diversion of the Ganges' waters through the feeder canal of the Farakka barrage under Partial Accord.[79] The withdrawal of water was to go on for the rest of the days of the lean period (41 days) during which joint teams would observe the effects of the agreed withdrawals at different places.[80] But once

[70] Salman and Uprety (n 47) 135.

[71] ibid.

[72] Md Nazrul Islam, 'Equitable Sharing of the Water of the Ganges, Applicable Procedural Principle and Rules under International Law and Their Adequacy' (Unpublished PhD Thesis, School of Oriental and African Studies, University of London 1999) 79.

[73] Ben Crow, 'The Politics and Technology of Sharing the Ganges' (PhD Thesis, University of Edinburgh 1980) 104.

[74] ibid.

[75] India followed the principle of equitable and reasonable sharing in the Indus Waters Treaty, 1960 with Pakistan and also in case of inter-state rivers but denied that in case of the Ganges River *vis-à-vis* Pakistan. ibid 359.

[76] ibid XVI.

[77] Treaty of Peace and Friendship Between the Government of India and the Government of the People's Republic of Bangladesh (19 March 1972) art 6.

[78] Salman and Uprety (n 47).

[79] ibid 140.

[80] ibid.

India got the positive nod from Bangladesh, it continued to withdraw waters even after the expiry of 41 days taking the opportunity of political upheavals in Bangladesh.[81]

Subsequently, Bangladesh brought the issue to the United Nations where both countries presented their own cases.[82] Both resorted to the equitable and reasonable sharing principle from the Helsinki Rules to defend their case.[83] The same principle was interpreted in totally different ways favouring their own respective positions.[84] From the United Nations, Bangladesh just achieved a Consensus Statement calling the parties to resolve the dispute urgently.[85] However, the statement expedited the adoption of the 1977 Agreement.

The 1977 Agreement was a temporary arrangement (for 5 years only) between the two countries, which only addressed the sharing of Ganges flows during lean season without paying heed to the need for their augmentation.[86] It was based on the 75% availability of flows in an average 10-day period.[87] Bangladesh's share was somewhat decreased compared to the Partial Accord of 1975 but the good thing was that it guaranteed a minimum of 80% share even during the low flow.[88] The agreement was followed by two temporary Memorandums of Understanding (MoUs).[89]

These arrangements reflect half-hearted co-operation on the part of India as the state was not convinced to make a long-term solution to the Ganges water issue. Moreover, the country's apathy towards the augmentation of the natural flow was also noticeable.

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[81] ibid 141–142.

[82] 'Statement … in the Special Political Committee, 31st General Assembly Session on Agenda Item 121 "Situation arising out of the unilateral withdrawal of Ganges waters at Farakka"'(15 November 1976) Press Release by Bangladesh Mission to the UN; See also 'Statement by His Excellency Mr J S Mehta….on Agenda Item 121 relating Ganges waters' (16 November 1976) Press Release by Permanent Mission of India to the UN; See Islam (n 70) 199–209; J G Lammers, *Pollution of International Watercourses: A Search for Substantive Rules and Principles of Law* (Martinus Nijhoff 1984) 317–318.

[83] ibid; The 1966 Helsinki Rules (n 24).

[84] For example, Bangladesh argued that its uses of Ganges water were existing uses and India's ones were totally new and wasteful. Moreover, Bangladesh argued that India's new uses were responsible for clear and substantial injury to Bangladesh citing the Principle 21 of the Stockholm Declaration, 1972. On the contrary, India argued that Helsinki Rules does not impose obligations on the upstream countries to keep the current flow unaltered. See more Crow (n 73) 146.

[85] 'Situation Arising out of Unilateral Withdrawal of Ganges Waters at Farakka' UNGA Dec 31/404 (26 November 1976).

[86] Rudra (n 6) 194–195.

[87] ibid.

[88] Salman and Uprety (n 47) 153–154.

[89] Chimni (n 5) 78–79.

4.3 The 1996 Ganges Water-Sharing Treaty

In 1996, Bangladesh and India came to a long-term agreement (30 years) on the sharing of Ganges waters during the dry season.[90] The treaty is arguably a political solution which accommodates the demands of both states based on compromise without taking into account the actual hydrological variability in the flow, the upstream water uses etc.[91] Unlike the earlier agreements which only provided for an indicative schedule of shares for each country, the 1996 Treaty devises an actual water-sharing formula based on three different ranges of water availability during the lean season running from 1st January to 31st May;[92] and further includes an indicative schedule of shares based on that formula.[93] As per the formula, if Ganges water is 70,000 cusecs, each will receive 50%; if the flow is between 70,000 and 75,000 cusecs, Bangladesh will get 35,000 cusecs and India the rest; if the flow is more than 75,000 cusecs, India will receive 40,000 cusecs and Bangladesh the rest.[94] As distinguished from the 1977 Agreement which included 80% guaranteed flow for Bangladesh even in extremely low flow situations, the new Treaty only requires that both India and Bangladesh will receive 35,000 cusecs of water in alternate three 10-day periods of the dry season without clearly identifying who will ensure it.[95] Moreover, the formula is held inapplicable if the flow goes below 50,000 cusecs and further.[96] In that situation, the Treaty leaves the issue to the parties themselves to make necessary adjustments through consultations 'on an emergency basis, in accordance with the principles of equity, fair play and no harm to either party'.[97] However, to ensure the security of flows following reviews of the Treaty, the Treaty provides a guarantee, such as, 'in the absence of mutual agreements on adjustments … India shall release downstream of Farakka Barrage, water at a rate not less than 90% of Bangladesh's share'.[98]

While comparing each country's respective shares as indicated in the new Treaty with those provided for by the earlier agreements (1977 Agreement and two MOUs of 1982 and 1985), Salman notes that the total share of Bangladesh declines from 59% to 52% while that of India rises from 41% to 48%; and further acknowledges that the situation of Bangladesh is 'far better off under the Treaty than before the Treaty'.[99] However, a crucial fact is that it is the availability of the expected flows upon which the working of the water-sharing formula

[90] The 1996 Ganges Waters Treaty (n 63).

[91] Islam (n 72) 260; Pratap (n 48) 14.

[92] The 1996 Ganges Waters Treaty (n 63) annex I.

[93] ibid annex II.

[94] ibid annex I.

[95] ibid annex II; Salman and Uprety (n 47) 178.

[96] The 1996 Ganges Waters Treaty (n 63) art II (iii).

[97] ibid art II (iii).

[98] ibid art XI.

[99] Salman MA Salman, 'Sharing the Ganges Waters between India and Bangladesh: An Analysis of the 1996 Treaty' in Salman MA Salman and Laurence Boisson de Chazournes (eds) *International Watercourses: Enhancing Co-operation and Managing Conflict* (The World Bank 1998) 140.

under the new Treaty largely depends.[100] The Treaty, except for recognising the need to solve the augmentation problem[101] and including a best-effort obligation on the part of the upstream country to protect the flows at Farakka,[102] does not include any tentative plan for augmenting the Ganges flows at further upstream levels.[103] More strikingly, while all previous agreements calculated the flows of the river at Farakka based on 75% availability of average flows from 1948 to 1973, the 1996 Treaty relied on 100% availability of average flows from 1949 to 1988[104] ignoring, quite illogically, the impacts of increasing upstream uses in Bihar and Uttar Pradesh provinces of India as well as the yearly hydrological variations.[105] The actual working of the Treaty came under the spotlight in the first year following the Treaty when the Ganges flows were far less than those stipulated in the indicative schedule (6500 cusecs was recorded as the lowest flow in March that year).[106] In the emergency meetings of the JRC, India blamed the normal hydrological variations for the low flows but made no adjustments to the shares.[107] Kazi Saidur Rahman and others find that such fluctuations in the flows of the river for climate variability, upstream uses etc. deprived Bangladesh of its guaranteed flows in a couple of dry seasons between 2008- 2011.[108] On the other hand, Kimberly Thomas, after analysing available data from 2008-2016, comes to the conclusion that India has been largely fulfilling its obligations under the Treaty.[109] However, after close examination, the same researcher finds that, over the same period, India failed to release minimum guaranteed flows in 55.5% of 'critical periods'[110] during the dry season.[111]

Similar to other South Asian transboundary water-sharing agreements, such as the 1960 Indus Waters Treaty, the 1954 Kosi Project Agreement, the 1959 Gandak Project Agreement

[100] Islam (n 72) 264.

[101] The 1996 Ganges Waters Treaty (n 63) preamble.

[102] ibid art II (ii); Salman and Uprety (n 47) 178.

[103] The issue of augmentation was considered as a 'deal-spoiler' due to the differing views of both countries. Hence, in negotiating the 1996 Treaty, augmentation issue was consciously dissociated from the sharing arrangement. See Pandey (n 47) 452; Chimni (n 5) 89–90.

[104] The 1996 Ganges waters Treaty (n 63) art II (ii); Salman and Uprety (n 47) 327.

[105] Ashok Swain, 'Reconciling Disputes and Treaties: Water Development and Management in Ganga Basin' (1998) 6(1) Water Nepal 43–65; Ajaya Dixit and Monirul Qader Mirza, 'Who's Afraid of Farakka's Accord?' *HIMAL South Asia* (1 January 1997) <https://www.himalmag.com/comment/whos-afraid-of-farakkas-accord>.

[106] Salman and Uprety (n 47) 327–328; Salman and Uprety (n 47) 184–185.

[107] Punam Pandey, 'Revisiting the Politics of the Ganga Water Dispute Between India and Bangladesh' (2012) 68(3) India Quarterly 267, 276–277.

[108] Kazi Saidur Rahman and others, 'A Critical Review of the Ganges Water Sharing Arrangement' (2019) 21 Water Policy 259–276.

[109] The researcher notes the lack of public access to Ganges flow data till 2008. In 2008, Joint River Commission started publishing the data online. Kimberley Anh Thomas, 'The Ganges Water Treaty: 20 Years of Co-operation, on India's Terms' (2017) 19 Water Policy 724, 731 <https://doi.org/10.2166/wp.2017.109>.

[110] In annex II of the 1996 Ganges Water Treaty, the period from March 11 to May 10 is identified as critical period during which each state will receive minimum 35000 cubic water in alternate 10-day period. See the 1996 Ganges Water Treaty (n 63) annex II.

[111] Thomas (n 109) 734.

and the 1996 Mahakali Agreement, the 1996 Ganges Waters Treaty failed to adopt a basin-based approach for the water resources development, rather limiting its focus only to sharing the water flows only.[112] Among the treaties, except the 1996 Mahakali Treaty which refers to the essence of river ecosystems and includes a provision for a minimum flow, [113] no other treaty including the 1996 Ganges Waters Treaty addresses the need to protect the environment and ecosystem.[114] On the other hand, the dispute-settlement mechanism under the 1996 Ganges Waters Treaty is less satisfactory than those under other treaties. The 1996 Ganges Waters Treaty primarily entrusts the task upon the Joint Committee (consisting of equal representatives from the two states); if the Committee fails, then to the Joint River Commission (constituted by a chairman and three members appointed by each government) [115] and finally to the two governments.[116] Thus, the Treaty provides for a never-ending dispute settlement mechanism which largely hinges upon political will.[117] On the contrary, the Mahakali Treaty between India and Nepal over the same river provides for mandatory dispute settlement through arbitration if the dispute cannot be satisfactorily solved by the Mahakali River Commission.[118] Similarly, the Indus Waters Treaty provides graduated dispute settlement mechanisms i.e. Permanent Indus Commission, neutral expert, mediation and arbitration.[119] However, unlike other contemporary treaties, the 1996 Ganges Waters Treaty commits treaty parties to solve the problems regarding other common rivers according to 'the principles of equity, fairness and no harm to either party'.[120]

4.3.1 The Ganges Water-Sharing Treaty through the Lens of International Law and Practice

The Treaty is a major breakthrough in the history of the mutual relationship between India and Bangladesh. Moreover, in the realm of international water law, the treaty occupies a significant place. The water-sharing formula accommodated the equitable and reasonable utilisation principle.[121] The concept of 'equality of rights' got a proud place in the Treaty.[122] The making of the Treaty and establishment of a Joint Committee to oversee its implementation also exemplify the established principle of co-operation. However, the

[112] Though the 1996 Mahakali Treaty appears to have taken a basin-based approach to water resources development, the treaty is limited to tributaries falling under the Pancheshwar Multipurpose Project and the projects under the Sarada Treaty and Tanakpur Treaty. See Salman and Uprety (n 47) 313.

[113] The 1996 Mahakali Treaty (n 60) arts 1(2) and 7.

[114] Salman and Uprety (n 47) 196.

[115] Statute of the Indo-Bangladesh Joint Rivers Commission (signed 24 November 1972) <https://faolex.fao.org/docs/pdf/bi203668.pdf>.

[116] The 1996 Ganges Waters Treaty (n 63) art VII.

[117] Salman and Uprety (n 47) 201.

[118] The 1996 Mahakali Treaty (n 60) art 11.

[119] The 1960 Indus Waters Treaty (n 53) art IX.

[120] ibid art IX.

[121] Salman and Uprety (n 47) 174–175.

[122] ibid 175.

Treaty does not address the sustainability issue,[123] as the augmentation issue and protection of the river ecosystem were not addressed. Furthermore, the Treaty fails to take an integrated approach towards an international watercourse.[124] Moreover, dispute settlement options are limited and ineffective compared to established international practices.

4.3.2 Potential Options for Managing the Post-Treaty Period: Extending or Renewing the Earlier Treaty or Renegotiating a New One?

Though the 1996 Ganges Waters Treaty has left a number of issues unresolved and has not produced the desired results as stipulated, still this 30-year Treaty is considered a major step forward in the riparian relationship between the two countries.[125] However, as the expiration of the Treaty is approaching in 2026, it is advisable for the two countries to renegotiate the existing Treaty in an attempt to address its limitations rather than merely renewing or extending the Treaty in its present form. During the renegotiations, the constantly reduced flow of the Ganges will be a major issue and the countries need to come up with some viable solutions.[126] On that issue, the two countries should come out of mere bilateral solutions and include other upstream basin countries i.e. China and Nepal, given the fact that China's unilateral water-diversion projects on different tributaries of the Ganges are anticipated to exacerbate the water level at the downstream.[127] In addition, while determining the water-sharing formula in the renegotiated treaty, the impacts of climate change on the hydrological cycle need to be sorted out and to be reflected in the water allocation formula.[128] More particularly, the assumption of 100% availability of water flows during the 40-year period from 1949 to 1988 as per the 1996 Treaty needs to be re-examined in the context of reduced water flows due to factors i.e. climate change, upstream diversion, and so on.[129] More recent data on water flows should be scrutinised to determine the trends of water flows.

Apart from the issue of reduced flows, the renegotiated treaty should consider including a guaranteed minimum flow for Bangladesh even in situations of extreme low

[123] Phillippe Sands, 'Bangladesh-India: Treaty on Sharing of Ganges Waters at Farakka' (1997) 36(3) International Legal Materials 519; Agenda 21 (3–14 June 1992) A/CONF. 151/26, vol II, ch 18.

[124] Subedi (n 2) 16–17.

[125] Salman and Uprety (n 47) 190.

[126] Notably, the earlier agreements i.e. 1977 Agreement as well as 1982 and 1985 MOUs contained detailed provisions regarding augmentation study but failed to produce any fruitful result. On the other hand, Bangladesh as a lower riparian country, is afraid of low flow extremes on account of India's various water development projects and so-called National River Linking Project as well. See Salman and Uprety (n 47) 342; Punam Pandey, 'Bangladesh, India and Fifteen Years of Peace: Future Directions of the Ganges Treaty' (2014) 651, 666, 669–670, 672; Wirsing and Jasparro (n 48) 235; Ho (n 47) 40; Chandan Kumar Sarma and Obja Borah Hazarika, 'India-Bangladesh Riparian Relations' (2021) 16(3) Indian Foreign Affairs Journal 260, 266.

[127] Vishwanath (n 50) 4; Pandey (n 126) 666.

[128] Rahman and others (n 108) 274; Pandey (n 126) 666–667.

[129] Rahman and others (n 108) 274.

flows.[130] Such a guarantee clause will persuade India to regulate its extreme upstream uses. Furthermore, both countries should come to an agreement regarding other unaddressed issues like flood management, water pollution, river ecosystem etc.[131] Moreover, in the renegotiations, the dispute settlement procedure should be revised to make it more effective by not leaving it exclusively to the political will of the parties.[132] For example, third-party settlements like mediation, arbitration can be included.

5. Sharing of the Teesta Water: The Continued Impasse and its Implications under International Law

Teesta, the fourth largest transboundary river, originates in Sikkim of India and enters Bangladesh crossing West Bengal.[133] Around 29.2% of its length flows through Bangladesh.[134] Asia Foundation in its 2013 Report unearthed Teesta's contribution to the agriculture and livelihood of the peoples of Bangladesh.[135] But Teesta is now a good example of 'upstream capriciousness' and 'commercial approach'.[136] India is taming Teesta by building large dams and barrages for its ambitious hydroelectric projects and irrigation without paying heed to its biodiversity and downstream impacts.[137] This causes a dramatic fall in water flow in the lean season and occurrences of flood in the monsoon season. For example, the Gajaldoba barrage project (including irrigation, flood control, hydro-power, drinking water etc.) of India in Jalpaiguri district of West Bengal literally controls the Teesta's water from flowing into Bangladesh.[138] On the other hand, the cascade development of hydro-projects along the Teesta river basin in Sikkim and West Bengal hinders the water

[130] ibid 274.

[131] While the preamble of the 1996 Ganges Treaty refers to mutual co-operation in the areas like flood management, irrigation, river basin development, generation of hydropower without any detailed modalities, however, so far, no such viable scheme has been adopted by the two countries. On the other hand, though water pollution is a crucial issue in case of the Ganges River, neither the Treaty addresses the issue, nor any practical initiative has been adopted by the two countries. See Salman and Uprety (n 47) 342; Simon Scarr and others, 'The Race to Save River Ganges' *Reuters* (18 January 2019) <https://www.reuters.com/graphics/INDIA-RIVER/010081TW39P/>.

[132] Ho (n 47) 40.

[133] Rudra (n 6) 196.

[134] ibid 198.

[135] Masum Billah, 'Is Mamata Banerjee the only barrier to a Teesta deal?' *The Business Standard* (07 May 2021) <https://www.tbsnews.net/thoughts/mamata-banerjee-only-barrier-teesta-deal-242710>.

[136] While speaking of extensive diversion structures along the Teesta banks, Sharmeen Murshid, a representative of the Civil society group and National River Conservation Commission (NRCC) commented: 'This is capitalism in its most perverted form, where you take away nature and everything turns into paper.' See Daniel Adel, 'Living Rivers, Cosmopolitan Activism, and Environmental Justice in the Bengal Delta' (Master's Thesis, Humboldt State University 2020) 49, 112.

[137] Kalyan Rudra, 'Taming the Teesta' (2011) 11 *Ecological Asia*, 80, 80–83.

[138] Sarma and Hazarika (n 126) 264; Robert G Wirsing, 'Hydro-Politics in South Asia: The Domestic Roots of Interstate River Rivalry' (2007) 34(1) Asian Affairs: An American Review 3, 9–10; Vimal Khawas, 'Dynamics of Hydropower Development and Regional Environmental Security in the Teesta Basin' *Sikkim Express* (07 June 2015).

flow and engenders severe environmental and socio-cultural adverse consequences.[139] In the absence of any water-sharing agreement with the co-riparian neighbour (Bangladesh), India's approach as regards the utilisation of Teesta waters defies the established principles of equitable utilisation and no significant harm *vis-à-vis* Bangladesh. Moreover, the failure to adopt the integrated, river-centric and whole-of-society approach in its development projects along the Teesta River basin is inconsistent with the concept of sustainable development.

5.1 Deadlock Surrounding the Water-sharing Deal and Implications under the 1996 Ganges Water Treaty

In 1983, an ad-hoc agreement was reached between the two countries with the effort of the Joint River Commission, which allotted 39% of waterflow to India, and 36% to Bangladesh and kept the rest 25% to be shared after subsequent studies. However, the agreement was not sustained for long.[140] In 2011, both countries agreed to come to an interim deal for 15 years (India 42.5% and Bangladesh 37.5%).[141] But ultimately India dismissed the deal blaming West Bengal's (a province of India) opposition to the agreed formula.[142] India argued that Delhi cannot do anything to bypass West Bengal as per India's Constitution.[143] However, experts termed this as an excuse and a 'myth'.[144] Dr Ainun Nishat, a leading water resource and climate change specialist in Bangladesh, argued: 'The agreement would be in between the Bangladesh government and the Indian government. It is not our headache what West Bengal does'.[145] Moreover, not bringing Sikkim (from where Teesta flows down) within the deal is also denounced.[146] In this context, it is mentionable that, the issue of sharing transboundary rivers with co-riparian countries is not directly addressed in the Constitution of India. But the issue falling under foreign affairs is to be dealt with by the central government with whom generally all states comply.[147] Moreover, as the 1996 Ganges Waters Treaty clearly imposes treaty obligations upon both India and Bangladesh to solve

[139] Muhammad Mizanur Rahaman and Abdullah Al Mamun, 'Hydropower Development along Teesta River Basin: Opportunities for Co-operation' (2020) 22 Water Policy 641–657; Vimal Khawas, 'Hydro-Fever in the Upper Tista Basin and Issues of Regional Environmental Security' (2016) 5(3) Journal of Politics and Governance 49–56; Ghanashyam Sharma and Trilochan Pandey, 'Harnessing Energy Potential in Fragile Landscapes: Exploration of Conflicts and Emerging Issues around Hydropower Developments in Sikkim' in K J Joy and others (eds) *Water Conflicts in Northeast India* (Routledge India 2018) 50–70.

[140] Salman and Uprety (n 47) 163.

[141] Billah (n 135).

[142] ibid.

[143] ibid.

[144] Imtiaz Ahmed, Prof. of International Relations made the comment. See ibid.

[145] ibid.

[146] ibid.

[147] However, due to the change in the political dynamics of India i.e. emergence of coalition politics, the strong position of the central government is now not in place. Pandey (n 126) 662–663.

the disputes over all common rivers including the Teesta,[148] the Indian government is bound to make all necessary arrangements (even by bringing the respective state governments to terms if they disagree) to make a fair and equitable water-sharing deal with Bangladesh as regards the Teesta River.[149]

5.2 The Proposed Teesta River Project of Bangladesh and Indo-China's Geo-Political Tussle

Against the backdrop of India's persistent non-cooperation in resolving the dispute regarding Teesta's water-sharing, Bangladesh has recently moved with the Teesta River Comprehensive Management and Restoration Project in an effort to solve the persistent water crisis in the north-western regions of the country during the dry season.[150] This billion-dollar project which includes several components i.e. river regime control, flood control and disaster reduction, river dredging for increasing navigability, water storage for irrigation, land reclamation and development etc.[151] has sparked serious geo-political tensions, especially over the potential involvement of China.[152] India views China's involvement in the project as a serious security concern for the country especially due to the location of the project being proximate to its Siliguri corridor, a place of immense strategic importance for the country.[153] Out of these security concerns and with a view to restraining China's dominance in the region, India has made a counter-proposal for funding the project.[154] The project thus has created a 'delicate diplomatic dilemma' for Bangladesh, as either way it proceeds will create long-term implications in the bilateral relations with both India and China.[155] However, arguably the willingness on India's part to enter into the Teesta Water-sharing treaty on an equitable basis could create a fair background in justifying its involvement in the Teesta's water resources in Bangladesh.[156]

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[148] The 1996 Ganges Waters Treaty (n 63) art IX.

[149] Art 253 expressly empowers the parliament to make any law for implementing any international agreements.

[150] Jagaran Chakma, 'Bangladesh Leans to China for Teesta Management Amidst Indian Neglect' *The Daily Star* (10 August 2020) <https://www.thedailystar.net/business/news/bangladesh-leans-china-teesta-management-amidst-indian-neglect-1942561>.

[151] Mohammad Azaz, 'Teesta River Comprehensive Management Project: How Comprehensive Will It Be?' *TBS News* (19 November 2020) <https://www.tbsnews.net/feature/panorama/teesta-river-comprehensive-management-project-how-comprehensive-will-it-be-160042>.

[152] 'Indian Concerns over China's Teesta Project Proposal to be Considered Geopolitically: MoFA' *TBS News* (28 December 2023) <https://www.tbsnews.net/bangladesh/180-foreign-observers-applied-ec-oversee-polls-mofa-765826>.

[153] The Siliguri border also known as 'Chicken neck' connects the north-eastern regions with the rest of the country. See Kamal Uddin Mazumder, 'Teesta River Project Pushes Bangladesh Into China-India Cold War' *The Diplomat* (22 May 2024) <https://thediplomat.com/2024/05/teesta-river-project-pushes-bangladesh-into-china-india-cold-war/>.

[154] Md Jahid-Al-Mamun, 'India's Teesta River Funding: Ambition or Illusion?' *Asia Times* (22 May 2024) <https://asiatimes.com/2024/05/indias-teesta-river-funding-ambition-or-illusion/>.

[155] Mazumder (n 153).

[156] Mamun (n 154).

6. Successful International Models of Managing Shared Rivers: Exploring Valuable Insights for the Indo-Bangladesh Water-Sharing Issue of the Ganges and Teesta Rivers

Though each international watercourse is distinct in terms of the geographical features, relations among riparian countries, surrounding geo-political issues etc., a trend of co-operation among the basin countries is discernible from the conclusion of a number of agreements, treaties and protocols at various levels.[157] Moreover, another characteristic of such co-operative trend is the agreement among the co-basin countries to make sustainable utilisation of international watercourses. Among the shared rivers covered by co-operative agreements, the Rhine River is the most noteworthy whose management approach has undergone a 'paradigm shift' from unrestricted development and equal apportionment principles to the ecologically sustainable development of the Rhine basin.[158] Such transformation culminated through the adoption of the 1999 Convention for the Protection of the Rhine[159] in which the 1992 Helsinki Convention[160] and the 2000 EU Framework Directive[161] played crucial roles.

The 1995 Mekong Agreement offers another example in which the riparian states agreed to maintain the 'adequate quantity' and 'good quality' of the Mekong water by adopting the principle of equitable utilisation and requiring the maintenance of water flow and the protection of the environment and water resources of the basin.[162] Again, the Southern African Development Community adopted a Protocol in 1995 (further replacing it with the 2000 Revised Protocol) for the joint management of the shared watercourse systems in the region.[163] All these examples provide important guidance for the management of shared rivers in the South Asian region as there is a dearth of integrated and basin-based approaches in their management. For example, the 1996 Ganges Waters Treaty between Bangladesh and India does not address the need for joint basin management of the Ganges River and its tributaries. The Treaty only addresses the sharing of the water flows during the lean season putting aside other crucial issues i.e. ecosystem protection, pollution prevention and integrated development of the river basin. In the case of the Teesta River, the situation is rather worse as there is no agreement to regulate its water flows and other indiscriminate diversion projects. So, it is high time the basin countries took an integrated and ecologically sustainable management approach with respect to both the Ganges and Teesta basins. In the case of the Ganges River, if a regional co-operative arrangement involving all basin countries

[157] Salman and Uprety (n 47) 195.

[158] Andre Nollkaemper, 'The Evolution of the Regime for the River Rhine' in Surya P Subedi (ed) *International Watercourses for the 21st Century: The Case of the River Ganges Basin* (Ashgate 2005) 151.

[159] Convention on the Protection of the Rhine (The 1999 Convention for the Protection of the Rhine).

[160] The Helsinki Convention imposes obligations upon state parties to take appropriate measures for preserving the transboundary watercourses and international lakes. See the 1992 Helsinki Convention (n 29).

[161] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy (The 2000 EU Framework Directive).

[162] The Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (The 1995 Mekong Agreement).

[163] Revised Protocol on Shared Watercourses in the Southern African Development Community.

including China, India, Nepal and Bangladesh is not feasible, at least, the three South Asian neighbours i.e. India, Bangladesh and Nepal should take a collaborative approach for the sustainable management of the river basin and its tributaries. On the other hand, in the case of the Teesta River, the two basin countries ie India and Bangladesh should come to a co-operative agreement for fair and equitable sharing of Teesta waters as well as for sustainable utilisation of the Teesta River basin.

7. Conclusion

Ensuring equitable sharing of transboundary waters is the most pressing issue in international water law. Sustainable utilisation of water resources is also a key concern. Co-operation, good faith, sense of justice and equity in the conduct of the riparian states are all key wheelers in that path. Though the Ganges Water-Sharing Treaty of 1996 is a milestone in the relationship between the two countries, there is still room for improvement in consonance with the established international legal norms and practices. Issues like sustainability in use and development projects, ecosystem protection and augmentation of flow should have been addressed. As the Treaty will expire in 2026, it is high time both states took these issues seriously. Moreover, both states should come to a meeting point for a just and equitable sharing of Teesta waters. Being an upper riparian country, India's obligation is far greater than that of Bangladesh. Finally, the countries should take a basin-based plan for sharing and preserving the rivers. To that end, other countries sharing the same basins should be included in the agreements for sharing transboundary waters.

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