Water Management on the Brahmaputra and the Applicability of the UNECE Water Convention

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NOTES

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Abstract

The Brahmaputra River is one of the world’s largest transboundary waterways, yet it lacks a coherent, international management framework. The river, which flows from China through India and into Bangladesh, has been subject to decades of stalled negotiations, gamesmanship, and stop-gap oversight measures. As climate change and population growth place new stressors on the Brahmaputra and its riparian states, this arrangement will become untenable. Moreover, obtaining consensus may soon become impossible as the region grows increasingly water scarce. There is a brief window of opportunity to rectify inadequate management of the river and address urgent issues such as environmental protection and apportionment of the water’s resources. The recent opening of the UNECE Water Convention to non-European signatories provides a mechanism to do so: The Convention’s adherence to common international law water principles, its incremental approach to collaboration, and its focus on environmental stewardship and scientific data sharing provide an ideal model to initiate multilateral cooperation between the Brahmaputra riparian states. Strong multilateral foundations should be established before the region is confronted by a changing physical landscape caused by climate change; the UNECE Water Convention provides such a structure and should be utilized.
The Brahmaputra River\(^1\) is a major waterway in Central and South Asia. Its basin covers an expanse of 223,939 square miles, about the size of Arizona and Nevada combined, and its waters provide resources for China, India, Bangladesh, and Bhutan.\(^2\) The river originates in the Chemayundung Glacier, traverses 1,800 miles of Tibet, India, and Bangladesh, and coalesces into the Ganges-Brahmaputra Delta, which discharges into the Bay of Bengal.\(^3\)

The Brahmaputra is the fifth largest river in the world, by flow, and at 1.84 billion tons per year, the Ganges-Brahmaputra system has

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1. The Brahmaputra River is also known as the 'Yaluzangbu' in China and the 'Jamuna' in Bangladesh. In this Note, I refer to the system as a whole as "Brahmaputra."
3. From the Himalayas, the river runs east for 700 miles between the Great Himalayas range and the Kailas Range, combining with several tributaries along the way. After turning north and running through a series of rapids and cascades, the river begins its southern descent across the eastern edge of the Himalayas and enters into the Arunachal Pradesh state in northeastern India. The river widens in India, gaining more water from tributaries to make a braided path for 450 miles through the Indian state of Assam before entering Bangladesh. In Bangladesh, the Brahmaputra coalesces with several other rivers in the region to create the Ganges-Brahmaputra Delta before discharging into the Bay of Bengal. Nafis Ahmad & Deryck O. Lodrick, *Brahmaputra River*, *Encyclopedia Britannica* (2017), https://www.britannica.com/place/Brahmaputra-River [https://perma.cc/73JB-ESJD] (archived Jan. 28, 2018).
the largest combined suspended sediment load in the world. The river system experiences massive flooding in the north due to summertime glacial discharges, while summer monsoons also prompt heavy flooding in the lowlands. River embankments, which are meant to provide flood protection, are often inadequate and can exacerbate flood damage. Every year, these floods destroy life, property, and valuable farmland. Deforestation has also led to increased landslides and erosion, which adds to the river’s sediment load and increases the ferocity of its floods. An estimated 64,000 people in Bangladesh alone are displaced yearly as a result of riverbank erosion. Despite these environmental challenges, millions of people, most notably in Bangladesh, rely on the water’s resources for fishing, farming, and commercial transportation. Yet unlike the other major waterways of the world, there is no comprehensive water agreement managing the basin.

The last century of diplomatic maneuvering over the Brahmaputra has primarily occurred through bilateral diplomacy, a mechanism ill-suited to handle a river that flows through multiple states. Although Bangladesh, the country most dependent on the river’s physical upkeep, has repeatedly tried to negotiate agreements with the upper riparian states, neither China nor India has made a sustained effort to work towards a long-term apportionment of the river’s resources, or a framework for coordinating its well-being. Climate change is likely to add significant stressors to these riparian states generally, but also to the regions around the Brahmaputra specifically: the river is forecasted to experience more frequent and longer-lasting floods, a problem exacerbated by inadequate river

4. Id.
5. Id.
7. In the Indian state of Assam alone, Brahmaputra flooding in 2014 claimed 68 lives, destroyed 54,000 homes, and rendered useless 372,000 hectares of crops; 40 embankments were breached during this period. See id.
8. Id.

This Note argues that a robust multilateral agreement should be implemented to protect each riparian state's interests in the river and to protect the physical well-being of the Brahmaputra's waters while the window for cooperation still exists. Part II provides background on the Brahmaputra in both physical and political terms, and discusses international water law applicable to the river system. Part III describes and analyzes the relationships between each riparian state to provide the context necessary to understand how a multilateral agreement might be reached. Part IV introduces the UNECE Water Convention's incremental approach to cooperation and its principles of transparency, reciprocity, and prevention of significant harm, and suggests this language provides a suitable framework on which to build a Brahmaputra River system agreement. Finally, Part V concludes that the UNECE Water Convention will adequately address each riparian state's current concerns while simultaneously preparing the region to adapt with a changing water landscape.
II. BACKGROUND

A. The Brahmaputra

Each Brahmaputra state values the river for different reasons, stemming from their unique water policy concerns and goals. China and India, the upper riparian states, primarily view the river as a political tool, while the lower state, Bangladesh, focuses almost exclusively on the river’s continued physical viability. The lack of any political management system to monitor and balance the oftentimes competing state interests leaves the region ill-equipped to deal with future challenges and leaves little assurance that any eventual crises can be averted effectively.

Between China and India, the river is one political chess piece within a larger diplomatic game. First, China and India dispute ownership of the land through which the Brahmaputra runs: while China identifies the Indian-administered Arunachal Pradesh region as “Southern Tibet,” India views it as one of India’s own constituent states. Second, China has attempted to use its position as the upper

12. Samaranayake et al., supra note 2, at iii.
13. Id.
14. Id.
riparian state, with initial control over the river and its tributaries, to exert political pressure not only in response to conflicts between the two states, but also to signal broader Chinese displeasure at Indian foreign policy. For example, China blocked a tributary to the Brahmaputra River following antagonistic border actions India took in 2016 towards its neighbor Pakistan.\(^5\) Border conflicts between India, China, and Pakistan show no sign of abating, despite eighteen recent rounds of border talks held between China and India; therefore, the river could be used offensively again in the future.\(^6\) In this volatile region, the river is but one factor within a larger battle for territorial control.

The tensions between China and India over land ownership also stretch into river use, namely through the construction of hydroelectric dams. Domestically, China views the Brahmaputra as an opportune source of hydroelectric power: to date, China has built one dam on the river and has plans for the development of several more.\(^7\)

India's regional concerns center around the physical and political power that China wields as the upper riparian state. Politically, India is concerned that China’s dam building and potential water diversion projects could damage the river water flow that India relies upon. India seeks to establish user rights to the river, including through the construction of its own dams, to mitigate these concerns and to deter the perceived Chinese encroachment on the Arunachal Pradesh.\(^8\) Domestically, India seeks to harness the Brahmaputra for hydroelectricity, as well as to manage flood control, with plans to build more than 168 dams on the Brahmaputra and its tributaries.\(^9\)

The gamesmanship between India and China particularly troubles Bangladesh, the final state through which the Brahmaputra runs before discharging into the Bay of Bengal. Bangladesh relies most heavily on the river and its resulting delta for the livelihood of its citizens. Bangladesh, therefore, is most concerned with the river's


\(^{18}\) Samaranayake et al., *supra* note 2, at iv.

physical well-being, in terms of both the quality and quantity of the water that reaches its borders. In particular, Bangladesh fears any potential water diversions and poor river management from its upper riparian neighbors. In other words, Bangladesh's perspective is less political than practical: its citizens rely on the physical presence and cleanliness of the river, and its leaders cannot afford to have other powers using the river as a bargaining chip or as a way to ease their broader water concerns.

The problems between Bangladesh and India follow traditional trends of conflict between upper and lower riparian states, namely that India will use the river for its own devices, both politically and economically, with little regard for Bangladesh's priorities. Bangladesh fears that India will divert water for irrigation and water supply interests, negatively affecting the river's flow, which is heavily relied upon by Bangladesh in its downstream agricultural uses. The Brahmaputra accounts for 65 percent of Bangladesh's river water, and the delta it forms with the Ganges and Meghna rivers constitutes the base of the Bangladeshi agricultural sector, accounting for almost half of employment in the area.

Beyond the somewhat strained Bangladeshi-Indian relationship over the physical upkeep of the river system, the political tensions at the river's headwaters between China and India leave Bangladesh even more concerned about the well-being of the river and the livelihoods of its citizens who depend on the water. Bangladesh remains particularly vulnerable to any actions China or India might take to alter the water's flow. The state faces problems within its own borders related to riverbank erosion, salinization, floods, diminished water flow, and dwindling groundwater resources. The combination of a changing environment, mismanagement of the water, and upstream pollution could severely affect the agricultural lifestyle depended upon by so many living within the water basin.

The physical upkeep of the Brahmaputra water system faces several threats in the upcoming decades due to political mismanagement and a changing natural environment. First, the Brahmaputra faces severe environmental threats due to
mismanagement of its waters. A 2012 U.S. Department of State Global Water Security report analyzed the river basin management capacity of several large river basins worldwide projected through the year 2040. The Brahmaputra was ranked as the most inadequately managed river basin of the seven chosen for the study. The report listed uncoordinated land use and development plans, reduced water flows, and saltwater intrusion into the delta as major issues facing the basin.

Second, experts predict that climate change will severely impact the Brahmaputra’s flow. A 2014 report prepared by the International Union for Conservation of Nature suggests that climate change will cause a net increase in the river’s flow over the next 50 to 100 years, due to increased monsoons with greater rainfall, and larger runoff zones from more rapid snow melt. A 2010 Science report concluded that climate change will severely affect the Brahmaputra basin, “owing to the large population and the high dependence on irrigated agriculture and melt-water.”

Physical concerns aside, a 2016 report released by the CNA found water security on the river to be subject to gaming methodology that reveals a lack of trust between the state stakeholders, particularly regarding regional security dynamics and the management of the river resources. Water stress, whether from sudden, increased flows, compromised water quality, mismanagement, water scarcity, or gamesmanship, could increase tension in a region where political relationships are already precarious. The river system is effectively a live test case for the effects of climate change in the context of uncooperative state entities presiding over a changing environment.

B. Transboundary Water Law

Though river basins only account for 3 percent of the planet’s water volume, they provide a disproportionate amount of the water used by humans. Nearly one-half of the world’s river basins are
shared between two or more countries; thus, cooperation is crucial in order to effectively manage competing interests.32

International environmental law aimed at protecting freshwater resources from pollution and overuse have historically developed in an ad hoc fashion, growing out of individual rivers, lakes, and freshwater ecosystems.33 As early as 1929, the Permanent Court of International Justice recognized that the utilization of rivers, including their flow, was to be subject to international law.34 International law provides several avenues for water adjudication, including negotiation, judicial enforcement proceedings, settlement of disputes by the International Court of Justice, and arbitration.35 Water law has grown to reflect the belief that water as a resource should be governed by principles of equity, stewardship, and cooperation.36

Although created to primarily address navigation, today's customary international water law reflects the belief that water resources cannot be used by states in a way that diminishes the equitable rights of other riparian states that use that shared resource.37 This general principle in international law is often expressed as sic utere tuo ut alienum non laedas, or the obligation to use one's property so as not to injure the lawful rights of another.38

Under international law, the injury threshold with respect to water rights is crossed when the action creates an “appreciable” harm, defined as having “a detrimental impact of some consequence upon the public health, industry, property, agriculture, or the environment of another state.”39 Working towards equitable water use can be a hefty undertaking, given the indispensable role that water resources play in human life and industry. Since controversies over shared water resources can easily erupt, management frameworks are often most effective when they employ non-judicial, non-confrontational approaches.40

32. Id.
33. Id. at 339.
34. Id.
37. SANDS AND PEEL supra note 31, at 340.
40. See remarks made at the U.N. Econ. Comm'n for Europe, Env't and Sec. Initiative, Report of the National Working Group Meeting for Identification of the Legal
International treaties have provided frameworks for governing shared water resources effectively. The 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention) is a regional agreement adopted by members of the United Nations Economic Commission for Europe (UNECE) to facilitate cooperation between nations in their efforts to protect the quantity, quality, and sustainability of water resources.\textsuperscript{41} The UNECE Water Convention creates a general obligation for signatories to take appropriate measures to "prevent, control and reduce pollution of waters causing or likely to cause transboundary impact"; to ensure the waters are used in an "equitable and reasonable way," with the aim of "ecologically sound and rational water management, conservation of water resources and environmental protection"; and "to ensure conservation, and, where necessary, restoration of ecosystems."\textsuperscript{42} Moreover, all parties to the Convention are governed by the principle of reciprocity, meaning that states sharing water basins have equal rights and responsibilities, and that no state can demand from another that which it will not do itself.\textsuperscript{43} The agreement is based on the idea of integrated water resource management, and is a manifestation of current international views of shared water rights.\textsuperscript{44}

In 2013, the UNECE Water Convention was amended to allow accession by all UN member states, effectively becoming a legal framework for world-wide water cooperation.\textsuperscript{45} The UNECE Water Convention, as well as the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention or UNWC), are models that countries can use to govern international watercourses. The UNWC is generally recognized as codifying certain water obligations under customary international law.\textsuperscript{46} These obligations include equitable and
reasonable utilization of water resources, prevention of significant harm, and prior notification of planned measures.

The two conventions are generally compatible, but they contain a few key differences. First, the UNECE Water Convention is generally more detailed and prescriptive than the UNWC. For instance, the UNECE Water Convention requires parties to enter into bilateral or multilateral agreements with each other and establish joint bodies for closer collaboration in managing the water systems. Furthermore, the UNECE Water Convention mandates a more robust institutional framework, calling for a secretariat and frequent meetings between the parties. This framework has helped parties assess and strengthen their water agreements and obligations on an ongoing basis, and it has been a key part of the Convention’s success.

These specific provisions stand in contrast to the UN Watercourses Convention, which only encourages, rather than mandates, institutional cooperation. The UNECE Water Convention has been in force since 1996, while the


47. Soon after the passage of the UNWC the International Court of Justice wrote in its decision Gabčíkovo-Nagymaros, concerning Slovakia and Hungary’s utilization of the Danube river, “The Court considers that Czechoslovakia, by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube... failed to respect the proportionality which is required by international law.” Gabčíkovo-Nagymaros Project (Hung./Slovk.), 1997 I.C.J. 7, ¶ 85 (Sept. 25); see also Huang, supra note 21, at 235.

48. Similarly, the prevention of significant harm was recognized soon after the implementation of the UNWC by international courts in the Pulp Mills case between Argentina and Uruguay, writing that a State is ‘obliged to use all the means at its disposal to avoid activities which take place in its territory, or in any other area under its jurisdiction, causing significant damage to the environment of another State. This Court has established that this obligation ‘is not part of the corpus of international law relating to the environment.” Pulp Mills on the River Uruguay (Arg. v. Uru.), 2010 I.C.J. 14, ¶ 101 (Apr. 20). For a more detailed discussion, see Huang, supra note 21, at 235.

49. Although prior notification of planned measures has not been adopted by an international tribunal as of yet, the 2004 International Law Association’s Berlin Rules, which rewrote of the Helsinki Rules concerning international water law, stated that “customary international law requires that notification be prompt.” The Berlin Rules, 71 INT’L L. ASS’N REP. CONF. 337, preface (2004). For a more detailed discussion, again see Huang, supra note 21, at 235.


51. Id.


53. Id.


UNWC was more recently entered into force in 2014.\textsuperscript{56} However, the UNECE Water Convention has only been available to non-UNECE states since 2016.\textsuperscript{57} Despite their differences, both treaties develop freshwater law and general international water law’s commitment to inter-state cooperation.

### III. CURRENT WATER RELATIONSHIPS BETWEEN THE RIPARIAN STATES

Although there is no multilateral agreement currently in place with respect to the Brahmaputra, efforts have been made in the past decades, namely through bilateral agreements and Memorandums of Understanding (MoUs), to begin developing the riparian states' water relationships.\textsuperscript{58} These interactions have been primarily focused on environmental monitoring and the limited sharing of scientific data, with less emphasis on politically polarizing topics like apportionment decisions and water rights. This is not to suggest that monitoring and sharing data are not themselves forms of political action. Both China and India in particular have viewed their actions with respect to the Brahmaputra as part of a larger strategy for resource acquisition and political power within the region.\textsuperscript{59} The resulting agreements have therefore been motivated more by self-interest than a genuine commitment to reach a meaningful and lasting management system.


\textsuperscript{59} Samaranayake et al., supra note 2, at iii.
A. China–India Relationship

Though their relationship has been politically fraught, China and India have sought to find common ground by sharing minimal, scientific information from each parties' section of the Brahmaputra river system. On a broad level, China has attempted to defuse tensions over the river by emphasizing the limited impact China's use of the Brahmaputra has on Indian interests in two key ways. First, by providing Chinese hydrological data to India during the annual flood season, China has started to increase cooperation through data sharing and emergency response. Second, by publicly proclaiming that its dam-building plans are to be used for electricity-generation only, China seeks to assuage India's fears of water diversion. To this end, China has highlighted that these dams are “run of the river,” meaning they will not reduce or stop river flow. This is of great concern to India: although the country does not rely heavily on the Brahmaputra for agricultural purposes, it has identified the river as a component in its larger river linking plan, and is thus concerned about maintaining sufficient flow. China's reassurances notably refer to the physical flow of the river rather than the geography through which it flows, as this land is still a source of conflict.

China's overtures of goodwill towards its southern neighbor have been recorded in a series of agreements, most notably in MoUs signed by the two countries. Following a severe flood in India in 2000, the

60. Id. at 25, 26.
61. Id.
63. Samaranayake et al., supra note 2, at 27.
64. The river linking plan seeks to increase the country’s water security by diverting water from rivers in the north and west of the country to more drought-ridden areas in the south and east. The plan would divert water from the Ganges and the Brahmaputra to rivers in central and west India. See Vidhi Doshi, India Set to Start Massive Project to Divert Ganges and Brahmaputra Rivers, GUARDIAN (May 18, 2017 7:51 EDT), https://www.theguardian.com/global-development/2016/may/18/india-set-to-start-massive-project-to-divert-ganges-and-brahmaputra-rivers [https://perma.cc/S52A-GNBV] (archived Jan. 21, 2018); see also Sudha Ramachandran, The Cost of Interlinking India's Rivers, DIPLOMAT (July 20, 2016), http://thediplomat.com/2016/07/the-cost-of-interlinking-indias-rivers/ [https://perma.cc/3MXQ-55T4] (archived Jan. 21, 2018).
two governments signed an MoU stating that China would provide hydrological information from three stations from June 1 to October 15 of every year.66 This MoU was renewed in 2008 and again in 2013.67 China and India also agreed to a new MoU in 2013, which extends the period of information sharing and also states that the two countries “recognize[e] that trans-border rivers and related natural resources and the environment are assets of immense value to the socio-economic development of all riparian countries.”68 Furthermore, the Memorandum speaks of “enhanc[ing] mutual strategic trust and communication as well as strengthen[ing] the strategic and cooperative partnership.”69 India has responded to these goodwill overtures by adopting a “trust but verify” stance, wherein New Delhi accepts Chinese statements but nevertheless monitors Chinese activities, standing ready to communicate any concerns about Beijing’s water activities.70

China, in turn, is most concerned with India’s control over the Arunachal Pradesh. India has stated openly that current and future plans for damming in the area are intended not only to control flooding and increase electricity in the region, but also to assert water usage rights for the area as per international practice.71 China has expressed opposition to these plans, primarily through its influence on international institutions, such as the Asian Development Bank, by denying India funding for these projects.72 Cooperation between the two countries is limited due to this ongoing border dispute and mutual distrust exists between the two states over issues reaching far beyond water policy. In this political climate, any water treaty involving the two countries will likely need to continue focusing on shared scientific data and goals such as disaster management, environmental protection, and river safety, rather than anything that could implicate sensitive topics, such as equitable apportionment or state boundaries.73

67. Id.
68. Ministry of External Affairs, supra note 65.
69. Id.
70. Samaranayake et al., supra note 2, at 27.
71. Id. at 28.
72. Ramachandran, supra note 64.
73. Samaranayake et al., supra note 2, at 31.
B. India–Bangladesh Relationship

The Indian–Bangladeshi relationship concerning the Brahmaputra is characterized by overall feelings of goodwill, mainly as a result of their one successful water management agreement for the Ganges River. This cooperative atmosphere colors their interactions regarding the Brahmaputra, however, each side retains independently cognizable concerns with respect to use of the river. For India, these concerns are mainly political or deal with larger nationwide plans for water sharing: only 3 percent of India’s population lives in the Brahmaputra basin, and the area is not largely agricultural or industrial.\textsuperscript{74} In contrast, the physical viability is of utmost importance to Bangladesh: 70 percent of Bangladesh’s population lives within the basin, which provides 65 percent of country’s river water.\textsuperscript{76}

The river is only one piece of the larger water relationship maintained by India and Bangladesh. Of the fifty-seven rivers that flow through Bangladesh, fifty-four come by way of India.\textsuperscript{76} Despite this abundance of shared rivers, only the Ganges River is subject to a water-sharing agreement.\textsuperscript{77} Because Bangladesh relies so heavily on water for its economy, including for the livelihood of so many of its citizens, it is eager to add another agreement to the list. The Brahmaputra, as one of Bangladesh’s largest rivers, is of particular import.

Generally, India and Bangladesh manage their river connections through a Joint Rivers Commission (JRC).\textsuperscript{78} The JRC began with a joint declaration from the Prime Ministers of Bangladesh and India in March 1972 and is based on the goal of equitable and mutual benefit of their shared waters.\textsuperscript{79} The two countries agreed to conduct a comprehensive survey of their numerous water interconnections and set goals to formulate and implement projects addressing flood control, irrigation, and power grid interconnectedness.\textsuperscript{80} The JRC has held thirty-seven meetings since its founding, and has helped maintain open channels of communication through which each state can outline its water security goals. Notably, as discussed below, the Ganges River

\begin{itemize}
    \item \textsuperscript{74} Id. at 38.
    \item \textsuperscript{75} Id. at 66.
    \item \textsuperscript{76} Id. at 75.
    \item \textsuperscript{77} Id.
    \item \textsuperscript{78} Id. at 63.
\end{itemize}
was initially excluded from the JRC’s domain, and the question of its apportionment was left exclusively to the states’ two prime ministers.\textsuperscript{81} The JRC has been so effective as a means to discuss water agreements that Bangladesh has established its own “Joint River Commission, Bangladesh” (“JRC, Bangladesh”) to lay out its water concerns more fully and to interact with other states in the region on a wider level.\textsuperscript{82} Through JRC, Bangladesh the country has coordinated with China and India on joint projects as a means to discourage potentially capricious handling of the Brahmaputra’s flow.\textsuperscript{83} These efforts are a notable step in the region’s slow progress towards cooperation.

Though Bangladesh maintains a friendly relationship with India, it has concerns about how India’s water projects might affect the quantity and quality of water that reaches it. India has plans to develop nationwide water-diversion projects to relieve the country’s water scarcity and to aid in irrigation.\textsuperscript{84} The Brahmaputra basin fits into these larger plans.

Bangladesh feels particularly threatened by India’s river linking project, known as the Interlinking of Rivers (ILR) program, wherein India plans to connect rivers within its territory to increase its own water security.\textsuperscript{85} The ILR program gained significant traction following the Bharatiya Janata Party’s entrance into political power in 2014.\textsuperscript{86} According to India’s Ministry of Water Resources, the ILR program envisions fourteen Himalayan River links and sixteen Peninsular River links that are intended to increase irrigation potential from 140 million hectares to 175 million hectares and to generate 34,000 megawatts of power.\textsuperscript{87} The river linkages are additionally meant to help India with flood control, navigation, water supply, fisheries, salinity, and pollution control.\textsuperscript{88}

For the Brahmaputra specifically, India has outlined plans in its ILR to construct reservoirs on the principal tributaries of the Brahmaputra to link the Brahmaputra to the Ganges.\textsuperscript{89} Bangladesh argues these diversions would reduce water flows in its territory, 

\textsuperscript{81.} JEROME D. PRISCOLI & AARON T. WOLF, MANAGING AND TRANSFORMING WATER CONFLICTS 185 (Cambridge University Press, 2009).
\textsuperscript{82.} About Joint Rivers Commission Bangladesh, supra note 80.
\textsuperscript{83.} Id.
\textsuperscript{85.} Samaranayake et al., supra note 2, at 76.
\textsuperscript{86.} Ramachandran, supra note 64.
\textsuperscript{87.} Inter Linking of Rivers, supra note 84.
\textsuperscript{88.} Id.
\textsuperscript{89.} Ramachandran, supra note 64.
increase water salinity, harm soil otherwise used for agriculture, and increase desertification of its land.\textsuperscript{90}

Although the ILR would link rivers inside Indian borders for the sake of India’s own water security, the linkages could have a strong transboundary water impact.\textsuperscript{91} Bangladesh has significant misgivings about these possible linkages, yet large parts of the project currently

\textsuperscript{90} Id.

\textsuperscript{91} Inter Linking of Rivers, supra note 84.
appear unrealistic due to overwhelming political, technical, and financial hurdles.\footnote{Samaranayake et al., supra note 2, at 61, 63.} For this reason, the ILR threat appears more hypothetical and long-term and is assuaged by other positive aspects of the countries’ water cooperation.

Bangladesh also has concerns stemming from the stalled implementation of a Teesta River agreement between the two nations. India and Bangladesh have disputed the apportionment of the Teesta for decades, but entered into an \emph{ad hoc} agreement in 1983 that apportioned 36 percent of the river to Bangladesh and 39 percent to India.\footnote{Sundeep Waslekar et al., \textit{Rivers of Peace: Restructuring India Bangladesh Relations}, STRATEGIC FORESIGHT GROUP 3 (2013).} The agreement, however, was never implemented.\footnote{Id.} In a 2010 JRC meeting, the countries set a goal of signing a final agreement by 2011, and thus began to exchange draft agreement language.\footnote{Id.} Though Indian Prime Minister Manmohan Singh had hoped final language would be signed on a visit to Bangladesh in 2011, the agreement was stymied by the Chief Minister of West Bengal, the Indian state through which the river flows. The Minister stated her opposition to the draft agreement, citing the implications it would have on her state’s water accessibility.\footnote{See id. at 3–4 (noting that the state needed to give its consent to the central government before it could enter into an agreement with Bangladesh).} Since India’s constitution designates water issues as state-level matters, her opposition was fatal to the agreement, despite both national governments’ support for the project.\footnote{Samaranayake et al., supra note 2, at 61.}

Although both countries remain optimistic that the agreement can overcome the opposition, the problem highlights how difficult it can be to reach international water agreements with a federal state like India; the country houses twenty-nine separate states that can all individually stall or stymie water agreements affecting their resources.\footnote{INDIA CONST. List III.; \textit{India, CENT. INTELLIGENCE AGENCY: WORLD FACTBOOK}, www.cia.gov/library/publications/the-world-factbook/geos/in.html (last visited Jan. 21, 2018) [https://perma.cc/TKHP-QDQC] (archived Jan. 21, 2018).} Such apportionment agreements will only become trickier in the future, as India is expected to become “water stressed”\footnote{See Glossary Definitions, EUROPEAN ENVT AGENCY, http://www.eea.europa.eu/themes/water/wise-help-centre/glossary-definitions/water-stress (last visited Jan. 21, 2018) [https://perma.cc/TN7M-J86G] (archived Jan. 21, 2018) (describing ‘water stressed’ as “when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use. Water stress causes deterioration of fresh water resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.”).} by 2025.
and "water scarce" by 2050. As access to water becomes more valuable, state politicians will feel more pressure to pursue local preferences at the expense of national foreign policy objectives, compounding the difficulty of reaching consensus.

Finally, India and Bangladesh's sole water agreement, which concerns the Ganges River Basin, is not without its own problems. Bangladesh (then a part of Pakistan) first approached India about its use of the Ganges River in 1951, because it was concerned about reports that India had plans to build a barrage on the river. The two nations began expert-level talks in 1960 that lasted until 1968, during which time India began construction on the Farakka Barrage. India eventually acquiesced to Bangladesh's repeated requests for higher level meetings, and five secretary-level meetings were held from 1968 through 1970.

These meetings, all held while the Barrage was being constructed, illustrated Bangladesh's weakness as the lower riparian state relative to India's more powerful position as the upper riparian state. Bangladesh consistently advocated for a "framework for a settlement for the equitable sharing of the Ganges waters between the two countries," while India demurred, citing data accuracy and adequacy concerns. Whether genuine or not, these excuses successfully stalled real progress over several years while the Barrage was under construction.

Eventually, the prime ministers met to discuss the issue in person, and both released statements publicly acknowledging that the water supply was inadequate for both Indian diversion and Bangladeshi needs during periods of minimum flow. Agreeing that the situation was unsustainable, the prime ministers handed the issue to the JRC

_100. See id. (defining 'water scarcity' as "where there are insufficient water resources to satisfy long-term average requirements. It refers to long-term water imbalances, combining low water availability with a level of water demand exceeding the supply capacity of the natural systems").

_101. INSTITUTE FOR DEFENCE STUDIES AND ANALYSES, WATER SECURITY FOR INDIA: THE EXTERNAL DYNAMICS 5 (Institute for Def. Studies and Analyses, New Delhi 2010). Additionally, recent studies have indicated that 30 percent of China's land faces extremely high water stress, effecting 678 million people, and that Bangladesh is one of the most vulnerable countries in the world to the impact of climate change. See Jiao Wang et al., China's Water Stress is on the Rise, WORLD RES. INST. (Jan. 10, 2017), http://www.wri.org/blog/2017/01/chinas-water-stress-rise [https://perma.cc/42CC-S3MR] (archived Jan. 21, 2018).

_102. Otherwise known as a diversion dam.


_104. Id.

_105. Id.

_106. Id.

_107. Id.
to "determine] the optimum method of augmenting Ganges flow."108 After nine meetings held by the JRC between 1974 and 1976, during which little was agreed upon beyond the two parties' competing interests, Bangladesh lodged a formal protest against India with the United Nations General Assembly. The Assembly adopted a consensus statement "encouraging the parties to meet at the ministerial level for negotiations, with a view to arriving at a fair and expeditious settlement."109

In November 1977, spurred by international pressure, the parties signed the Ganges Waters Agreement.110 The Agreement addressed apportionment of the Ganges' waters and outlined a long term solution for augmentation of its dry season flows.111 The Agreement was meant to be a short-term solution only, and lapsed in 1982.112 A subsequent short-term MoU ended in 1988 and was not replaced until the 1996 Ganges River Treaty, which delineated the flow regimes to be implemented under varying conditions.113 This new treaty was based largely upon a 1985 MoU signed by India and Bangladesh, which addressed how the countries would apportion flow through the 1988 season and established a Joint Committee of Experts to discuss and resolve competing development conflicts.114 There, India expressed its desire to link the Brahmaputra and the Ganges rivers, while Bangladesh raised concerns about dams located on the Ganges headwaters in Nepal.115

Though the 1996 treaty is both useful and necessary, it contains significant deficiencies. Importantly, the treaty fails to identify an adequate system for dealing with water shortages. The treaty provides that if the flow from Farakka Barrage falls below 50,000 cusecs (with a cusec being defined as equal to one cubic foot of water per second), several requirements fall into place. First, the Indian and Bangladeshi governments must meet to determine an appropriate course of action based upon "principles of equity, fair play, and no harm to either party."116 Second, until a sharing agreement is reached, India must release at least 90 percent of Bangladesh's flow at Farakka, based upon a previously agreed upon schedule.117 This arrangement does little to address other variables that could affect flow conditions, including

108. Id.
109. Id.
110. Id.
111. Id.
113. Wolf, supra note 103.
114. Id.
115. Id.
116. Id.
117. Id.
other riparian states' use of the Ganges and extreme weather events, like droughts. Further, it lacks an arbitration clause, giving the parties no means of enforcing the agreement.\textsuperscript{118} If, for instance, the river's flow decreases significantly due to climate change, India and Bangladesh will be unable to withdraw their respective water allocations concurrently. Disputes have already occurred over inadequate cross-boundary flows, and India's river-linking aspirations seem likely to exacerbate the problems.\textsuperscript{119}

These problems illustrate the shortcomings of the two states' water relationship, especially when confronted with continued use of the water in a changing environment. Of the fifty-four rivers the two nations share, only one is subject to a treaty, which took over four decades to create and still remains problematic. While the Ganges River Accord can be viewed as a successful effort at cooperation and trust, Bangladesh remains unsatisfied with India's continued water diversion, the treaty's failure to guarantee flow, and its lack of an effective mechanism for enforcement.\textsuperscript{120} These issues are of key concern moving forward in the two states' future water diplomacy and will be on the agendas of both states as they work towards any future water agreement. The Ganges River Accord demonstrates that progress in this arena takes decades of sustained diplomacy, and is often imperfect.

C. China–Bangladesh Relationship

Though China and Bangladesh both have complicated relationships with India, their own exchanges have been relatively uncontroversial with regard to the Brahmaputra River. The two states do not share a border, and therefore their interactions concerning the well-being of the river are often couched within larger themes of environmental cooperation and friendly regional relations. China is one of Bangladesh's largest trading partners and often competes with India for political influence over Bangladesh.\textsuperscript{121} In an effort to counterbalance Indian influence and increase its own goodwill with Bangladesh, China has shared hydrological data with Bangladesh while criticizing Indian river diversion plans. Evidence of this competition is clear: although China shares flood information on the Brahmaputra with both India and Bangladesh, it only charges India for the service.\textsuperscript{122}

\textsuperscript{118. Id.}  
\textsuperscript{119. Id.}  
\textsuperscript{120. See Samaranayake et al., \textit{supra} note 2, at 79 (noting that many parties fault India for not living up to its treaty obligations).}  
\textsuperscript{122. Samaranayake et al., \textit{supra} note 2, at 83–84.}
Chinese-Bangladeshi interactions concerning the Brahmaputra, like those between China and India, focus primarily on the sharing of scientific data and environmental concerns. In 2010, China and Bangladesh issued a Joint Statement Between the People's Republic of China and the People's Republic of Bangladesh (Joint Statement), in which they agreed to “carry out sustainable cooperation on hydrological data sharing and flood control of river Yarlungzangbu/Brahmaputra,” through “strengthen[ing] cooperation on water resources management, hydrological data sharing, flood control and disaster reduction.” China additionally “agree[d] to provide assistance for dredging of riverbeds and for capacity building through training of personnel.”

This statement was updated in March 2015 through an MoU wherein China agreed to provide additional water flow data from Tibet to Bangladesh during the monsoon season months, as well as rainfall data, in order to better forecast floods and prevent natural disasters. However, although Bangladesh believed that the MoU would go into effect in June 2015, no action was taken by China at that time to fulfill its obligations. Bangladeshi officials largely minimized this late response, reasoning that the MoU was an “understanding” rather than an “agreement.”

This situation underscores the need for formal agreements between the riparian states, since looser “understandings” have proven inadequate for creating clear and binding obligations.

Consistent with its position towards India, China has continued to assure Bangladesh that it has no plans to divert the Brahmaputra’s waters. This is a source of great concern for Bangladesh, which would face disaster if both China and India sought to change the allocation of the river’s resources. Despite these assurances, Bangladesh continues to seek increased transparency about China’s long-term goals for the Brahmaputra.

The China–Bangladesh relationship highlights the relatively weak position Bangladesh occupies in determining the river’s future management. Although Bangladesh seeks assurances and cooperation from both of its upper riparian neighbors, India and China are both loath to specify water allocation amounts that could limit their future use. Moreover, both China and India exhibit a tendency to use the river—and their relationship with Bangladesh—as a political tool.

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124. Id.
125. Samaranayake et al., supra note 2, at 84.
126. Id.
127. Id.
128. Id. at 83.
129. Id.
against each other, as seen by their unwillingness to enter into multilateral river talks. Instead, both upper riparian states show a decided preference for resolving any river issues on an individualized level. This fragmentation and lack of commitment stymie real efforts at river cooperation.

IV. EXPANDING THE UNECE WATER CONVENTION

Beginning on March 1, 2016, countries outside of the UNECE region can accede to the UNECE Water Convention. As of this writing, no country outside of the original region has joined the Convention. However, projects seeking to promote better management of shared waters are underway in the Caucasus, Central Asia, Eastern Europe, and Southeastern Europe to improve the management of shared water resources, and several of the participating countries hope to eventually ratify and implement the UNECE Water Convention. The UNECE Water Convention addresses many of the challenges facing the Brahmaputra riparian states, namely assisting transboundary basins adapt to climate change, assessing transboundary waters, and identifying the benefits of transboundary water cooperation. Moreover, the Convention’s incremental approach and focus on transparency, reciprocity, and prevention of significant harm would be well suited to addressing the challenges facing the river.

A. Benefits of Transboundary Water Cooperation

Transboundary water cooperation is desirable for countries not only as a means to decrease conflict with their riparian neighbors, but also more generally as a way to demonstrate compliance with customary international law. Benefits arise on both on a regional and global level when states enter into comprehensive water management agreements.

Customary international water law includes the principle that states maintain sovereignty over their natural resources, but that they

130. Water Convention, supra note 41.
133. See generally Water Convention, supra note 41 (noting that the Convention provides a framework for facilitating cooperation over water resources).
have a duty to prevent transboundary environmental damage.\textsuperscript{134} Additionally, customary international law includes the principle of "good-neighborliness" expressed by the maxim \textit{sic utere tuo et alienum non laedas}.\textsuperscript{135} Although customary international water law is still developing, it holds more than just symbolic importance, having been referenced in several international water law disputes.

International courts have been increasingly willing to use these water law principles in international conflict dispute cases. For instance, in a dispute between Ireland and the United Kingdom over water use under the United Nations Convention on the Law of the Sea (UNCLOS), the International Tribunal for the Law of the Sea wrote in a Provisional Measures Order that, "the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law . . . ."\textsuperscript{136} Likewise, at the \textit{Lac Lanoux Arbitration} held between France and Spain, the international court stated, "France [as the upper riparian state] is entitled to exercise her rights; she cannot ignore Spanish interests. Spain [the lower riparian state] is entitled to demand that her rights be respected and that her interests be taken into consideration."\textsuperscript{137} These cases should serve as cautionary tales to the Brahmaputra states, particularly to the upper riparian states, because they demonstrate that courts and tribunals are willing to incorporate these principles into their decisions. Such language should spur China and India to solve this management problem on their own terms, rather than letting the issue go before an international court.

By utilizing the UNECE Water Convention, the Brahmaputra states would signal their intent to comply with international law. At a regional level, this would be the rational next step for a waterway that has seen decades of stalled and fractured water negotiations. A river basin like the Brahmaputra, filled with geopolitical tensions, fractious regional goals, and impending natural stressors, presents daunting challenges from an international cooperation standpoint. International tribunals are willing to use customary international water law as bases for their decisions in transboundary water disputes; the Brahmaputra


\textsuperscript{135} See \textit{SANDS AND PEEL}, supra note 31, at 213 ("The principle of 'good-neighborliness' enunciated in Article 74 of the UN Charter.").

\textsuperscript{136} Although UNCLOS specifically addresses laws applicable to the sea, the tribunal's language underscores the more general and fundamental duty to cooperate and prevent pollution under international water law. \textit{International Tribunal for the Law of the Sea: The Mox Plant Case} (Ir. v. U.K.), Case No. 10, Provisional Measures Order of Dec. 3, 2001, para. 83.

\textsuperscript{137} Spain v. France, 12 R.I.A.A. 281 (Nov. 16, 1957).
states would be better off by incorporating these principles on their own terms through the use of a multilateral agreement.

**B. Lessons from the Brahmaputra Basin**

Currently, no comprehensive water agreement exists between the three Brahmaputra states. While all three countries have entered into various bilateral agreements and/or MoUs with each other, no multilateral agreement has materialized. There are several lessons that can be gleaned from the management history of the Brahmaputra Basin.

First, bilateral cooperation, although rightly celebrated as a form of progress, is limited in its potential to ensure lasting, comprehensive, and effective management of the river's resources. Given the Brahmaputra’s uncertain future, disjointed and out-of-date allocation arrangements that fail to consider the river’s changing capabilities will only exacerbate the entire region’s water worries. Moreover, bilateral talks have consistently favored the upper riparian states, leaving those downriver at a distinct disadvantage. This is further exacerbated by the gamesmanship that has historically transpired in the region generally, and with respect to the Brahmaputra as a shared waterway specifically. This is exemplified by: (1) China and India’s repeated rebuttals of Bangladeshi requests for hard water allocation numbers; (2) India’s reticence when negotiating the Ganges River Agreement; and (3) China’s slow implementation of certain MoUs with Bangladesh. Unequal bargaining power resulting from geography can be mitigated in a multilateral setting, where competing interests and vulnerabilities help to even the playing field.

Second, international pressure can motivate progress where nation-states reach an impasse. Historically, this was illustrated when the United Nations General Assembly stepped in to provide the final push to complete the Ganges Waters Agreement between India and Bangladesh, effectively breaking India’s stranglehold on the process. International encouragement and attention provides a neutral voice in the process and creates pressure for progress.

Third, short-term agreements have limited utility unless they are accompanied by commitments towards more permanent arrangements. These agreements should be seen more as stop-gap measures rather than lasting solutions that allow parties to walk away from the bargaining table. For example, progress toward a final agreement slowed after the Ganges River Agreement between India and Bangladesh was signed in 1977. This resulted in an eight-year

139. *Id.*
140. *Id.*
141. *Id.*
period, between 1988 and 1996, where no agreement governed the river, leaving Bangladesh with effectively no control over its upper riparian neighbor's use of the waterway.

In a similar vein, "understandings," as opposed to "agreements," should be seen only as a step towards more integrated management frameworks rather than as long-term solutions. As the 2015 Chinese-Bangladeshi MoU demonstrates, these understandings do not provide the level of certainty needed to provide lasting commitments between the countries. In short, the Brahmaputra countries should implement an overarching framework, complete with multi-step progress points leading to a final goal, to set the tone for future negotiations. Discordant or disconnected arrangements provide only temporary relief to these persistent and complex issues.

Finally, cooperation should initially focus on environmental protection and technology-sharing capabilities, as opposed to more contentious issues like land boundaries. The Brahmaputra runs through contested land between China and India, and this area is only one of several border disputes currently at issue between the two states.\textsuperscript{142} Any water treaty negotiations would be doomed from the outset if the countries were forced to deal with the most contentious political issues first. In contrast, all three states have recognized the role climate change will play in destabilizing the river in the future, and all have historically been willing to share hydrological information. Focusing on these points of agreement and mutual concern at the beginning of negotiations will set a collaborative tone and make future success more likely.

C. Applying the UNECE Water Convention to the Brahmaputra

The Brahmaputra riparian states are currently not party to any water convention, including the UNECE Water Convention or the UNWC.\textsuperscript{143} Moreover, there are no multilateral treaties or organizational bodies governing the Brahmaputra waters, unlike the other major river basins of the world.\textsuperscript{144} The opening of the UNECE

\textsuperscript{142.} See, e.g., Chris Buckley and Ellen Barry, China Tells India That it Won't Back Down in Border Dispute, N.Y. TIMES (Aug. 4, 2017), https://www.nytimes.com/2017/08/04/world/asia/china-india-border-tensions.html [https://perma.cc/3FZS-6NM3] (archived Jan. 21, 2018) (noting that tensions were high, and that China would not permit anybody to split off any piece of Chinese territory).


\textsuperscript{144.} See generally The Amazon Cooperation Treaty Organization, Sept. 30, 2012 (discussing the ACTO organization comprised of eight countries from the Amazon Basin); Agreement on the Nile River Basin Cooperative Framework, May 2010, (concerning activities on the Nile River); Convention on Cooperation for the Protection and
Water Convention to accession by outside countries provides an opportunity for the Brahmaputra states to remedy this management vacuum and to form a cooperative framework in order to better manage the river's resources.

The UNECE Water Convention should be considered for use on the Brahmaputra basin, due to its emphasis on bilateral and multilateral agreements and regular meeting of the parties, its focus on technical and environmental concerns, and its principles of reciprocity and transparency.\textsuperscript{145} The UNECE Water Convention contains three sections. Part I, entitled Provisions Relating to All Parties, discusses general provisions and elaborates on the environmental goals of the Convention, including prevention, monitoring, and research and development.\textsuperscript{146} Part II focuses on the relationship between the riparian parties.\textsuperscript{147} The Convention encourages increased bilateral and multilateral cooperation, whether through agreements, joint monitoring, or exchanges of information.\textsuperscript{148} Finally, Part III contains institutional and other miscellaneous provisions.\textsuperscript{149} This part includes the schedule for future meetings and details for arbitration of disputes.\textsuperscript{150} Each section highlights the Convention's three main goals: environmental stewardship, increased cooperation, and continual communication in established forums.

The UNECE Convention and its supporting bodies provide information and support towards furthering the goals of the Convention.\textsuperscript{151} Convention bodies and guidance documents are available to states interested in eventual ratification, and provide incremental steps towards cooperation.\textsuperscript{152} Furthermore, should the Brahmaputra riparian states choose to begin this process, they may model their efforts on those taken in other regions of the world that have decided to utilize the Convention.

Countries interested in acceding to the UNECE Convention work with the Implementation Committee, a body of nine members that facilitates and promotes the implementation and application of the UNECE Water Convention.\textsuperscript{153} The decision that created the

\textsuperscript{145} See generally Convention on the Protection and Use of Transboundary Watercourses and International Lakes, supra note 42 (emphasizing the need for strengthened national and international measures to protect the waters in some areas).

\textsuperscript{146} Id. at Part I.

\textsuperscript{147} Id. at Part II.

\textsuperscript{148} Id.

\textsuperscript{149} Id. at Part III.

\textsuperscript{150} Id.

\textsuperscript{151} Id.

\textsuperscript{152} See generally Water Convention, supra note 41 (explaining that the instrument is available to all UN Member States).

Committee describes its purpose as providing a “simple, non-confrontational, non-adversarial, transparent, supportive and cooperative” mechanism meant to facilitate implementation, application, and compliance with the Convention.  

The Convention also offers guidance documents to assist interested states, providing tools to begin the process of trust building, information sharing, and goal setting. The Brahmaputra states have arguably already started these measures, chiefly through sharing hydrological data, but could further explore the benefits of cooperation within the Convention framework.

Notably, the UNECE Water Convention does not replace existing bilateral and multilateral agreements, nor do states enter into a boilerplate water sharing agreement by ratifying the Convention: ratification merely signifies a common agreement that further multilateral and bilateral agreements in accord with the Convention’s goals, along with joint monitoring bodies and regular meetings of the parties, need to be established and developed. Article 2 states, “The Riparian Parties shall cooperate on the basis of equality and reciprocity, in particular through bilateral and multilateral agreements, in order to develop harmonized policies, programmes, and strategies . . . .” This open language thus allows the Brahmaputra states to develop their own cooperation frameworks, instead of signing on to an ill-fitting arrangement.

The Brahmaputra states have already signaled a willingness to engage in multilateral cooperation. In January 2010, twenty-five water experts from Bangladesh, China, India, and Nepal gathered for the Second International Workshop on Himalayan Sub-Regional Cooperation for Water Security. The conference was part of a long-term process meant to build trust and cooperation between the riparian states of the Himalayan River Basin. In a statement entitled The Dhaka Declaration on Water Security, the group “recommended the formation of an experts committee to prepare a road map for data sharing and scientific exchange and to prepare guidelines for introducing transparency regarding relevant data,” and “suggested the establishment of joint research projects involving all the countries.

154. Id.
155. See Water Convention, supra note 41 (noting that the Water Convention aims to protect and ensure the quantity, quality, and sustainable use of transboundary water resources).
156. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, supra note 42, at Part I art. II.
158. Id.
The group also "acknowledged the serious consequences of climate change for water security across the Basin countries and encouraged concerted collective action in addressing these."\(^{166}\) Former ministers of Water Resources of India, Bangladesh, and Nepal were among the water experts present.\(^{161}\)

This high-level meeting was a significant diplomatic step, given the fragmented past interactions between the states. The group emphasized the desirability of cooperation, equal interests, and the formation of multilateral committees.\(^{162}\) Further benefit assessment exercises could be initiated during a third such meeting of this group, or on a bilateral level by Bangladesh through the JRC, Bangladesh, which currently holds meetings with China and India to discuss various water concerns.\(^{163}\) These fora can provide stepping stones towards increased water cooperation and could be settings to discuss future multilateral agreements required by the Convention.

The Brahmaputra states would additionally benefit from ratifying the UNECE Water Convention because the Convention would ensure consistent and continuous party contact. Article 7 of the Convention demands that an "ordinary meeting shall be held every three years, or at shorter intervals as laid down in the rules of procedure."\(^{164}\) Meetings under the Convention would focus on reviewing the policies and methodologies used for transboundary water protection, exchanging information, utilizing the UNECE and other international bodies to help adhere to the Convention, and setting up rules of procedure for future meetings.\(^{165}\) Frequent meetings focused on recurring themes can assist riparian states in continued and improved transboundary protections.

The Brahmaputra states have historically struggled with setting consistent meetings to discuss shared water resources. Although numerous meetings have been held with regard to currently existing MoUs and other agreements, the states have struggled to sustain momentum and follow through on the goals of the initiating document. For instance, after India and Bangladesh signed a short-term Ganges water sharing agreement, it took nineteen years for them to sign a long-term treaty.\(^{166}\) In the interim, there were no consistent meetings and India drew strong protest from Bangladesh for overdrawing from

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159. Id.
160. Id.
161. See id. (in total, 25 distinguished water experts were present during the process).
162. Id.
163. About Joint Rivers Commission Bangladesh, supra note 80.
164. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, supra note 42, art. XVII.
165. Id.
166. See Ganges Water Sharing, supra note 112 (noting that the long-term treaty was set to last for 30 years).
As climate change adds new stressors to the water security of these states, consistent and continued dialogue will be critical for resolving disagreements as they arise. Adherence to Convention's mandated meetings could help the states ensure that dialogue is not cut off.

The UNECE Water Convention also contains a framework for settling disputes, which could provide a useful avenue for the parties to constructively discuss and manage active or imminent conflicts. Article 22 states that disputes shall "seek a solution by negotiation" or any other acceptable means to the parties, but that unresolved disputes will be sent to either the International Court of Justice or arbitration. The Convention thus allows the states to settle conflicts between themselves, or risk going before an international court that would likely adhere to the principles of customary international water law. Bangladesh would benefit from this in particular: as the lower riparian state, it has often been unable to respond effectively when either China or India has used the river for its own purposes. Moreover, one of Bangladesh's biggest complaints about the Ganges River Treaty is that it lacks an arbitration clause. For China and India, an internal settlement framework would allow them to address management problems in the first instance, an outcome they would prefer rather than immediate international interference or condemnation. As the region's water landscape changes in the coming decades, having a set dispute framework will provide stability and assurance to the riparian states.

The Convention does not address water apportionment concerns, an area of discussion currently off the table between China, India, and Bangladesh. While water apportionment would be addressed in an eventual, ideal scenario, the Convention's incremental approach would first build consensus in politically feasible areas. For instance, initial progress could be made through the Convention's focus on environmental protection, minimized transboundary impacts, and increased data sharing. Article 2 of the Convention lays out general provisions that include goals to "prevent, control and reduce pollution of waters," and to "ensure that transboundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection." The Convention envisions these goals being met through multilateral mechanisms like "joint monitoring programs concerning water quality and quantity" and "cooperation in scientific research programs."

167. Id.
168. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, supra note. 42, art. XXII.
169. Id. at Part I.
170. Id. at Part II.
171. Id.
An expanded environmental monitoring program could be a significant step toward closer collaboration and greater transparency. There is a significant lack of trust between the three states, which have a history of political maneuvering and gamesmanship with regard to water allocation. Establishing a joint monitoring body would quell worries from lower riparian states about the river’s flow and increase transparency. This would be especially enticing to Bangladesh, which has sought multilateral cooperation on the river’s physical upkeep for years. It would also be an appropriate expansion of China’s decision to share hydrological data, reaffirming China’s belief that it is using the river in a low-impact way. Expanding scientific information sharing would be a feasible and effective first step toward increasing goodwill and trust between the three states. Using pre-existing bodies such as the JRC, Bangladesh could eliminate the need for an entirely new regulatory body and simultaneously strengthen existing cooperative frameworks.

The Brahmaputra riparian states are beginning to acknowledge the importance of each other’s water security. China has sought to assure India of its dams’ minimum impact on the river, and Bangladesh has had several rounds of meetings with India to address a potential Teesta River Agreement, and thus assure itself of a steady water supply. Furthermore, because the Brahmaputra states have signaled a willingness to share water data, additional environmental monitoring programs could be a key area of collaborative expansion. As mentioned previously, China shares flood data with both India and Bangladesh primarily as a flood prevention measure. This arrangement could be expanded into a permanent body of hydrological sharing.

Moreover, the politics of the region point to environmental monitoring as a good first step: maintaining a healthy river system is of great concern for Bangladesh, the riparian state that has the healthiest relationship with both China and India. As such, working on environmental monitoring may be one of the most politically feasible actions that these nations can undertake as a collective riparian body, as both China and India have worked hard to exert influence and maintain goodwill with their southernmost neighbor.

172. See Samaranayake et al., supra note 2, at 5–6 (noting that cooperation between these countries would serve as an adaptation measure in response to climate change).
173. See id. at v (explaining that Bangladesh has been the strongest advocate for basin-wide management).
174. See id. at 27 (discussing China’s failed attempts at quelling Indian concerns).
175. Id. at 3.
176. Id. at 25–26, 83–84.
177. Id. at 25–26, 83–84.
Increased joint environmental monitoring will also be beneficial for confronting climate change. The Convention provides advice in guidance documents for dealing with issues within the context of climate change, and advocates an integrated water resource management approach to address evolving environments. In particular, the document offers guidance on how to monitor and assess changes in water quantity and quality; how to evaluate risks and vulnerabilities as they arise; and how to design, jointly finance, and implement adequate adaptation strategies. Following the steps described in the guidance documents would help further implement the Convention's provisions and increase transparency, cooperation, and information sharing.

The Brahmaputra states have already recognized the impending threat of climate change. The Dhaka Declaration on Water Security acknowledged the serious consequences that climate change could have on the region's water sources, and the final document encouraged "concerted collective action" to confront it. The UNECE's multifaceted approach could be a valuable tool to begin this process.

Finally, the Convention encourages increased transparency through alert systems. Article 9 of the Convention envisions the establishment of joint bodies that, among other tasks, would "establish warning and alarm procedures." The Convention also establishes in Article 14 a warning and alarm system to deal with "any critical situations that could have a transboundary impact." Such a system, for instance, could help warn of any sudden flooding. This could help to avert disasters such as the 2000 flood which swept through India and spurred the initial data sharing between China and India.

Ratifying the UNECE Water Convention would bring all three parties to the table to discuss proper management of the river in a manner that would allow for potential international input. Although China and India have historically preferred to negotiate on an individual basis, they have recently begun to work in a more multilateral way; their participation in the meeting on the Dhaka Declaration on Water Security is one example. Demonstrating an intent to ratify the UNECE Water Convention would additionally indicate a willingness to stop using the river as a political tool and

179. Id.
180. Id.
181. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, supra note 42, art. IV.
182. Id. art. XIV.
instead approach the river's problems in a holistic way with input from all parties. Furthermore, international pressure could help move the agreement along, something that was critical for India and Bangladesh to reach an agreement on the Ganges River.

By signaling an intent to join the UNECE Water Convention and following its guidance documents, the Brahmaputra riparian states can open new channels of communication. The Convention's approach, which focuses on issues like environmental monitoring and the benefits of cooperation, would be well-suited for the Brahmaputra. While the states have yet to acknowledge certain issues, they are increasingly willing to discuss the river's physical well-being and collaborate to ensure the waters remain productive. The Convention's focus on non-political issues would allow the riparian states to produce early consensus and establish working relationships before moving on to more contentious issues.

D. Addressing Riparian State Concerns

The UNECE Water Convention is based on the ideals of equality and reciprocity. These themes also permeate the UNWC, which China voted against and India abstained from voting on in 1997. China voted against the 1997 UNWC because it alleged the treaty did not reflect the principle of territorial sovereignty, which grants states "indisputable" sovereignty over the water that flows through their territories. It also maintained that the UNWC created an imbalance between the rights and obligations of upstream and downstream riparian states. Further, China asserted that the Convention did not reflect general agreement among all states and it disagreed with the mandatory settlement of any disputes.

India's concerns, reflected in its abstention statements, included its belief that the Convention deviated from "general principles." Specifically, India was concerned that the Convention did not provide for state autonomy in reaching international water agreements without being "fettered" by the Convention. It is clear that in 1997, when these comments were made, neither country was willing to enter into what they viewed as an overly restrictive agreement. Although the UNWC recently came into force, neither China nor India is legally bound to follow its language, as neither has ratified it.

Presented with the opportunity to enter into a different international water agreement several decades later, these states can
overcome their reservations. First, customary international law has further developed since 1997, and China and India’s actions have increasingly fallen into line with its principles. The UNWC and the UNECE Convention codify international water law’s principles of cooperation, reciprocity, and pollution prevention. International tribunals are increasingly willing to rely on these criterions when looking at transboundary water impacts.189 Although China and India failed to ratify the UNWC, they have begun to acknowledge the current reality of customary international law principles and have taken more equitable stances towards their riparian neighbors. For instance, China has been increasingly respectful of Indian and Bangladeshi concerns with respect to its actions on the Brahmaputra, and has made efforts at being more transparent and cooperative.190 Moreover, India has signaled a willingness on the state-level to create more water management agreements with Bangladesh. These actions can be interpreted as a pivot away from their “indisputable” sovereignty language from 1997.191

Moreover, India’s national government has encountered roadblocks in recent years as a result of internal politics, with individual states holding the larger country hostage in international water agreement talks, as seen with the stalled Teesta River Agreement.192 India’s previous concerns about an international water agreement encroaching on its autonomy might change upon reflection, as it seeks to overcome stonewalling by its own states.

In summary, the UNECE Water Agreement could be attractive to China as a tool to alleviate lower riparian fears while providing India with a counter-balance to its internal state influences. Moreover, all three states have begun dialogues recognizing that climate change threatens their waterways and have signaled they are willing to increase cooperation on an international level.193 The Agreement’s general language and relatively non-inflammatory subject matter only strengthen its appeal.

189. See, e.g., The Mox Plant Case, supra note 136.
190. See generally Joint Statement between the People’s Republic of China and the People’s Republic of Bangladesh, supra note 123 (noting that the leaders of China and Bangladesh agreed to share data about flood control on the Brahmaputra); Samaranayake et al., supra note 2, at 25–26.
192. Samaranayake et al., supra note 2, at 61.
193. See Second International Workshop Himalayan Sub-Regional Cooperation on Water Security, supra note 157 (providing for cooperation between India, China, and Bangladesh as it relates to water security in the Himalayan River Basin).
The time is right for the Brahmaputra riparian states to begin cooperating on a multilateral scale. A multi-party agreement outlining the future use and safekeeping of the river’s waters is increasingly necessary, yet will only become more difficult to achieve. Current pressures and future stressors could soon create an environment no longer hospitable to the cooperation and compromise necessary to reach a stable arrangement. The benefits of having an effective management plan in place to confront climate change and its impacts on the river will far outweigh the costs of current negotiation and compromise. Although the Brahmaputra’s history has been one of gamesmanship, bilateral negotiations, and stalled management agreements, the riparian states have begun to acknowledge the need for change and thus have begun to pivot towards more multilateral cooperation. The UNECE Water Convention provides useful tools and guidance to further this process. The Convention’s focus on incremental steps and regular communication, information sharing and environmental monitoring, and principles of reciprocity all comport with international water law and fit well within the existing relationships of the Brahmaputra states.

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