

Negotiating The Flow: A Critical Appraisal Of Water Diplomacy Between India And Bangladesh

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Abstract– Water sharing across borders continues to be one of South Asia, most challenging and long-lasting geopolitical problems, especially for Bangladesh and India, which share 54 transboundary rivers. This paper examines the political developments of water management between the two countries since 1971, with a specific focus on the key agreements, transformed political regimes, and the overall regional politics related to water. Based on a theoretical framework that draws on concepts such as transboundary water cooperation, political ecology, hydro-hegemony, and environmental security, the research examines India's upstream positioning and its political impact on water availability in downstream Bangladesh. Some of the important cases used to study include the 1974 and 1996 Ganges water-sharing agreements as well as long-standing stalemates over the Teesta River. Using a qualitative approach, the investigation employs the PRISMA method, drawing on treaty documents, policy statements, and scholarly literature. The results indicate that although diplomatic advancement has been made at certain stages, an imbalance in power relations and internal political limitations– specifically on India's part – remain barriers against the formation of fair and sustainable agreements. The paper ends with the practical policy suggestions to promote sustainable cooperation, which include establishing enforceable legal frameworks, improving bilateral institutions, and increasing involvement through regional organizations, such as SAARC and BIMSTEC. The steps are vital to achieving ecological balance, food and water security, and long-term political stability of an ever-more climate-stressed territory.

Keywords– Bangladesh–India Relations, Political Ecology, Regional Cooperation progress, Transboundary Water Politics

I. INTRODUCTION

The historical bilateral relationship between Bangladesh and India was traced to the management of transboundary waters among the two countries- a mechanism that has largely dominated the bilateral issues since the formation of Bangladesh in 1971. The border of the two nations is intertwined by highly intricate hydro-political geography, with 58 rivers crossing their borders. These trans-boundary waterways have not just dictated the quality of diplomatic interaction but also carried with it serious consequences concerning regional integration and stability as well as sustainable development of South Asia [2]. After the birth of Bangladesh as an individual state in 1971, India became a mentor and not just a friendly neighbour but a valuable partner both in terms of environmental and geopolitical issues as well. One of the most pressing of these matters has been the transboundary river management, which has been of critical concern in a region that is both politically sensitive and environmentally critical with water resources. India did not just offer political recognition and economic aid at the onset of its presence, but it also provided avenues of dialogue and models of cooperation to govern the cross-border rivers.

Bangladesh, being a downstream state, depends heavily on natural river courses that are fed by rivers located on the Indian territory. Such a lack of symmetry in geographical location has exposed Bangladesh to undertaking any upstream activities, including the construction of dams, diversion, and unilateral water policy decisions, very much. Therefore, the reason why India is considered a strategic partner in Bangladesh, particularly in the water-sharing mechanism, is not only a diplomatic requirement but one of the key factors to guarantee the ecological sustainability, food security, agricultural productivity, and the overall socioeconomic stability of Bangladesh. This cooperation has also been necessitated by the frequent water tussles and changes in river flow levels, which persist to affect millions of lives in the two countries. Therefore, the relationship between the upstream state and India and the downstream country and Bangladesh has necessitated the need to develop bilateral institutions and treaties that would seek to regulate, monitor, and equitably share transboundary water resources. Within this backdrop, India has been able to play the role of a willing partner at least in its overt language by declaring its intentions to

assist Bangladesh in collaborative constructs and regional water management systems. The actual implementation of such collaboration has, however, been affected by the volatility of political interests, the tensions of regional interest, and the inland demand of water even within India. The need to create such bilateral processes saw the formation of the key bilateral processes like the 1974 Joint Rivers Commission (JRC), which was to promote dialogue and cooperation aimed at equitable distribution and application of such shared rivers [3]. These efforts have also become more institutionalized through the signing of key agreements including the 1996 Ganges Water Sharing Treaty.

Nonetheless, with the presence of such institutions and agreements, the trend of Indo-Bangladesh water diplomacy has witnessed its fair share of oscillations, usually reflecting the overall changes and dynamics in the political atmosphere as well as the geopolitics in the region of South Asia. This has seen the relationship evolve in both cordial relations and greedy strategy over generations signifying how deep-rooted and interdependent waters politics and statecraft have been in the region. Therefore, a detailed case study of the topic of Indo-Bangladesh transboundary water diplomacy is a real revelation to the issues and opportunities of regional integration, environmental justice and sustainable development in one of the most populated density regions in the world with climate vulnerability.

II. THEORETICAL FRAMEWORK

Transboundary Water Sharing Theories provide legal as well as normative guides to the equitable, cooperative and sustainable use of shared water resources based on principles advanced in the international water law, such as equitable and reasonable use, the duty not to cause significant harm, and the duty to cooperate. The relevance of these principles in the Bangladesh-India problem is quite eminent since there are 54 rivers which flow across national borders; therefore, Bangladesh is a lower riparian state and India is an upstream state for which it has significant hydrological rights. The best example of the implementation of these principles is the study of the Ganges Water Sharing Treaty of 1996, which was a 30-year treaty and was signed following a long-running water flow wrangle between India and its neighbours due to India operating the Farakka Barrage unilaterally since 1975. The agreement signed when Sheikh Hasina was the first-time prime minister aimed at making a just sharing of the Ganga water in lean season (January-May) and agreed that India will not diminish below 35,000 cusecs in bad times. Nevertheless, according to Joint Rivers Commission (JRC) records since not always this sum could be allocated to Bangladesh, which caused an agricultural crisis, especially in southwestern regions including Jessore and Khulna [4, 5]. This has been a cause of concern as to whether the treaty complies with the principle of no significant harm since the control of upstream water of India on water that runs into Bangladesh has led to seasonal droughts, an increase of soil salinity, and a decline of fishery in Bangladesh [6]. Working in parallel with Law theories, the Political Ecology Theory provides associations of how power, governing and socio-political arrangement skew positions, make disparities in the setting of the environment. The very fact that in inter-state negotiations in Bangladesh has little say over its transboundary issues, although it relies on this category of river for irrigation (which employs the majority of its population to support its economy in 60 percent), depicts the fact that political opposition by the subnational actors in India especially by the West Bengal administration has been resistant to seal the Teesta Water Sharing Treaty since 2011, even after a draft was finalized [7]. The hydro-hegemony theory also explains this disparity, in which India is the upstream riparian, and since it is in a position of geopolitical, economic, and hydrological power, it can erect the infrastructure such as the Farakka Barrage on the Ganga and the Gajoldoba Barrage on the Teesta. The fact that India can play with water release with little rivers and without a legally binding agreement with the leading of most rivers is a demonstration of structural inequality, leaving Bangladesh to rely on political goodwill. This kind of control has given rise to the crises such as the current drought, in 2017, where Teesta flows into Bangladesh have fallen to just under 400 cusecs - a wide-margin from the 1,500 cusecs theoretically agreed in previous talks - that have crippled the irrigation systems of the Boro rice crop in the northern region of Bangladesh [8]. Lastly, the concept of environmental security and sustainable development implies that there is a need to preserve common ecosystems as well as satisfy human demands. The misfortune of the riverine ecosystems of Bangladesh through depletion of water flow rivers, especially in the Sundarbans region, and the drying out of distributaries like the Gorai warns of an increasing danger of ecological imbalance and food security in the region [9].

Overall, Bangladesh-India water indicates how water relations represent an urgent meeting place of legal norms, power politics, and environmental justice. Such theories indicate that South Asia has good and

equitable management of transboundary water, structural disparities, political obstruction, as well as the necessity to establish sustainable and flexible systems of cooperation, should be discussed electronically for review.

III. METHODOLOGY

The research applies a systematic literature review (SLR) methodology to determine the political/diplomatic aspects of transboundary water-sharing between Bangladesh and India since 1971. The aim is to provide a synthesis of the current body of knowledge on bilateral river water governance, especially regarding fundamental agreements, the functions of political institutions, and the changing discourse of the water diplomacy. To meet the scholarly rigor, the review had been done with the help of a definitive methodology that was replicable. The inclusion criteria concentrated on finding published sources issued after 1971, including peer-reviewed journal articles, quality newspaper articles, and government publications of Bangladesh and India on the one hand, and weak unverified blog posts, opinionated content, and sources irrelevant to the bilateral context, on the other hand.

TABBLE 1 Methodology

Criteria Type	Inclusion Criteria	Exclusion Criteria
Timeframe	Published after 1971	Published before 1971
Source Type	Peer-reviewed journal articles Newspaper reports Government websites and official statements from Bangladesh and India	Unverified blogs non-scholarly opinion pieces Unofficial or anonymous sources
Geographical Focus	Focus on Bangladesh-India bilateral issues	Other regional or global water-sharing disputes

Statistically relevant data were gathered by searching academic databases (Scopus, Web of Science, JSTOR, Google Scholar), newspaper archives (The Daily Star, Prothom Alo, The Hindu, The Indian Express) as well as government websites (the Ministry of Water Resources, Joint Rivers Commission of the two countries). Keys words were combinations of transboundary water sharing, Bangladesh, India, river treaty, Ganges and Teesta using Boolean operators. The screening was conducted in line with the PRISMA and was based on a title and abstract and on full-text screening. Thematic analysis was used to code selected studies and data were extracted on authorship, type of publication, events discussed in the context of politics, actors, theoretical frameworks and the approach. The use of sources was narrowed down to those with high credibility as the subject of quality assessment (peer-reviewed publications and government records with official verification). Lastly, results were combined in themes and placed chronologically according to political events and were contextualized by theoretical approach models of Realism, Political Ecology and Liberal Institutionalism.

IV. POLITICAL CONTEXT AND EVALUATION SINCE 1971

The Mujib-India period (1971-1975) was leading to the establishment of the framework of water diplomacy between Bangladesh and India; as there is very strong political intimacy between Sheikh Mujibur Rahman and Indian Prime Minister Indira Gandhi, created through the liberation of Bangladesh. Their ideological affinities based on secularism, regional stability and South-South cooperation went beyond conventional diplomacy and provoked common action in the management of transboundary resources. After Bangladesh gained its independence with the enormous military, diplomatic and humanitarian assistance of India, the Mujib government chose a pro-India line in its foreign policy characterized by friendship and cooperation especially in the control of the shared river waters given that, with 58 river crossings (54 of Indian origin), Bangladesh experienced severe shortages during the dry seasons since management was concentrated in the control of the controlling state: India [10].

The disputatious process of the running of the Farakka Barrage which draws water in the Ganges by Indian sparked the issues of great concern and panic with regards to agriculture, migration of fish, and navigability in the southwest of Bangladesh, forcing the Mujib government to institutionalize and make bilateral water management by establishing the Joint Rivers Commission (JRC) in 1972 [11]. It used the

JRC as a technical cooperation and hydrological analysis platform that led to the historical 1974 Ganges Water Sharing Agreement under the state visit of Mujib in India—a time-bound agreement of five years based on goodwill and fair division [12]. Although short-lived, the agreement was regarded as an emblem of a novel transboundary water governance model of cooperation [13]. However, the killing of Mujib in 1975 left a diplomatic vacuum and India retook full control of the Farakka Barrage which decreased the flows of water into the country during the dry season greatly which resulted in intrusion of salinity, instigated crop failures and deterioration of the environment. Under the military rule of General Ershad (1982-1990) JRC meetings were also held, but no treaty was signed, and Farakka issue was stopped by Bangladesh at the UN in 1976, and in 1981 [14]. That era was characterized by hydro-hegemony, a situation where the upstream India controlled everything as the downstream Bangladesh stood helpless. During Khaleda Zia democratic Federal rule (1991-1996, 2001-2006), Teesta negotiations failed, since as political mistrust and nationalism, it required strategic trust that was lacking because negotiations by technical means through JRC were taking place. Her governments failed in negotiating legal water-sharing treaties, so persisting asymmetry in negotiations and institutional weakness can be observed.

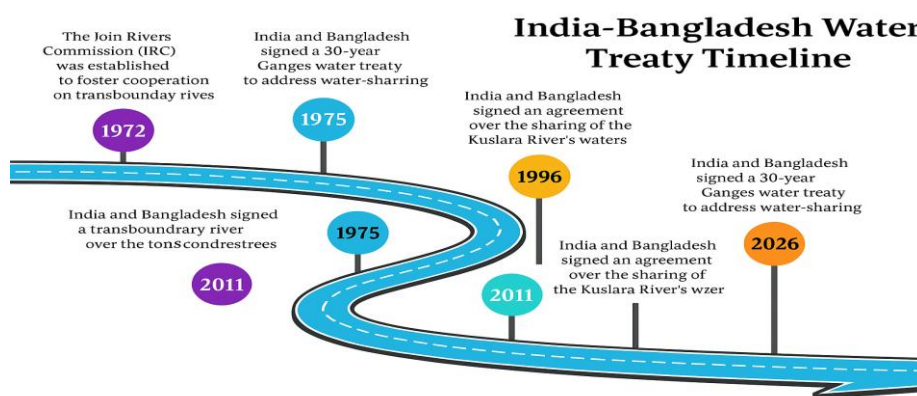


Fig. 2 India-Bangladesh water treaty

The breakthrough was realized under the leadership of Sheikh Hasina as it was when she was directly in charge (1996-2001) with the signing of the historic 30-year Ganges Water Treaty, a formal and acted upon agreement, which supplanted the previous inchoate understanding. Being re-elected to power in 2009, Hasina placed an extra focus on regional integration and friendship capitalism. Despite the thriving connectivity, trade, and energy cooperation, Teesta discussions resorted to standstill once again because of Indian federal politics. Her times were characterised by practical diplomacy involving a regular bilateral talk, yet no binding Teesta agreement was affirmed, which showed the flimsiness of subnational agreement inside India [15]. After the 2024 transition, under an interim government headed by Dr. Yunus, new diplomatic impetus lost momentum. This was once again witnessed when India had to release water in the upstream dams without warning because of which the entire southeastern Bangladesh was badly flooded resulting in a furor among the people and therefore the dangers of overriding actions. There is now an urgent pressure on the interim government to reclaim the water right of Bangladesh and rekindle on the negotiation of the water treaty, particularly the Teesta one. In such a way, the historical path of Bangladesh-India water diplomacy addresses the key role of political will, civilization, and institutional strength in regulating transboundary natural resources management [16]. The course of water diplomacy from the period of trust and institutionalization under Mujib to the period of tension followed by stagnation under Ershad and Khaleda Zia and partial achievements under Sheikh Hasina proves the importance of political will, understanding, and institutional strength in managing international water [23].

V. KEY DAMS AND INFRASTRUCTURAL DEVELOPMENTS

The Farakka Barrage, built by India and in use since 1975 is only 18 kilometers upstream of the Bangladesh border in West Bengal and was originally meant to redirect water of the Ganges to flush silt and sustain navigability at Kolkata port. But, in the short period of time, this engineering project of diverting the natural river flows became a top-order transboundary conflict between the newly independent nation Bangladesh and India because of the extreme environmental and economic impact that was being suffered by Bangladesh. Bangladesh must contend with more than 54 rivers flowing in

through India, and there has been significant diversion and damming on the upstream which has caused a significant change in the riverine ecology of Bangladesh especially in the Ganges, Brahmaputra, Meghna one of the largest and the densely populated river basins in the world. The change in the natural water flow due to this made water scarce during dry season, soil salty water increased promoting soil salinity, loss of aquatic biodiversity, which resulted in less agricultural productivity, causing displacement of people in the region of southwestern Bangladesh and rural poverty worsened.

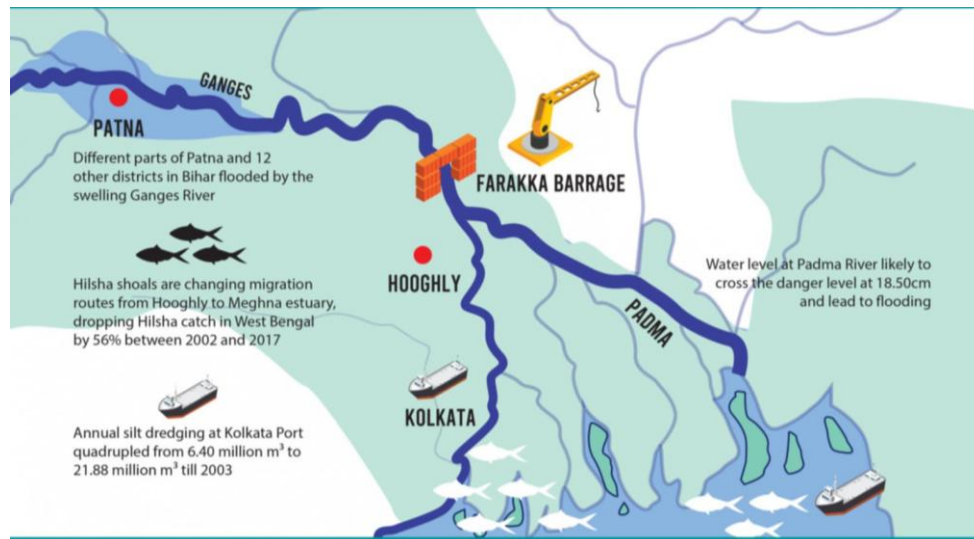


Figure 3 Hydrological and environmental impact of the Farakka Barrage [21]

In 1976 Bangladesh brought the problem to the United Nations, with the Farakka Barrage having become one of the symbols of asymmetry of power and injustice in the region. To resolve the conflict a Ganga Water Sharing Treaty was signed on 12 December 1996, that provided a 30-year water sharing agreement that assured Bangladesh at least 35,000 cusecs of water in the Ganges in the all-important dry season (January-May), and a Joint Rivers Commission (JRC) to oversee the fulfillment of the agreement and exchange information. Though termed as a diplomatic landmark, the treaty which is scheduled to expire in 2026 has been criticized by Bangladesh based on factors of lack of transparency, no legal methods of enforcement as well as the upstream advantage of India. In the meantime, outstanding dispute in regard of Teesta River becomes one of the main issues of flare signals, as Bangladesh has fallen short of water volume during dry season that India can control the inflow through construction of dams and Gajoldoba Barrage among others which have been a great hindrance to irrigation in Rangpur, Nilphamari, and Lalmonirhat among other regions. In 2011 a draft agreement was prepared proposing a 50:50 split (37.5 Bangladesh/42.5 India) but this was met by fierce opposition by the West Bengal state government and indicates how the internal politics of India prevent a solution. Collectively, the Farakka dispute, the Ganges Treaty and the Teesta stalemate, represent the character of transboundary water politics in South Asia, which is defined by gaps in law, regional relations of power, as well as the advent of emerging climate challenges.

VI. IMPACT OF WATER DISTRIBUTION ISSUES

The trans boundary water sharing issue between India and Bangladesh has resulted in devastating agricultural, social economic, environmental and health impacts especially in Bangladesh. Agriculture is the backbone sector of the economy that depends mostly on transnational rivers to irrigate the crops in the country, particularly during the dry Boro season, where 2,500-3,000 liters of irrigation water is needed to produce one kilogram of rice. In fact, during the years when Teesta River flows to less than 500 cusecs, which happened many times after 2010s, crop yields in Rangpur, Kurigram, and Lalmonirhat regions can drop by 30 percent. At the same time, the lack of coordination of water management on the Indian side, although such projects as the Gajoldoba Barrage are also beneficial, results in ineffective use and a frequent flood wave during monsoons in the states of Bihar and West Bengal, exposing it to losses of INR 5,000 crore annually. Such interferences directly affect livelihoods by the estimated 20 million individuals living in northern and southwestern Bangladesh having to contend with seasonal water stresses leading them to lose their income and move to the urban areas.



Figure 4 Severe flood in Feni [22]

Salinity intrusion during the dry season (made worse by lack of upstream flow) has destroyed the traditional rice and shrimp cultivation in the coastal areas in Bangladesh, such as Khulna and Satkhira. Concerning environmental impacts, unilateral transfer of water through the construction of barrages such as the Farakka Barrage has decreased water biodiversity; there are more than 25 endangered native freshwater fish species, including Hilsa and Rui, owing to how the flow has been affected. Unnatural flow and siltation lead to the erosion of about 2,000 hectares of land a year by the Padma River, which hastens the process of deforestation and wetland degradation. The health of the population also plays the role: in the regions where the Teesta is the only source of freshwater, the restriction of its access contributes to the growth in the consumption of contaminated with arsenic groundwater: more than 20 percent of all studied tubewells exceeded the maximum acceptable WHO arsenic level in the coastal areas, the invasion of saltwater stimulated the increase of hypertension and skin diseases, with their prevalence more than twice as high in women and children. The above consequences indicate an immediate need for equitable, ecologically knowledgeable and viable transboundary water administration.

VII. DISCUSSION AND POLICY RECOMMENDATIONS

The Indo-Bangladesh water governance forms are extremely asymmetrical due to upstream control and downstream dependence by India and Bangladesh on a total of over 54 shared rivers, respectively. Although milestones such as the Ganges Water Sharing Treaty 1996 ensure that Bangladesh stands at no less than 35,000 cusecs during dry seasons, the actual transpiration is smaller, including the frequent scarcity of Teesta River channels of less than 500 cusecs in the peak irrigation months, leading to a 30 percent crop loss in the Rangpur and other neighbouring districts. The 2011 Teesta draft agreement is yet to take off because of opposition at the federal level in India, and particularly because of West Bengal, a local politician who has taken over the bilateral treaty. Although there has been diplomacy and the creation of bodies such as the Joint Rivers Commission, the lack of a legally binding agent, poor sharing of data, and a hydro-hegemonic attitude make it difficult to establish viable cooperation. Overall, a packed situation. This study also tries to expose the fact that 20 million citizens living in the northern and southwestern provinces of Bangladesh experience seasonal water stress, and the negative influence of the unbalanced flow of rivers is also reflected on the ecological level in the form of endangering 25 species of freshwater fish and the destruction of 2,000 hectares of river-scouring every year. Additionally, the onset of health emergencies such as the arsenic toxicity affecting more than a quarter of the tubewells or the salinity-associated hypertension among the coastal women highlights the necessity of introducing climate-sensitive and community-sensitive governance. And finally, the thesis challenges water governance, in addition to the implementation of binding legal changes and the revitalization of the JRC, the need of basin-wide collaboration, the incorporation of local community perspectives, and the regional institutions such as BIMSTEC becoming the venues of hydro diplomacy and environmental justice realization.

To address these long-standing tensions and construct a more flexible and equitable agenda of transboundary water governance, this paper suggests a package of strategic and policy-related reforms: In the first place, efforts must be made to develop permanent, legally binding and enforceable water-sharing agreements that do not depend on goodwill or occasional political agreement. To be effective, these treaties should consist of well-established water allocation formulas, a real-time tracking system, open data sharing, and dispute resolution automated based on international legal standards. Secondly, the institutional strengthening of the Joint Rivers Commission (JRC) is important. It ought to shift to become

a technically empowered avenue that is empowered with authority to act, has acquired enough needs, and is made available to scientific knowledge. There should be the obligation of the JRC to carry out combined investigations, evaluate seasonal and long-term hydrological profiles, and support alert coalitions to abate water-related emergencies. Third, the essential underline is that with the revival of regional multilateral platforms like SAARC and BIMSTEC. These institutions may be used to act as neutral platforms in basin-wide, multi-stakeholder interaction between riparian nations, civil societies, environmental specialists as well as native communities. Putting away the bilateralism to adopt a basin-wide approach would make water management more inclusive, sustainable and adaptive in the whole South Asian region. Fourth, water governance strategies are shifting towards becoming climate-sensitive where issues behind global warming, unpredictable precipitation events, the evanescence of glaciers, and frequent occurrence of floods and drought are to be included. Better responses such as adaptive means including climate-resistant cropping, sustainable irrigation systems, and collaborative flood management plans must be put into effect to prevent the risk of the future and guarantee water security amid the uncertainties in the environment. Lastly, engagement of the local and marginalized communities in the process of water governance is important. These experiences of the farmers, women, indigenous people, and the people who lived directly to the impact of water scarcity must be embedded in the policy making and decisions. Regional cooperation without participatory governance will –regardless of the enthusiasm- be top-down in nature as well as out of touch with the reality on the ground. Finally, given the fact that the IPCC estimates a 50 percent loss of freshwater supply in South Asia by 2050, it is high time to reorganize water government on the structural level. The idea of equitable and sustainable water sharing between and among India and Bangladesh is not just relevant in ecological protection and food security, but also in the maintenance of peace and stability in the region, health of the people and their socio-political factors. The hydro-solidarity that is ahead should be based on the policies of equity, environmental justice, and collective responsibility, building a route between hydro-hegemony and hydro-solidarity

VIII. CONCLUSION

Throughout the paper, the author shows that even though there is abundance in diplomatic development especially during the Enclosure Ganges Water Sharing Treaty signed in 1996, overall, water governance between India and Bangladesh remains to be stalled by continued inequalities of power and intricate internal politics. Although the 1996 Treaty offered fundamental guidance on water allocation in the dry season, understanding is having its good and bad days with implementation only counting one out of more than 54 transboundary rivers shared by the two countries. The larger issue is that of unbalanced nature of the water-sharing relationship, where India (the upstream riparian state) continues to exercise extensive control on the flow of rivers, whereas Bangladesh (the downstream riparian state) is exposed and at the mercy of the Indian good-will. An evident phenomenon of such disbalance is the failure of Teesta Water Sharing Agreement that has been since 2011 yet to be signed owing to the objections by the government of state of West Bengal. This is indicative of the possibility of domestic political considerations in India to prevail over international obligations with the risk of keeping at bay important bilateral negotiations that are essential. The dynamics of hydro-hegemony between subnational politics and federal power accentuates the hydro-hierarchical relationship where control of hydro is a predominant force of relationships driven by upstream winners and losers of downstream laws of access and water. Such forces have strengthened ecological uncertainties and socio-economic vulnerabilities in Bangladesh. Accessibility to water in times of key irrigation activities has resulted in huge wastages in agriculture, food insecurity, and destruction of aquatic environment. In addition, the existence of no legally binding mechanisms and no transparent, real-time data sharing between the two countries makes the issue of trust, cooperation, and long-term planning even more challenging. The weakness of bargaining of the Bangladesh also increases its reliance on the India both in the political and hydrological front.

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