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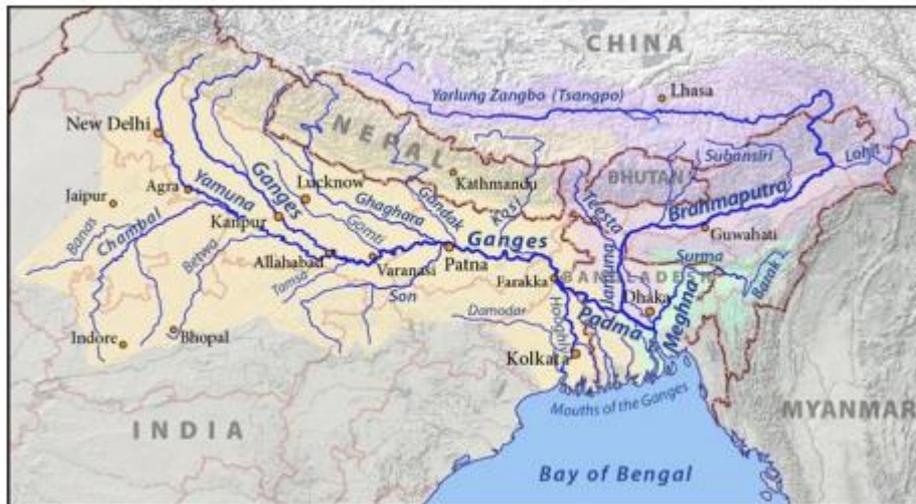
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India- Bangladesh River Disputes: Issues and Way Ahead

- India and Bangladesh share a total of 56 transnational rivers. Hence the realm of water cooperation a crucial aspect of the bilateral relationship. Diplomatic dialogues on water sharing for some of the rivers such as Ganga date to pre-1971 period, when Bangladesh gained independence from Pakistan.
- Bangladesh is in the lower most riparian terrain in the Ganga-Brahmaputra basin. It implies that the country gets access to abundant amount of silt that greatly assists in rejuvenation of the soil.



- However, the same geographical location imposes a strategic concern of being on a constant alert of developments along the course of rivers in the upper terrain, i.e. India as it can affect both the flow and release of water bodies in its territory. Of Bangladesh's over 230 rivers, 57 are transboundary; 56 of those flow through India. According to the FAO of the UN, the ratio of Bangladesh's external dependency for water is over 90 percent.
- Though Bangladesh shares approximately only 4% of this basin area, in contrast to India's 79 per cent, this nevertheless represents 37 per cent of Bangladesh's total area. Bangladesh is highly dependent on three major transnational rivers: the Padma (Ganga), the Jamuna (Brahmaputra) and the Megha (Barak).
- These waterways act as a lifeline for the farmers of the country, who represent 60 per cent of the total population. In addition, fish from these rivers comprise the diet of close to 80 per cent of Bangladeshis. The Ganges Water Sharing Treaty, 1996 presents one example of water sharing between the two neighbours with a Joint Technical Committee to monitor developments and needs of the countries.
- Given such a geo-strategic condition, Dhaka has always pressed for the continuation of talks on developing water sharing mechanisms with India even when the bilateral ties were relatively turbulent owing to different political regimes in Bangladesh

Farakka Barrage Issue

- The Farakka Barrage has been a cause of worry not just between India and Bangladesh but has also created concerns among states within India. Farakka Barrage is a barrage across the Ganga river located in Murshidabad district in the Indian state of West Bengal, roughly 18 kms from the border with Bangladesh.
- The barrage was constructed by Hindustan Construction Company to



divert 1,800 cubic metres per second of water from the Ganges to the Hooghly River for flushing out sediment deposition from Kolkata harbour without the need of regular mechanical dredging.

- Ganga is one of the most important rivers in South Asia. About 70% of the total population of Bangladesh and about 50% of the Indian population live in the Ganges basin.
- As a result, Bangladesh and India have had many debates about how the Farakka Barrage cuts off Bangladesh's water supply and how to share the water.

Points of contention between India and Bangladesh

- India and Bangladesh established the Indo-Bangladesh Joint Rivers Commission in 1972, following Bangladesh Independence in 1971 (Wolf & Newton). In 1974, it was realised during periods of low flow, that there would not be enough water in the Ganges to be diverted by the barrage without having severe impacts on water access in Bangladesh. Both sides agreed that the Ganges should be augmented to meet the needs of both states but the decision should be handed over to the Joint Rivers Commission.
- In 1975 during negotiations, India activated the barrage at full capacity. The resulting adverse impacts felt in Bangladesh from reduced river flow included: degradation of surface and groundwater, degraded fisheries, increased salinity, and contaminated/reduced water supplies, which began to affect public health.
- In 1977, the Ganges Waters Agreement was negotiated, which regulated water distribution for five years. It was not until 1996 that a formal treaty was signed. The treaty is known as the Ganges Water-Sharing Treaty and regulates water distribution from Farakka Barrage over a thirty year period (K. Thomas).
- However, the basis of this agreement was framed on average water flow at the Farakka site between 1949 and 1988 (Wolf & Newton). Since the agreement, climate change impacts on rainfall, combined with increased uses of water for agriculture and hydro-power in the upper Ganges in Nepal, have changed water levels, thus, effecting the distribution of water according to the requirements of the 1996 treaty.
- Bangladesh is widely recognised as a state most vulnerable to climate change as it is low-lying and is traditionally prone to extreme wet and dry seasons. While the barrage reduces salinity in Kolkata, the diversion of the Ganges has increased river salinity in Bangladesh. As rice paddies are sensitive to salinity increases, this poses a threat to Bangladeshi food security.
- Decreased river flow effects the Bangladeshi environment, particularly the Sundarbans mangrove forest. Forest degeneration has caused Bangladesh to reduce its timber production and has created an economic loss for the country.
- The Farakka Barrage has caused a multitude of environmental and social consequences, including the increased likelihood of flooding during monsoon seasons and the mass influx of environmental refugees into India. Refugee flows have also created secondary conflict in India, particularly in the region of Assam (C. Gugoff).
- Nilanjan Gosh criticizes the barrage as being a classic example of the reductionist engineering paradigm (promoted by the British colonial legacy) that looked at short-term economic benefits, ignored long-term sustainability concerns, and created the 'metabolic rift' between humans and Nature.

Issues in the GWT

- The existence of the GWT does not necessarily equate to meaningful cooperation between the parties. It does not factor in effects of upstream use on the availability of water at the Farakka Barrage and, with no consideration of Nepal, nor does it take a whole-of-basin approach.
- The Ganges water treaty has mentioned the no-harm principle, but there isn't any procedural guidance under this treaty to reduce any potential harm.
- Furthermore, the GWT lacks a strong method for dispute resolution. A Joint Committee, with equal numbers of representatives from India and Bangladesh, is tasked with examining disputes, but it is only required to meet if the river flow were to fall below 50,000 cusecs, which is a crisis point.
- The GWT also only allows India to withdraw a maximum of 40,000 cusecs. Given that Bangladesh is a deltaic floodplain, the country is highly susceptible to flooding. Given the Treaty's restrictions, if the river flow were to reach two million cusecs at Farakka, not only would the river breach its banks, but the Treaty would not allow India to withdraw more water for flood alleviation.
- These shortcomings indicate that the GWT is not a comprehensive watermanagement solution, but rather an arrangement for dividing up water allocations.

Inter-state conflicts in India

- The Farakka Barrage has started emerging as an inter-state water dispute. The Bihar chief minister has recently called for removal of the Farakka Barrage, holding it responsible for the floods in Bihar and UP. This contention seems to have been based on the backwater effect hypothesis, caused by sedimentation in the Farakka, and consequent cascading of the sediments upstream of the barrage.



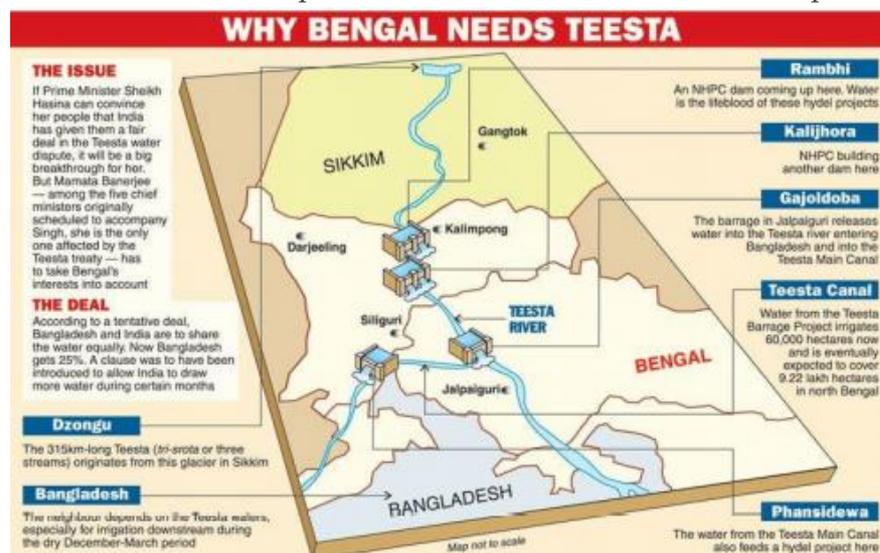
- Another major issue has been with regard to movement of hilsa. is an anadromous fish. That is, it lives most of its life in the ocean, but during the rainy season, when it is time to spawn, the hilsa moves towards the estuary, where the rivers of India and Bangladesh meet the Bay of Bengal.
- A large part of the shoal travels upstream in the Padma and the Ganga. Historical records also show that until the 1970s, the hilsa would swim the Ganga upstream to Allahabad – and even to Agra. But the Farakka Barrage, which became operational on the Ganga in 1975, disrupted the westward movement of the hilsa.
- The barrage had a navigation lock that stopped the fish from swimming upstream beyond Farakka. On August 4, 2016, then Union Water Resources Minister Uma Bharti told Lok Sabha about plans to create “fish ladders” to help the fish navigate the obstacle posed by the barrage.

Way forward

- Gosh argues that removing the Farakka barrage is not going to solve the problem either. The unintended benefit of the barrage is amelioration of the water problem downstream in the densely populated areas of West Bengal. It has also ensured groundwater recharge for the burgeoning Kolkata population.
- The basic problem is not the existence of barrage but its flawed design which needs to be corrected. For example, China has developed its own rules of ecologically informed engineering while designing its dam on Yangtze. The design helps in flood control and uses the peak flow to use the sediments effectively for downstream floodplain cultivation.
- River basin commissions with powers above the federal states should be set up to avoid escalation of inter-state river conflicts. Both India and Bangladesh are facing mounting pressure to secure some form of food and water security, particularly with demand-side pressures mounting. The formation of Joint technical committees that was a result of MoU in 2019 can pave way for cooperation.
- Bangladesh could improve the management of its water resources by dredging its rivers and watersheds and employing better water-management techniques. Bilateral co-operation might also be enhanced by developing early warning systems for floods and droughts. Alternative methods of co-operation must be employed to ensure that the interests of both countries are achieved while reducing the potential for conflict.

The Importance of Teesta river:

- The Teesta river, a tributary of the Brahmaputra, originates in the Teesta Kangse glacier and flows through the state of Sikkim and West Bengal before entering Bangladesh. After the setting up of the India-Bangladesh Joint Rivers Commission in 1972, an ad hoc arrangement on sharing of Teesta waters was made in 1983, with India receiving 39 percent of the water and Bangladesh 36 percent of it.
- The Teesta river issue assumed significance after the conclusion of the Ganga Water Treaty in 1996. According to a report on the Teesta by The Asia Foundation in 2013, its flood plain covers about 14% of the total cropped area of Bangladesh and provides direct livelihood opportunities to approximately 7.3% of its population.
- Jotetaa Bhattacharjee argues that in spite of the steady growth in India-Bangladesh ties in the past few years, the non-resolution of Teesta waters has been a sore point. Former Bangladesh's ambassador to India, Tarique Karim calls Teesta dispute as litmus test to bilateral relationship.



Historical Background

- According to Amit Ranjan, Historically, the root of the disputes over the river can be located in the report of the Boundary Commission (BC), under Sir Cyril Radcliffe to demarcate the boundary line between West Bengal (India) and East Bengal (Pakistan, then Bangladesh from 1971).
 - The All India Muslim League demanded the Darjeeling and Jalpaiguri districts on the grounds that they are the catchment areas of Teesta river system.
 - It was thought that by having the two districts, the then and future hydro projects over the river Teesta in those regions would serve the interests of the Muslim-majority areas of East Bengal.
 - Members of the Indian National Congress and the Hindu Mahasabha opposed this.
 - In the final declaration, the BC gave a major part of the Teesta's catchment area to India.

Issues in sharing of Teesta river

- Conflictual Federalism
 - In 2011, India agreed to share 37.5 percent of Teesta waters while retaining 42.5 percent of the waters during the lean season between December and March.
 - However, the deal never went through due to opposition from West Bengal Chief Minister Mamata Banerjee who strongly opposed the treaty.
 - Although Article 253 of the Indian constitution gives power to the Union government to enter into any transboundary river water-related treaty with a riparian state, the Centre cannot do it arbitrarily without taking into consideration the social, political and economic impact of such a treaty in the catchment area.

Insecurity of Northern Bengal

- Sukhendu Sekhar Roy, "For India to share water, possibilities have to be explored on how the people of northern West Bengal can be compensated in the lean season."
 - Otherwise, the Teesta river is liable to dry up like the Ganga did when we inked the Ganga water sharing deal in 1996."
 - "Kolkata port has now become dead because of the diversion of water to Bangladesh.
 - In addition, arsenic is being found in several areas as the ground water level has gone so low, endangering millions of lives.
 - That experience has made Bengalis bitter, so they are apprehensive about sharing the waters of the Teesta,
- " According to Rupak Bhattacharjee, One of the reasons for Banerjee not accepting the new deal on the Teesta is confusion over the agreed percentage of water to be shared between India and Bangladesh.
 - The deal says that Bangladesh will receive 48% of the waters. This means, Bangladesh would get something around 33,000 cubic feet per second (cusec) of water annually, instead of the 25,000 cusecs originally agreed upon.
 - She has said that releasing so much water to Bangladesh would affect irrigation systems in five districts of the North Bengal - Coochbehar, Jalpaiguri, South and North Dinajpur, and Darjeeling - which constitute some of the poorest blocks in her state.

Proliferation of storage projects:

- Kalyan Rudra had been critical of the big projects on the river like the Teesta Barrage Project in Jalpaiguri district and hydropower projects of the National Hydro Power Corporation (stage III and IV) in the Darjeeling district of West Bengal.
 - Siltation has been a major problem, with projected capacities decreasing at alarming rates, often before the entire project is completed.
 - Evaporation from the reservoirs and seepage of water from canals deprived the marginal land of the command area from the water that it was assured during the planning of the project.
 - The dams that were designed to moderate floods have created floods by releasing excess water at the peak of the monsoon.”
- Nilanjan Ghosh also points out that inorganic process of killing the river by as many as 30 hydropower projects (most of which are in Sikkim) in the stretch of the Teesta (operating and planned).
 - Though hydropower is claimed to be ‘non-consumptive’ use of water being operational as ‘run-of-river’, during the phases of low flows the water needs to be stored in the ‘pondages’ upstream of these projects.
 - Successive projects at very a short distance from each other substantially fragment the river, dry up the downstream, and prove detrimental for biodiversity and critical ecosystem services like water provisioning and fisheries.

Political Pressures

- A narrative has also emerged in Bangladesh that the ruling Awami League has been “giving in” to India’s demands while getting nothing in return.
 - This spans across various issue over shared rivers between the two countries such as
 - The proposed Tipaimukh dam by India on a tributary of the Meghna river,
 - More recently, the water diversion from Gazaldoba by India has also been linked to the growing food insecurity in the northwestern part of Bangladesh.
- According to Joyetaa Bhattacharjee,
 - Bangladesh perceives India to be harbouring a Big Brother syndrome.
 - Its experience with the Farraka barrage (which allegedly caused water shortage downstream, a charge India denies) further deepens Bangladesh’s apprehensions.
 - Finally, its relationship with India has been fodder for much political chest-beating in that country.
 - The Opposition accuses Sheikh Hasina of being pro-India and often overlooking the interests of Bangladesh. The non-signing of the Teesta is considered her failure.

Agricultural misuse

- Nilanjan Ghosh pointed that High water consuming crops are another problem.
 - The acreage of dry season paddy or boro—a highly water-consuming crop—has increased significantly in both North Bengal and northwest Bangladesh.

- Vote bank politics have kept governments in both the countries from attempting to counsel producers to diversify.
- An unregulated expansion in irrigation has created the acute shortage of water while the specificity of the basin and the unilateral water withdrawal by India to meet the irrigation requirements in North Bengal has brought the two countries at loggerheads.

Ecological

- Trinamool Congress (TMC), argues that the glaciers feeding water into the Teesta increasingly melt and heighten the risk of drought in several parts of the state if the river water were shared with Bangladesh.

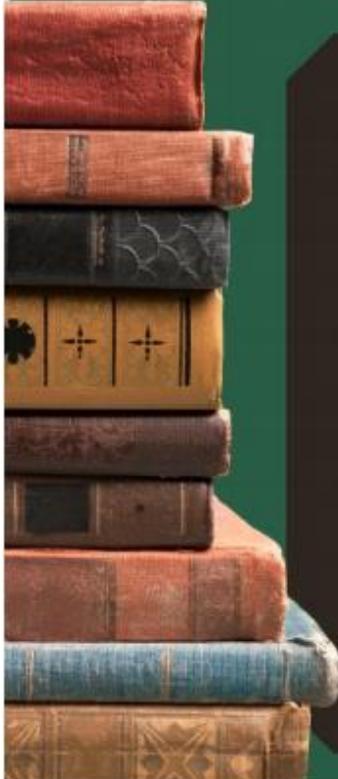
Failure of institutional mechanisms

- According to Anuttama Benerji, India and Bangladesh have not discussed the river water issues (including the Teesta issue) through the Joint River Commission (JRC) in the last 10 years.
 - Due to India's intransigence, Bangladesh had attempted to cultivate China and was "considering a proposal from China to dredge and embank large portions of the Teesta River so that it formed a single manageable channel."
 - India had opposed the project since it did not want Chinese technicians close to the "Chicken Neck" corridor near Siliguri.

Way forward and Opportunities

- Sayanangshu Modak suggests that Teesta should serve as an example to the Indian government that even the closest of allies would not wait in perpetuity to sign a deal and/or agreement but would rather look for other alternatives.
 - India should thus be proactive in conducting its foreign policy given the ever-changing dynamics of the international order.
- India and Bangladesh signed an MoU which enabled the former to draw 1.82 cusec water from the river Feni for providing drinking water to 7000 people of Sabroom, a small town in Tripura.
 - The Bangladeshi gesture to allow India to draw water purely on humanitarian grounds should be greatly acknowledged.
 - The inauguration of the 'Maitre Setu' bridge in a few months' time will lead to enhanced economic partnership between the two States.
 - However, it's extremely vital that talks on finalizing the treaty should also be held concurrently to prevent a repeat of the Teesta episode.
- Anuttama Benarji suggests that India also has much to gain from the conclusion of the treaty.
 - If India signs the treaty, it will be able to send a positive signal to all stakeholders within Bangladeshi society and assuage fears that exist in the minds of average Bangladeshi about India's intentions.
 - India will be able to cement its position as an all-weather friend of Bangladesh in the neighborhood and in due course of time, it will be able to further develop a robust economic and strategic partnership without worrying about the party in power in Bangladesh
- Amit Ranjan suggests to reduce the burden on the Teesta by slicing down the number of multi-purpose hydro projects on it. This would help the river provide enough waters for irrigation purposes.

- On the issue of crop selection, Sayanangshu Modak argues that the focus should further be on an agreement that recognizes the needs of the ecosystem and explicitly recognizes and addresses the root of the problem – unsustainable use of water for boro paddy.
- Maya Mirchandini suggests that According to a report by the Institute for Defence Studies and Analyses,
 - Due to changing demographics, economies and environmental shifts, India is expected to become water-stressed by 2025 and water-scarce by 2050.
 - India must acknowledge that it is at the epicentre of transboundary river politics and diplomacy and the necessity to strike workable agreements by keeping international law in mind in order to prevent a major conflict over water.
- Delhi and Dhaka have the advantage of a Joint River Commission (JRC), set up in 1972 for the purpose of water management.
 - India should use the given geostrategic condition tactically to foster deeper ties with Bangladesh which is significant for India's 'Act East' policy.
 - Thus, India should optimally utilize the hydro-sphere of their bilateral relationship to achieve a win-win situation for the two South Asian countries.
- During PM Modi's visit to Bangladesh in March 2021, the need to settle transboundary river water issues was re-emphasized. Foreign secretary Harsh Vardhan Shringla said the Teesta issue was discussed during the talks between the two leaders.
 - The Indian side also requested the early finalisation of the draft of the interim agreement for sharing of the Feni river's waters, pending with Bangladesh, which had been agreed upon by both sides in 2011.
 - Further, PM Modi and PM Sheikh Hasina directed their respective ministries of water resources to work towards an early conclusion of the framework of interim agreement on sharing of waters of six common rivers, namely, Manu, Muhuri, Khowai, Gumti, Dharla and Dudhkumar.
- Freshwater is a precious commodity, and a strategic one. Its role as a strategic asset or a national vulnerability (depending on demand and supply) cannot be underestimated. At a time when India and Bangladesh are apparently witnessing a Shonali Adhyaya (Golden Era) in their bilateral relationship, not addressing this contentious issue properly can dampen the spirit. It is in India's interest to conclude the Teesta water sharing agreement before Bangladesh slips into China's tight embrace.



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