

Transboundary rivers treaty

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Several successful water resources management treaties that are based on the WFD in Europe include the Central Commission on Navigation on the Rhine (CCNR), the International Commission on Protection of the Rhine (ICPR), and the Danube River Basin Monitoring Network (DRBMN). The Ganges Water Sharing Treaty of 1996 also recognised the need for basin-scale management of the Ganges and other transboundary rivers. The Ganges Treaty provided a good framework for collaboration between India and Bangladesh and paved the way to reach long-term agreements on other transboundary rivers. However, the Ganges Water Sharing Treaty is not a comprehensive plan to manage water, sediments, and energy generation potential in the basin involving all stakeholders. Besides, the treaty only deals with water sharing during the lean season – not throughout the year. The Ganges Treaty does not have a guarantee clause to ensure the discharge of the agreed-upon amount of water at Farakka Barrage to Bangladesh.

Unfortunately, the treaty fell short in fulfilling the obligations to discharge the agreed-upon amount of water at Farakka Barrage to Bangladesh. Several published studies that are based on data available from the Joint River Commission (JRC) for the period 1997–2016 reported that Bangladesh did not receive the agreed-upon amount of water 52% of the time. In addition, Bangladesh did not receive the agreed-upon amount of water 65% of the time during the three guaranteed periods between March 11 and May 10 during the same study period.

The water scarcity during the dry season in the Ganges leads to loss of navigation, groundwater depletion in the southwestern part of Bangladesh, upstream salinity intrusion in freshwater rivers and crop fields, and changes in freshwater-fish species composition. Bangladesh does not have any control over the flow in the transboundary rivers during the monsoon, which results in untimely flooding and riverbank erosion. People

in the Ganges-dependent region are losing their homes to riverbank erosion and flooding. For example, a study published in 2019 in the Journal of the American Water Resources Association (JAWRA) reported that the hydrologic characteristics of the Ganges-dependent region in Bangladesh were modified significantly between 2001 and 2014.

The reduction in freshwater flow increased the extent and intensity of salinity in 11 out of 14 measuring stations in Khulna, Jessore, and Satkhira districts. The amount of agricultural land in the area declined by 50%, rural settlement declined by 20%, and freshwater bodies declined by 38% during the study period between 2001 and 2014. The study also reported that the direct damage to Bangladesh's economy is about \$3 billion. The Farakka Barrage has caused significant damage to the Indian economy as well. Waterlogging and recurrent flooding have increased upstream of the Farakka Barrage in parts of West Bengal, Bihar, Jharkhand, and Uttar Pradesh. Navigability of the Kolkata Port remains unfulfilled, although that was the motivation for building the Farakka Barrage.

The reduction of lean-season flow at the Farakka Barrage is caused by other dams and diversionary structures built by India and Nepal at upstream locations. As per a report by the World Economic Forum published in 2019, the Ganges is being throttled by more than 300 dams and diversions, with many more blocking its tributaries, stopping the natural flow of the river. Since the Ganges Water Sharing Treaty is an agreement between upstream India and Bangladesh, it is the responsibility of India to abide by the agreement.

The newly elected government in Bangladesh will have to formulate a new treaty for sharing the water and sediments for all transboundary rivers in general and for the Ganges in particular. In new negotiations with India and potentially with other co-riparian countries in the GBM basins, the government of Bangladesh will have to document the hardships and crises that the country faces due to



A map showing the Ganga River's journey from the Himalayas through the plains to its delta, highlighting its route and surrounding landscapes.

scarcity of flow in the Ganges and in other rivers in terms of economic losses, destruction to the ecosystems, and human health. The flow data need to be shared in the media so that the people and researchers can participate in the decision-making process.

Water scarcity should not be discussed only in light of the losses in navigation, agriculture, irrigation, industry, and fisheries. It needs to be viewed from a planetary health perspective, which should include recognition of the impact of climate change on ecosystems, environment, and public health.

Bangladesh should advocate for a basin-scale integrated water and sediment management compact involving India and Nepal in the discussion on renewal of the Ganges Treaty. Similarly, Bangladesh should work with China, India, Bhutan, and Nepal to reach a long-term compact on the Brahmaputra River basin management. A compact is an agreement among all stakeholders in a river basin for conservation, utilisation, development, and control of water and related resources under a holistic, multi-

purpose plan to bring the greatest benefits and the most efficient service for all parties involved. A compact is a far more visionary management plan for transboundary watercourses than a mere water-sharing treaty. It can benefit both upstream and downstream stakeholders. Under a compact, a feasibility study can be carried out to identify multiple uses of water resources in the GBM basins, which can include water retention reservoirs built at upstream locations to store water for electricity generation, recreation and tourism purposes, and augmentation of lean-season flow at downstream locations. Under a compact, the cost-sharing agreement will have to be reached among co-riparian nations.

The new government in Bangladesh needs to approach transboundary water resources management with an open mind. It needs to work with India in dealing with China on the management of the Brahmaputra River basin. Bangladesh's new parliament should ratify the UN Convention on the Law of the Non-Navigational Uses of International Watercourses (1997) as the first order of business. The GoB

should encourage India and other co-riparian nations to use the UN Convention as the basis for negotiation to settle all transboundary river issues. If necessary, Bangladesh can propose holding a convention on transboundary river issues involving development partners, such as the World Bank, IMF, EU, JICA, DFID, USAID, and other pertinent parties.

Bangladesh should put hydro-diplomacy at the centre of all diplomatic dealings with countries in the GBM basins. In other words, Bangladesh should keep the issue of transboundary rivers in mind when deciding on other treaties, agreements, and business dealings with China, India, Nepal, and Bhutan. For example, Bangladesh could renegotiate transit and transshipment issues with India for a permanent settlement of the transboundary river issues on the basis of fairness and collaboration. The GBM region has a long history and tradition shared by people in all co-riparian countries, and we should use the natural flow of rivers as a thread to bind us rather than as a cause for concern.

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