

WATER SHARING SCENARIO BETWEEN BANGLADESH AND INDIA: A STUDY TOWARDS FUTURE PROSPECTS

**Brigadier General Mohammad Shaheenul Haque,
ndc, hdmc, psc**

Introduction

The situation between India and Bangladesh being higher and lower riparian countries are having a good number of issues. It all started with the water of the Ganges, one of the major river systems which flows within entire northern India and goes down through Bangladesh to finally fall in the Bay of Bengal. Besides Farakka Barrage Bangladesh faces lots of dams, barrages, and other water diversion constructions upstream on various major rivers in India. Latest anxiety was on water sharing agreement over River Teesta, where a Bi-lateral Treaty was almost agreed upon. However, the signing of the treaty was postponed due to non-agreement of Mrs Mamata Benargee, the Chief Minister of West Bengal. Though, negotiations are still on progress to reach an agreeable treaty.

Based on different studies and present state, it is needless to say that there are concerns over water sharing scenario between two close neighbors, Bangladesh and India. Water flow is reducing in many rivers naturally. As such, to have some assurance and planning for the cultivation, a well-planned treaty over water sharing is essential from Bangladesh perspective. Basically, future prospects of agricultural development in Bangladesh largely hinge upon the management of water geographically, technically and economically.

Genesis of the Issue

Bangladesh is a great delta formed by the alluvial deposits of the three mighty Himalayan Rivers that is the Ganges, the Brahmaputra and the Meghna. There are about 405 rivers in Bangladesh of which 57 are transboundary rivers. Out of these rivers, 54 are common with India and remaining 3 with Myanmar (Anon, 2017). It is known that the life and livelihood of the millions of people of Bangladesh have been revolving around waters of these rivers over the ages. The Ganges, the Brahmaputra and the Meghna river systems drain a total catchment area of about

1.72 million sq km through Bangladesh into the Bay of Bengal. Out of this large catchment area, only 7% lies in Bangladesh (Anon, 2017). The other co-riparian countries are India, Nepal, Bhutan and China.

All these 54 rivers flow from India to Bangladesh. Disputes over water sharing of these rivers are common between India and Bangladesh. The major water conflicts between Bangladesh and India evolved around the sharing of the Ganges water during lean period. The disputes and differences kept increasing with the River Linking Project (RLP), proposed construction of Tipaimukh Dam and water sharing of Teesta River. However, these notable disputes are discussed below:

Ganges Water Issue

Historical Perspective: India constructed a barrage at Farakka, 17 kilometers upstream from Bangladesh border in 1970 (Islam, 1987). The Farakka dam was commissioned on 21 April 1975 through a mutual agreement between India and the newly formed Government of Bangladesh with a clause of having ‘Test Run’, (Ohlsson, 1995). Initially, India started to divert 11000 to 16000 cusec waters from the Ganges at Farakka for domestic use (Abbas, 1984). After a couple of months, when the incumbent Government of Bangladesh was overthrown, the relation between the two countries deteriorated. During the next dry season, India unilaterally withdrew water at Farakka causing wide spread shortage of water in Bangladesh, and a strain in mutual relation. However, situation did not improve at all until 1996, when a thirty years water sharing treaty was signed between India and Bangladesh. Under the Ganges Treaty 1996, two countries are to have equal shares if the water available at Farakka is 70,000 cusecs or less.

Dispute on Augmentation of the Ganges Flow: Since the Ganges dry season flow is insufficient to meet the requirement of its riparian states, both India and Bangladesh had agreed to increase the Ganges’ dry season flow at Farakka. But they differed on how to do it.

Indian River Linking Project (RLP): Another Issue of Discord

The idea of linking the rivers in India dates back to 1881 when Sir Cotton, a British Engineer, proposed a plan to link rivers for inland navigation mainly in Southern India. The idea was further extended by the ex-irrigation minister of

Nehru Cabinet KL Rao and Captain Dastur, an aviator. Rao's idea was based on his identification of some river basins in the country as 'surplus', and some others as 'deficit', and seeking solution to water scarcity by connecting them through a "National Water Grid". Dastur proposed to feed Himalayan water to the Peninsular India through pipelines. Both the proposals then, were found unrealistic.

Map 1: Indian River Linking Project Plan

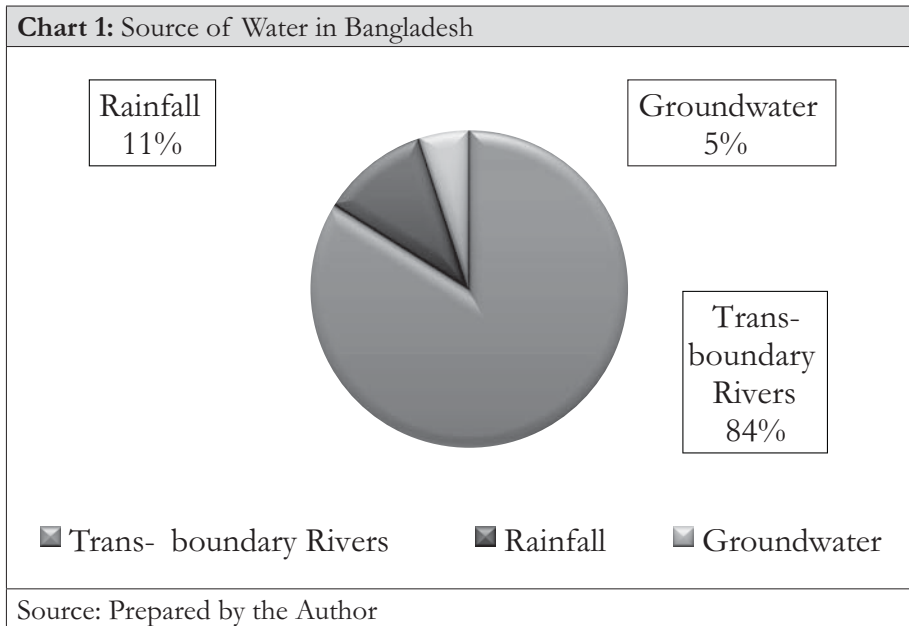


Source: Institute of Water Management, India

Later, 'National Water development Agency (NWDA)' revived the idea of interlinking of 'surplus' basins with 'deficit' basins. It bears a conceptual continuity with Rao's proposal and estimates to complete the project by 43 years. However, with the order of the Supreme Court of India in October 31, 2002, issued in connection with a Public Interest Litigation (Writ Petition Civil No: 512/2002) the government initiated the execution of the project. It is learnt that the Mega

Plan for this Inter-Basin water transfer are by connecting 37 rivers with 30 links. Out of total 30 links, 14 links are in the Himalayan Rivers and 16 in Peninsular Rivers. The project has contemplated to divert water of the Brahmaputra, Ganges and other Himalayan rivers.

Bangladesh view on RLP: The river systems in Bangladesh provide lifeline to the 160 million people. During dry season, nearly 40 per cent of her net arable land is cultivated through irrigations from the rivers. Agriculture and fisheries are dependent on water. Water-courses serve as the main arteries of inland communication and provide employment to the millions of poor people. The existence of Bangladesh is fully dependent on the water. Around 84% of water is provided by the trans-boundary rivers (see chart 1):



The geological characteristic of Bangladesh severely limits the control of water flow in the monsoon and dry season (Rashid, 2003). The excess water during monsoon causes widespread flooding which damages the crops. Again, the scarcity of water in the dry season hampers irrigation, navigation, fisheries etcetera and spreads the intrusion of salinity to southern part. Therefore, the control of water in the upstream due to RLP will be a threat to her existence.

Proposed Tipaimukh Dam

Origin of the Tipaimukh Project: Tipaimukh project was initiated at the beset of Assam state government in 1954 as a barrage (Khan, 2009). Subsequently the emphasis shifted to hydro-electric power generation with irrigation and other benefits as spin-offs. After detail study of the dam site carried out in 1963-64, opinion went against implementation of the project. As a result, the project was postponed till 1965 while further feasibility studies were continued from time to time. Finally, in 1995, feasibility report was prepared despite rejection of the project in the Monipur State Assembly. In 2001 while there was Presidential Rule in Manipur, on the face of intense civic opposition, the Governor of the state gave approval to the project. In 2004, Government of India went ahead for international tender. Then Indian Prime Minister Manmohan Singh established the foundation stone of this project in 23 November 2005.

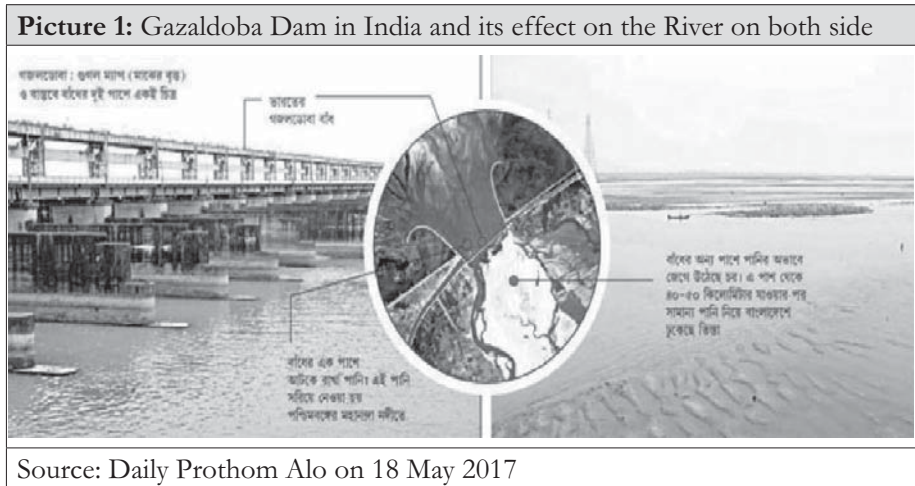
Anatomy of the Dam Site: Tipaimukh Dam is planned to be constructed on River Barak in Monipur of India. The Barak-Surma-Kushiyara-Meghna Rivers system flow a total of 946 km of which 669 km in Bangladesh and ends by flowing to the Bay of Bengal (Anon, 2017).

Disputes over Teesta River

River Teesta: The River Teesta or Tista is said to be the lifeline of the Indian state of Sikkim. Teesta starts out from Himalaya's Pahunari glacier, 23,000 feet in Sikkim above the sea level, flows down through northern Sikkim, into West Bengal's Darjeeling, Jalpaiguri and Cooch Bihar, and then enters Bangladesh. The river is 414 km long, with 151 km in Sikkim, 123 km in West Bengal and 121 km in Bangladesh. In Sundarganj upazila of Gaibandha, Bangladesh, it merges with the river Brahmaputra (Anon, 2017).

Brief about Dispute: The idea of using the Teesta River for irrigation for the betterment of the people is as old as the British period. During the 1950s, the then East Pakistani authorities intimated the Indian authorities regarding the Teesta Project in her territory. After the independence of Bangladesh in 1971, talks on the Teesta water sharing continued in the Indo-Bangladesh Joint River Commission. Bangladesh objected to India's plan to divert the water of the Teesta to the Mahanada basin area. The talks continued without any result until 1983, when the two parties reached an ad-hoc allocation agreement, according

to which India was to get 39 percent, Bangladesh 36 percent and the remaining 25 percent was to be reserved for reallocation later, after further study. However, even this agreement has not been executed and the amount of dry season water on the Bangladesh side has gradually decreased. India has constructed a barrage across the river at Gazoldoba (see Picture-1) and started withdrawing water. The Gazoldoba Barrage stands in the Jalpaiguri district of India which began to be used for irrigation in 1993. However, that is not the only barrage on River Teesta. Bangladesh constructed the Dalia Barrage on the downstream of the same river which is the largest irrigation project in Bangladesh. It stands across the Teesta River at Doani-Dalia point in the Lalmonirhat district of Bangladesh. The barrage was completed successfully in August 1990 and its operation commenced in 1993. Therefore, the water flow in the Teesta in the dry season (November to May) has declined to around 2000 cusec from 5,000 cusecs. Therefore, the Teesta Barrage irrigation project of Bangladesh is at stake. The Joint Committee of Experts (JCE) has been working for the last seven years to work out a water sharing formula.





Water Sharing: Current Scenario

Condition at Different River/Issues

Teesta River: Relations between Bangladesh and India may be at an all-time high, but Teesta remains a bone of contention. Two prime ministers of India had promised Bangladesh its due share of the river’s waters, but West Bengal chief minister Mamata Banerjee refuses. She contends that Teesta do not have enough

water to share. From its source till Gazaldoba in Jalpaiguri, Teesta has water even in this dry season, but then things change. On one side of the Gazaldoba dam of India, the river is brimming with water, but on the other side sandbars have emerged. After flowing hard and fast over all obstacles, Teesta loses its force at the point of entry at Bangladesh. This narrowed-down sluggish Teesta then enters Bangladesh.

<p>Picture 2: Teesta at Lalmonirhat in Bangladesh</p>	<p>Picture 3: Teesta at Sikkim in India with Huge Water</p>
	
<p>Source: Daily Star, 23 February 2017</p>	<p>Source: Daily Prothom Alo, 18 May 2017</p>

Feni River: Draft Interim agreement on sharing of Feni river was finalized in 2011 with Teesta. Now the issue has been tagged with the other six common rivers. In the Joint Declaration of April 2017, the Prime Ministers of Bangladesh and India directed concerned officials to meanwhile conclude discussions on various aspects relating to sharing of waters of the Feni, Manu, Muhuri, Khowai, Gumti, Dharla (Jaldhaka) and Dudhkumar (Torsa) rivers.

Padma/Ganges Barrage: The Government of Bangladesh has planned to construct the Ganges Barrage at Pangsha in district of Rajbari for resisting salinity intrusion in the south-west region of Bangladesh (Ganges dependent area), by diverting water of the Ganges through the Gorai-Madhumati, Hisna-Mathabhanga and Chandana-Barashia systems. The last Technical meeting was held at Dhaka on October 27, 2016. However, thereafter the progress is quite slow.

River-interlinking: India committed to Bangladesh that it would not take any unilateral decision on the Himalayan component of their proposed River-Interlinking Project (Director General Monowar, 2017).

Tipaimukh Hydro-electric Project: The 3rd meeting of the Sub group under the India-Bangladesh Joint Rivers Commission on Tipaimukh Hydro-electric (Multi-Purpose) Project was held at Kolkata on January 19, 2015. Indian Prime Minister Narendra Modi and other high officials repeatedly stated that India will not take this project forward in its present form due to statutory requirements (environmental and forest) on the Indian side. Indian side also assured that India would not take any unilateral decision on this matter that may adversely impact Bangladesh. The Indian side now plans to implement the project in a much smaller scale with multiple run-of-the-river type hydro-electric projects. Such projects would not entail large reservoir, would require less displacement of people and hence have lesser impact on environment. Once this new project takes shape Indian side would share the details with Bangladesh before going for implementation (Director General Monowar, 2017).

Joint Rivers Commission (JRC)

The Joint Rivers Commission was established on a permanent basis through a joint declaration between the Prime Ministers of Bangladesh and India on 19 March, 1972. They are to mainly carry out a comprehensive survey of the river systems shared by the two countries. The Statute of JRC was accordingly signed on 24 November, 1972 to maintain liaison between the participating countries in order to ensure the most effective joint efforts in maximizing the benefits from common river systems to both the countries. Subsequently, the Government of Bangladesh established the Joint Rivers Commission (JRC), Bangladesh to address the issues relating to the sharing and management of water of Transboundary rivers.

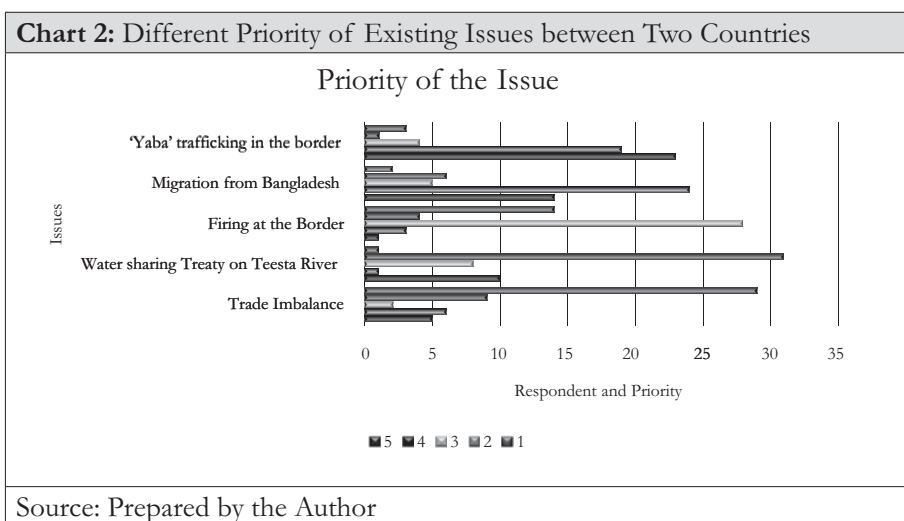
Perspectives of Stakeholders

Indian Perspective

Analysis from Indian View Point: To get a clear picture of the Indian perspective, beside the available literature, number of Indian citizens were contacted to get their opinion through a set of questionnaires. Fifty-one Indian citizens responded to the quarry. Six of them are military officers of the rank of Major and Brigadier undergoing courses in Bangladesh. Rest forty-five are from India belonging to business community, teachers, government service holder, lawyer, journalist, students etcetera aging between 25 to 60 years. All of them are representing an educated and conscious section of population.

On the inquiry if in their opinion whether there is any problem between India and Bangladesh, 72.55% respondent feels there is no problem between these two countries, indicating they are not much aware of the issue.

To answer which is the major issue between these two neighbour, maximum respondent thinks it is ‘Yaba’ trafficking in the border and not water sharing issue. However, 60.78% respondent pushed water sharing issue only in fourth priority. It indicates that they are not fully aware of the importance of the water issues as seen from Bangladeshi perspective. In the following chart, ‘priority’ is set in horizontal axis along with number of respondent while existing issues are shown in vertical axis.



To 56.86% respondent, water sharing issues between India and Bangladesh is only third priority after India and Pakistan (56.86% respondent feels priority one) and India and China (15.66% respondent feels priority one) respectively. Obviously, this matches with their lack of concerns regarding water issue with Bangladesh.

Bangladeshi Perspective

Analysis from Bangladeshi View Point: The issue of water sharing is the most emotive issue in Bangladesh. To get a contrary view of Bangladeshi perspective, a sample size of 150 from the local population of Rangpur district leaving along the Teesta River at Dimla and Dalia, where Bangladeshi Teesta Barrage is located we studied. The people were a mix of farmers on both side of Teesta Barrage of Bangladesh.

On the inquiry if in their opinion whether there is any problem between Bangladesh and India, 100% people feels there is a problem between these two countries.

In answering the question, which is the major issue between these two neighbour, maximum respondent (64%) think it is water sharing issue which is most important. While 24% respondent thinks indiscriminate killing of civilian people in the border is the most important issue, another 12% think it is rather trade imbalance between two countries. Considering that the respondent answered from Bangladeshi point of view, it indicates how significant is the water sharing issues to Bangladeshi's, specially people leaving on the banks of Teesta River. Unsurprisingly all respondent said that water sharing issues between India and Bangladesh is the most important thing.

Ways Ahead

Good relations among the riparian countries are a must for a win-win situation with respect to trans-boundary rivers. Surface water is the largest component of water resources available in Bangladesh. However, flows are much lower during the dry season when surface water is critical to such uses as salinity control, habitat preservation, effluent dilution and navigation. It is widely used for agriculture and to meet domestic and industrial demands. As a lower riparian country, water sharing with India is crucial in achieving food security and sustainable livelihood in Bangladesh. It is to the benefit of India as well.

Shaping up of Mindset: Mindset plays a major role in all the negotiation that we do. Here our mindset is very much not equal with our neighbor. That's the reason we 'ask' water and the upper riparian country 'gives' us water. Mamata Banerjee (the chief minister of West Bengal) said she cannot give water of Teesta since there is no water in the river (Anon., 2017). Whereas any transboundary river is international river and every country that it is flowing have equal rights.

Sharing of Benefits: Shared vision of the co-riparian could best be achieved if sharing of 'equitable benefits', not 'water' itself, is seen as a negotiating approach. Precedents now exist for determining formula that equitably allocate the 'benefits' derived from water, a win-win, integrative approach. The Nile Basin Initiative is perhaps the best example of a shared vision by the basin countries to achieve sustainable development through equitable sharing of benefits, with the focus not on only water but on regional development. Here we may think of benefit

from hydropower, agriculture, flood control, navigation, trade, tourism, or the preservation of healthy aquatic ecosystems.

Sub-Regional Cooperation: We may pursue looking beyond bi-lateral cooperation to sub-regional cooperation for greater benefit for the region.

Basin-Wide Approach: Multi-lateral cooperation has the potential of coming up with basin-wide approaches to dispute resolution, where all the riparian states organize a committee for the organization of the use of the waterway. Shared vision of the co-riparian states on equitable sharing of benefits can best be achieved through basin-wide management. Lessons may be drawn from the prevailing basin-wide management of trans-boundary rivers, for example, Rhine, Mekong, Danube, and Nile.

Empowering Joint Rivers Commission (JRC) to a real Regional Body: The current formal negotiation structures between the two riparian countries, JRC do not seem to function as fully effective platforms for constructive and innovative dialogue on the many technical, managerial and political sides to this issue. The JRC does not have any dispute resolution mechanism. Besides, the JRC works mostly separately in two countries with very little joint vision.

Rational Water Management within the Country: The management of water resources within the country is also not done with desired progress. Flow generated in the 93% catchment of the GBM basins above Bangladesh border passes through Bangladesh. This huge volume of water is drained out disproportionately during monsoon and dry season. We are yet to utilize the waters that came into Bangladesh as a result of the Ganga water treaty. (Hossain, 2017).

Recommendations

It is recommended that the following steps should be taken by appropriate authority:

- Adequate awareness building must be done on actual facts on both Indian and Bangladeshi populations to reduce concern and increase support for any realistic agreement.
- We have to look into the matter beyond water sharing into the helm of benefit sharing vision. Here we may think different fields like hydropower, agriculture, flood control, navigation, trade, tourism, or the preservation of healthy aquatic ecosystems.

- We must make all our efforts to take the issue in sub-regional level and integrate other nations. If India is uncomfortable with China, we may make endeavor to integrate Nepal and Bhutan.
- Our study may encompass thinking of River Basin-wide approach in settling issues. Professor Aynun Nishat in his interview said in fact basin-wide approach is the solution.
- Joint Rivers Commission (JRC) must be empowered to a Regional Body with its own Charter and Independent Office at Regional Level to have meaningful authority.
- We should have our own plan to utilize the water received through Ganges.
- We must have an overall plan for all our 57 rivers (54 with India and 3 with Myanmar).
- Since a treaty on Teesta River has got huge potential to foster friendly relationship between two countries for a very long time, there must be sensitization at all level for signing a treaty as quickly as possible.
- We may pursue executing 'Bangladesh Delta Plan 2100' with integration of climate change adaptation, ensuring water safety, food security, economic growth, river management and socio-economic development optimizing the efficient use of limited resources.

Conclusion

If there is any single-most important issue that mars bilateral relations among the countries of South Asia, it is water. The issues of cross-border water distribution, utilisation, management and giant irrigation and hydroelectric power projects affecting the upper and lower riparian countries are gradually taking centre stage in defining interstate relations as water scarcity increases and both drought and floods make life too often miserable. Thanks to its location, size and borders with Bangladesh, India, as an upper riparian territory, has some real concern over water sharing. Given an atmosphere of lack of absolute trust, there is a requirement of concrete treaty to enhance the friendly ties for a longer duration between India and Bangladesh.

What is, however, to be appreciated is that India and Bangladesh have made certain remarkable efforts to resolve their differences over water distribution through bilateral agreements. The Ganges Water-Sharing Treaty (GWST) was signed between India and Bangladesh in 1996 that resolved the dispute over Farakka Barrage, although differences continue on Bangladesh's share of the water during lean periods.

List of References

1. Abbas, B. M. A. T., 1984. The Ganges Water Dispute. Dhaka: University Press Ltd.
2. Ahmad, Q. K., 1994. Integrated River Basins Management for Socio-Economic Development of a Region, In Management of International River Basins and Environmental Challenges. Academic Publisher, Dhaka. .
3. Ainun, N., December 2005. Development in Harmony with Nature: Is it Happening in Tipaimukh?. Dhaka, Presentation in International Tipaimukh Dam Conference (ITDC), 30-31 December 2005, Edited and Published in No To Tipaimukh Dam, by Angikar Bangladesh Foundation, July 2007..
4. Anon., 1999. Impact of Ganges water diversion on the south-west part of Bangladesh: A perception study. Bangladesh Institute of International Studies (BIIS), 20(2).
5. Anon., 2002. The interlinking of Indian Rivers-Some Questions on the Scientific, Economic and Environmental Dimensions of the Proposal. Kolkata(West Bengal): Indian Institute of Social Welfare and Business.
6. Anon., 2005. Implementation of multi-national environmental agreements and integrated water resource management. Volume 26, No 2, 2005.. Bangladesh Institute of International Studies (BIIS) , 26(2).
7. Anon., 2017. Dispute over Teesta River. Daily Prothom Alo, 18 May, p. 3.
8. Anon., December 2007. Perspectives on International Water Law, Water Resources Development. Convention and the Berlin Rules, 23(4), pp. 625-640.
9. Anon., November 2000. Dams and Development - A New Framework for Decision Making , , London: Earthscan Publications Ltd.
10. Asif, B. a. J., 2001. Sustainable Development of the Ganges – Brahmaputra – Meghna basins. Dhaka: The United Nations University.

11. Bammi, Y. M. L. G. (., 2010. India – Bangladesh Relations, The Way Ahead. New Delhi: Vij Books India Pvt Ltd.
12. Bindra, D. S. S., 1982. Indo-Bangladesh Relations. New Delhi.: Deep and Deep Publications.
13. Dasgupta, S. D., 2004. Water and Environment-Interlinking of Rivers. New Delhi, Centre for Environmental & Management Studies.
14. Diector General Monowar, B. F. M., 2017. Water Sharing [Interview] (25 May 2017).
15. Hossain Md. Mofazzal, E. E. J. R. C. B., 2005. Farakka Barrage, Options for Bangladesh [Interview] (20 September 2017).
16. Hossain, A. M. T., 2017. Bangladeshis Won't Accept Anything Short of a Teesta Treaty [Interview] (17 April 2017).
17. Ingram, P. H., 1990. Water Politics, Continuity and Change.. s.l.:Apprentice Hall..
18. Kashem, A. N. a. M. M. A., August 2009. Tipaimukh and Beyond. 1st ed. Dhaka: A H Development Publishing House.
19. Khan, A. A., 2009. Article on Tipaimukh Dam. Daily Prothom Alo, August.
20. Khosla, I. P., January-March 2005. Bangladesh-India Relations. s.l.:South Asian Journal, Vol-7.
21. Mir Sajjad Hossain, A. C. a. F. M. J. R. C., 2015. Transboundary water cooperation-current situation, Dhaka: CEGIS .
22. M, M. M., 2003. Hydro-politics of Farakka Barrage. Dhaka: Gatidhara, pp. 54-55.
23. Ohlsson, L., 1995. Hydropolitics- Conflicts Over Water as a Development Constraint. Dhaka: University Press Ltd.
24. Rashid, H. U., 2003. Can India unilaterally proceed with water diversion mega project?. The Daily Star, Vol. 4, Number 86, 21 August.
25. Roy, D., 2013. Teestaparer Bittanto (Stories from the banks of Teesta). Anandabazar Patrika, 19 March.

26. Shiva, V., 2002. *Water Wars*. Cambridge. : South End Press.
27. Singh, B. A., 2003. *India Bangladesh Relations Documents 1971-2002*. Volume-II ed. New Delhi: Geetika Publishers.
28. Valpeyi, K., 1998. *Water Resource Management*. 1st ed. Westport, USA.: Praeger Publishers.

Author

Brigadier General Mohammad Shaheenul Haque, hdmc, psc is a Course Member of NDC 2017. He was born on 06 January 1969 at Narail District. He was commissioned in the Corps of Infantry on 23 Jun 1989 with 20th BMA Long Course achieving 'Sword of Honour'. Besides his regimental appointments, he had the distinction of serving in command, staff and instructional appointments. He commanded 101 Infantry Brigade as Brigadier General and an Infantry Battalion as Lieutenant Colonel. As Staff Officer, he was Colonel Staff of 55 Infantry Division, Assistant Military Secretary in Military Secretary's Branch in Army Headquarters, Adjutant in Bangladesh Military Academy, Grade Two Staff Officer (Coordination) in General Staff Branch in Army Headquarters and Grade Three Staff Officer (Operations) in an Infantry Brigade. As instructor, he was a Directing Staff in Defence Services Command and Staff College and Platoon Commander as well as Battalion Commander in Bangladesh Military Academy. He was also a distinguished instructor in Tactics Wing of School of Infantry and Tactics. Brigadier General Shaheen attended number of courses at home and abroad. He is a graduate from Defence Services Command and Staff College, Bangladesh and College of Defence Management, India. He has obtained Master's Degree from National University of Bangladesh and Management Studies from Osmania University, Hyderabad, India. He has served in UN missions in two tenure in Mozambique and Democratic Republic of Congo. Brigadier General Shaheen is fond of playing golf. His hobby is reading books.