



WATER DISPUTES ON GANGA RIVER BETWEEN INDIA AND BANGLADESH

Amita Rajaram Pradhan

Centre for Security Studies, School of Intentional Relations, Central University of Gujarat, Gandhinagar, India. Email: amitapradhancug@gmail.com

Waghmare Vikas Meghraj

Centre for Studies and Research in Science, Technology and Innovation Policy, School of Social Sciences, Central University of Gujarat, Gandhinagar, India.

Email: vikaswaghmarecug@gmail.com

ABSTRACT

The paper analyzes the water issues on the Ganga River between India and Bangladesh through historical perspective. Along with, the paper discusses the status and issues which are faced by both countries. Because of the dispute over water sharing between India and Bangladesh has become the major concern for regional stability and peace. Therefore, the paper highlights some basic issues which are emerging on the Ganga River between these countries.

Keywords: Water Security, Agreements, Security Challenge, Disputes and Issues

INTRODUCTION

Water is a key resource to socio economic development and for survival of life. It has been utilized since ages for various purposes like drinking, household uses, irrigating fields, navigation, etc. The rapid population growth has not only increased the water consumption for irrigation and drinking, but also many new uses of water recourses emerged like hydroelectricity generation, industrial use, large scale water way transportation, etc. (Tiwary 2006). Hence water is an important multi-use resource to the countries sharing the rivers. The demand for water as well as water scarcity is increasing everyday. The emergence of demarcated state leads to division of natural resources among different states. Therefore there is a great competition between countries to have control over the water resources at state, national and international level. At least the minimum quantity of the pure and fresh water should be available for all human beings. In case of India and Bangladesh; the issues of Ganga- Brahmaputra Rivers water sharing have been at the centre stage of India and Bangladesh's relationship for the past four decades (Pandey 2012).

FIRST PROBLEM SHARING SEASONAL WATER BETWEEN INDIA AND BANGLADESH

The impact of climate change on regional precipitation change is observed around average change of minimum 5 to maximum 20 percent in South Asia (IPCC 2001). Even small change in climate can cause the major problem in water resource bodies as Mirza and Ahmad (2005) notes that 'relatively small climatic changes can cause large water resources problems, particularly in the arid and semi-arid regions of India and Pakistan, flood vulnerable areas of India and Bangladesh (Mirza and Ahmad, 2005).' The major challenge in the region is accessibility of water in the dry season and containing the flood damage in the monsoon season. The Ganges is trans-boundary River it is known about popular history of the disputes. There are disputes for water sharing since more than 50 years. Before partition the Ganges water distribution was domestic problem. Later on India and East Pakistan were major parties and from the 1971 conflict was between Bangladesh and India. It remained until now, the Ganges water was used in both the countries because they were economically depended on the water for several uses such as fishing, agriculture and small business therefore both the countries want to have more shares of water. Water sharing question over



Ganga River, problem of the disputes over maritime belt, border security concerns are some of the major issues of contestation between India and Bangladesh (Hossain, 1981). But the important source of conflict between the two countries is the dispute over water sharing from Ganga river system. This issue of water sharing has going on even today. In case of Ganga River, geographically India lies at the upper stream of the Ganga riparian while Bangladesh is at downstream.

The Ganges river water issue is largely related with the quantity of water availability and sharing between southeastern Bangladesh and west Bengal state of India. India's prime concern of water necessity is Kolkata, a capital city of West Bengal. Kolkata needs water for all time in general and dry season in particular. The limited quantity of Ganges water is the cause of this dispute. This situation led to economic and political tension between India and Bangladesh. Further, the construction Farakka Barrage (1974) became the major cause of this dispute for both the countries. There are hundred and millions people in the basins area, living on the banks of river; it is the important aspect for the economic, social, and cultural activities. Also another issue is Farakka barrage, does affects in Bangladesh (Datta, 2010).

SECOND ISSUE (FARAKKA BARRAGE)

The sharing of water of trans-boundary River becomes political and social issue since the birth of Bangladesh. The distribution of Ganges water during Bangladesh's lean months has historically been a contentious issue between India and Bangladesh. The Farakka Barrage is the most important concern for Bangladesh. It diverts water through the Bhagirathi-Hooghly river system in an effort to flush sediment from India's port city of Kolkata. Bangladesh argues that the Farakka Barrage harms the agro-ecological and economic well-being of southern Bangladesh. At present, the downstream effects of the Farakka Barrage include harm to fisheries, lower quantities of fresh water for domestic and agricultural uses during the dry season, reduced navigability of the Ganges and damage to the Sundarban's mangrove ecosystem.

INDIA AND BANGLADESH NEGOTIATION FOR SOLVING THE WATER PROBLEM

The two Governments trying to resolve water sharing disputes through negotiation under decided laws and by the principle of treaties. The Joint River Commission (JRC) was formed in 1972, over the issue insufficiency of Ganges's water in dry season at both India and Bangladesh. Several issues were discussed including flood control, development of hydropower and irrigation and agreements were signed for cooperation over these issues. The Prime Ministers met 1974 in India, to ensure the successful commencement of newly commissioned Farakka barrage. Since the dry season there was not enough water to fulfill the requirements both countries. The Joint River Commission (JRC) demand was to find out all options of increasing for best utilization for both jointly available water resources so, to find a mutually acceptable formula for water sharing during dry season. Not with standing negotiation on augmentation from 1974 later, the JRC did not reach an agreement on augmentation of dry season flow of the Ganga River (Pandey, 2012).

1975 TEMPORARY AGREEMENT

The Ruling party in Bangladesh was ready to develop the mutual understanding with its neighboring countries including India. An interim proposal was sent to Sheikh Mujibur the Prime Minister of Bangladesh for testing Farakka Barrage. He agreed to the proposal of India for testing the Farakka Barrage through feeder canal which would run for 41 days from April 21st to May 31st, in 1975. At last, in 1975 India was allowed to use the river flow from 11,000 to 16,000 cusecs for the duration of 41 days. While ensuring continuance the remaining flows 39,000 to 44,000 cusecs for Bangladesh (Karim, 1998). This agreement shows the result by



political understanding between both countries. The water share provided to Bangladesh 80% and 75%, for India 20 to 25 % of water.

The treaty expired on 31st May 1975 its functioning was not smooth, with less durability. In the August 1975 after assassination of Shaikh Mujib-ur Rahaman bilateral relations between India and Bangladesh. The significant factor of this period was India's unilateral withdrawal of more water. This issue was major concern for Bangladesh which went to United Nations, internationalizing the issue. The General Assembly adopted a consensus statement directing India and Bangladesh to initiate negotiations to expedite a fair resolution also suggested by general assembly that both countries should be solved the problem bilaterally and finally, India and Bangladesh have signed the agreement in 1977 under the direction of United Nation (Pandey 2012).

AGREEMENT OF 1977

The 1977 agreement was decided in two parts; water sharing at Farakka barrage and the long-term augmentation of the flows. First part was decided for 10 days scheduled in lean season for 1 January to 31 May. If water flows were to fall down to 80 percent of the assumed value in any 10-day period, India guaranteed Bangladesh 80 percent of its stipulated share. A joint committee was constituted for the implementation of these arrangements. JRC was made for studying and investigating the schemes relating to economical and long-term feasibility for increasing flow in the lean period, for the time of three years (Pandey, 2012)

MEMORANDUM OF UNDERSTANDING-1985

It had been decided in the 1977 agreement that they would not be extended the treaty for more than 18 months (Khalid, 2010). After this contract was over, in dry seasons of 1983 and 1984 once again the both the government approached each other to discuss the water sharing (Pandey, 2012). Although the time limit was not specified, yet on the 22nd November 1985 India-Bangladesh signed Memorandum of Understanding. The MU was based on the Ganges water sharing in the dry season flow through 1988, had been settled by expertise committee. In 1992 a meeting was arranged by the Prime Ministers of both the countries to resolve the other water issues as well as the Ganges water sharing issue. Ministers from both sides made more efforts for long term treaty on Ganges water sharing (Khalid 2010).

There is history of constant dialogues and negotiations to resolve the water dispute from 1970s till 1996. The efforts were taken at several levels like beurocratic, ministerial and between head of the states. The first major breakthrough was achieved in 1977 when five-year agreement was signed for sharing water from January to May (every 10 days of each month). There was constant demand for increasing the amount of water discharge during the dry season which remained unaddressed and resulted into further negotiations. Another MU was signed in 1982 for five years but it failed to address such concern for long term and was not renewed after expiry in 1988. The situation from 1988 to 1996 remained strained as there were constant negotiations taking place but without any fruitful outcome. The years from 1993-1995 were showed particular low when there was no dialogue between the two countries and India unilaterally controlled the Ganga waters over Farakka barrage. The negotiations were resumed in 1996 which resulted in 1996 treaty (Treadwell and Ali 2009)

The treaty of 1996 has depended on the basis of equitable sharing of water and reasonable and the river basin approach. According to the Helsinki Rules of 1966 are Treaty'96 adopts Article IV of the Helsinki Rules: "Each Basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin." According to the treaty depend on availability of water will be measured divert at Farakka Barrage. These are guided by the principles were decided in treaty as equity, fairness, and no harm to either party should be follow by both side. Finally,



in 1996 bilateral treaty between India and Bangladesh Prime Minister H.D. Deve Gowda and Prime Minister Sheik Hasina Wajed had been decided 12th December 1996 for 30 years for sharing the dry season flows of the Ganges at Farakka for a period (Hossain, 1998).

POSITION OF BANGLADESH

- 1) There is sufficient storage fusible of monsoon flow in the Ganges Basin for India.
- 2) A feeder canal from the Brahmaputra to the Ganges is both unnecessary for India and harmful for Bangladesh.
- 3) There is additional storage along the headwaters of the Ganges tributaries in Nepal, and that country might be approached for participation.
- 4) Indian needs the diversion of Ganges water into the Bhagirathi-Hooghly and constructing navigation link from Calcutta to the sea via Sunderban.

POSITION OF INDIA

- 5) The most viable option both to supplement the low flow of the Ganges, and for regional development. It is a link canal and has storage facilities on the Brahmaputra.
- 6) Additional storage possibilities in India are limited and unable fulfill needs.
- 7) Constructing a separate navigation canal is not connected to the question of optimum development of water resources in the region.
- 8) Approaching Nepal or other third world countries as discussing the amending pattern of diversion into the Bhagirathi-Hooghly (Hossain 1998).

THE MAJOR LIMITATIONS OF 1996 TREATY

The 1996 treaty was signed for 30 years. Though it has achieved workable solution, it has criticized on several grounds. The treaty fails to incorporate the concern of Nepal, which was major upper riparian country on GBM basin. The treaty has tried to negotiate the water necessities between India and Bangladesh only, consequently the basin approach towards river management could not be developed. Though the treaty poses legal obligations for both the countries; there was lack of meaningful cooperation leading to its limited success. Such developments resulted into favoring hydro hegemonic status of India preferring to maintain status quo (Hanasz, 2014).

Treadwell and Ali (2009) identify that national economic priorities, asymmetric power and extreme physical conditions are some of the major reasons for limited success of 1996 treaty. Most importantly it has failed to handle a low water flow situation in the dry season flow of Bangladesh. The economic priority of Bangladesh includes food grain production. In Bangladesh, irrigation is major political issues since 84 percent population live in rural area and depends on agriculture for income. While for India the major economic concern is maintaining navigability of Kolkata port. The lack of immediate economic incentive for India plays major role in continuation present treaty of 1996 despite several such limitations discussed above.

Further, the asymmetry of political- military level between India and Bangladesh have played decisive role. India is 22 times larger than Bangladesh in its size, is relatively more politically stable. The comparison of annual GDP growth rate for the last two decades shows that Bangladesh GDP lies between the ranges of 4 to 6 percent while India's GDP ranges from 6 to 10 percent (World Bank Data, 2014). This indicates the difference in the economic size with reference to growth potential of each country. At present India's GDP based on (PPP) is US \$ 4.962 trillion (2013 estimate) as compare to Bangladesh's US \$ 324.6 billion (2013 estimate).

WATER ISSUES AS A SECURITY CHALLENGE BETWEEN INDIA AND BANGLADESH

According to the Water Resource Ministry of Bangladesh, it is losing about 30,000 acres of land to India due to erosion of different border rivers since the Mujibh and Indira



Treaty of 1974 (IDSA, 2010). The timely repair of the gates is very important because, if unaddressed it can cause uncontrolled discharge of water to the neighboring country, the resulting the lack of pond level 176 and may be less inflow of water at Bhagirathi through the feeder canal. Further, the uncontrolled of water discharge may lead to permanent damage to barrage structure, due to development of a deep scours caused due to salinity of water. Another challenge is negative effect the availability of water for power generation to NTPC77. The increase the salinity of the water therefore reduced flushing out of tidal sea water, thereby endangering ecological balance and also induces scarcity of drinking water downstream of Farakka Barrage.

WATER AVAILABILITY AND QUALITY

About 94% of Bangladesh's surface water sources originate outside its area. So, Bangladesh is affecting many quantitative and qualitative impacts caused by actions of upper stream riparian. Therefore, Bangladesh impacts include shortage of water flow in the dry season affecting such as irrigated agriculture area, and floods during the wet season (Crow and et al. 1995).

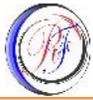
ECONOMIC AND OTHER ISSUES

These two (India and Bangladesh) riparian states in the Ganga basin face common problems. Some of these problems have been around since the British rule, and others emerged after the independence of India and Bangladesh. The following are mentioned major issues. There are increasing water demands in agriculture, industrial and domestic use sectors. The development model gives rise to trend of migration from rural to urban areas for survival, better growth opportunities and scarcity of basic facilities in rural areas. There is generally more water use by the urban people. The possession of economic power directly influences the accessibility of water in urban areas. India withdraws large scale of water in the dry season therefore it has negative impact on livelihood of people in Bangladesh. Due to lack of water the sectors like agriculture, fishery, environment, public health, municipal water supply, forestry, and navigation in Bangladesh suffer.

Floods: one serious problem faced by India and Bangladesh is floods and other ecological disasters such as the soil erosion, deforestation and sedimentation. Although Ganga is most prone to floods, India and Nepal are faced with similar problems of flood. In Bangladesh the total flood prone area is 6.14 mha coming under the Ganga, Brahmaputra and Meghana basin together. This is 42% of the country's geographical total area of Bangladesh. On the annual averages 20.5% region of Bangladesh regularly experiences flood in some or the other river. The loss due to floods in Bangladesh, for a normal year is near about ranging between US \$ 1.75 to 2 billion. The most recent and largest flood of 1998 had the highest loss around the US \$2 billion to 2.8 billion. Industrial and infrastructure sectors were worst hit than by agriculture sector (Mirza and Ahmad 2005).

Environmental: the loss of biodiversity due to increasing salinity of Ganga water is one of the immediate environmental concerns for Bangladesh. The Mangrove forest that are worst affected by the dry season shortage of water and salinity intrusion because of low water flow in the river system (Bernsohn 2007).

Drainage: the upstream River side's on many of the tributaries flow into Bangladesh suffers from the impact of drainage blocking and small scale diversions in Bangladesh. By changing the slope or by affecting the lateral flow of drainage in the basin, even in downstream locations, the water table rises upstream. This is the water related problems in India when development of roads and diversion of dunes by farmers take place in Bangladesh (Kumra 1995).



SUMMARY

The population growth, industrialization and development centric policies lead to make natural resources scared commodities. Further the emergence of demarcated territories giving rise to modern states and trans-boundary issues like disputes of water sharing over Ganga River. There asymmetry in geographical, economical and political sphere results into adverse effect over Bangladesh. The criticism of the 1996 treaty clearly shows that such approach has limited utility. It can delay immediate conflict or violence but cannot resolve it. Still human losses due to non conventional security challenges are common for both the states. This can give rise to cooperation for broader approach resolving the dispute and addressing the common security challenges.

Hence there is need of an integrated approach for securing water resources which cannot success without cooperation. Climate change and other non-traditional challenges, like floods, and droughts in the South Asia and Ganga river basin. The Gongotri glaciers will be retreating in the coming future making water disputes sharper between India and Bangladesh. Increasing the floods, water pollution are major concerns in the region. It has potential to affect the exiting water supply negatively, in the context of increased water demand it will lead to water disputes between India and Bangladesh.

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