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Legal flaws in the Ganges Water Sharing Treaty, 1996: Consequences & Remedies

Sumona Kabir*

Md. Sekander Zulker Nayeem**

Abstract

Bangladesh and India have agreed upon sharing of Ganges water by signing a thirty-year treaty in December 1996. The two countries agreed recognizing that the need for making an arrangement for sharing of the Ganges waters at Farakka in a spirit of mutual accommodation and the need for a solution to the long-term problem of augmenting the flows of the Ganges are in the mutual interests of the peoples of the two countries. But the purpose of the treaty is being frustrated for some flaws in the provisions of it e.g. absence of minimum guarantee clause, dispute resolution mechanism, provision stating the role of JRC etc. Endeavors have been made in this study to identify the loopholes of law in the provisions of the treaty. Taking advantages of these flaws, how India is exploiting Bangladesh in sharing Ganges water is also discussed here. Some revisions are also recommended for removing the existing legal flaws in the treaty.

1.0 Introduction:

The temporal and spatial distribution of water resources is one of the main challenges for sustainable water management in the Ganges basin and hence to attain food security and achieve socio-economic development. During the monsoon period, which occurs from June to December, there is abundant water but during non-monsoon months (January- May) the country experiences an acute scarcity of water.

The conflict over the Ganges water between Bangladesh and India dates back to 1951 when India decided to construct the Farakka Barrage in order to divert water from the Ganges to the Hooghly river (in India) by a 42 Kilometer long feeder canal with a carrying capacity of 1133 m³ /sec. The barrage started operation in 1975. Since then, the sharing and controlling of the Ganges water become the key source of controversy

* Lecturer, Department of Law, Shanto-Mariam University of Creative Technology

** Assistant Judge, Manikganj

between these two nations. The two nations signed two Memorandums of Understanding (MOU) in 1983 and 1985 and two treaties one in 1977 and the other in 1996 to share Ganges water. Signing the Treaty of 1996 is a great achievement for Bangladesh in finding out long-term solution by augmenting lean season Ganges flow.

2.0.OBJECTIVES OF THE STUDY:

The study has undertaken with a view to achieving the following objectives:

1. To identify the legal flaws in the Ganges Water Sharing Treaty, 1996 which are paving the way of exploiting Bangladesh in getting the agreed share of Water.
2. To determine the consequences arising out of the Treaty.
3. To recommend some revisions to the 1996 Ganges treaty that would strengthen the scope of the treaty to resolve water conflict and promote cooperation for long-term solution of the crisis.

3.0. METHODOLOGY:

This study is based on both primary and secondary sources of information. Relevant data are collected from Banglapedia, several Journals, different books, reports of some National and International Organizations, different magazines and dailies, some online information from different websites. The Charter of United Nations, the Ganges Water Sharing Agreement, 1977 and the Ganges Water Sharing Treaty, 1996 are also used for legal analysis.

4.0. RESULT & DISCUSSION:

4.1. THE LEGAL FLAWS IN THE GANGES WATER SHARING TREATY, 1996 AND ITS CONSEQUENCES:

An overview of the Treaty of 1996 discloses the legal flaws available in this Treaty. Upon the direction of the 31st United Nations General Assembly the first Agreement between the Government of Bangladesh and the Government of India of sharing of the Ganges waters at Farakka

and on augmenting its flows was signed on 5th November 1977 at Dhaka, for the duration of five years.¹

According to Article II (i) of the agreement of 1977, the Ganges water sharing at Farakka from the first of January to 31st May every year will be with reference to the quantum shown in column 2 of the Schedule (Table I) below which is based on 75% availability calculated from the recorded flows of the Ganges at Farakka from 1948 to 1973. The water was divided between Bangladesh and India in an overall ratio of about 60 % for Bangladesh and 40% for India.²

Article II (ii) of this agreement provides that India shall release waters to Bangladesh by 10 day periods in quantum shown in column 4 of the schedule. It also mentions that if the actual availability of water at Farakka during a 10 day period is higher and lower than the quantum shown in column 2 of the Table I it shall be shared in the proportion applicable for that period. Article II (ii) of the agreement of 1977 again states that if during a particular 10 day period, the flow at Farakka comes down to such a level that the share of Bangladesh is lower than 80% of the value shown in column 4 of the Schedule, the release to waters to Bangladesh during that 10 day period shall not below 80% of the value shown in column 4. Thus this clause guaranteed Bangladesh a minimum of 80% of its share during each period whatever low the flow of the Ganges may be during that period.³

The schedule giving the implications of the sharing arrangement for the period 1st January to 31st May. Figures in cusecs.⁴

¹ Rahman Muhammad Mizanur, *The Ganges Water Conflict: A comparative analysis of 1977 Agreement and 1996*

Treaty. www.igesip.org/asteriskos/1_2/galego/art11.pdf, access on 10.12.2007

² The Schedule of the Ganges-Water Sharing Agreement, 1977 hereinafter referred as agreement of 1977.

³ This is widely known as 80 percent guarantee clause.

⁴ Cusecs mean cubic feet per second. (1 cusec is 28 litres per second)

1	2	3	4	5
Period	Flow reaching Farakka (Based on 75% availability from observed data)	Withdrawal by India	Release to Bangladesh	Ratio-India: Bangladesh
January				
1-10	98500	40000	58500	41:59
11-20	89750	38500	51250	43:57
21-31	82500	35000	47500	49:51
February				
1-10	79250	33000	46250	42:58
11-20	74000	31500	42500	43:57
21-28	70000	30750	39250	44:56
March				
1-10	65250	26750	38500	41:59
11-20	63500	25500	38000	40:60
21-31	61000	25000	36000	41:59
April				
1-10	69000	24000	35000	41:59
11-20	55500	20750	34750	37:63
21-30	55000	20500	34500	37:63
May				
1-10	56500	21500	35000	38:62
11-20	59250	24000	35250	40:60
21-31	65500	26750	38750	41:59

Table- 1.⁵⁵ See *supra* note 1.

Article II (i) of the Ganges Water Sharing Treaty, 1996⁶ provides “the sharing between India and Bangladesh of the Ganges waters at Farakka by 10 day periods from the 1st January to the 31st May every year will be with reference to the formula at Annexure I and an indicative schedule giving the implications of the sharing arrangement under Annexure I is at Annexure II”. Article II, Annexure I of the treaty of 1996 establishes the formula for water sharing of the Ganges at Farakka during the dry season. Annexure II provides an indicative schedule of the sharing arrangement based on 40 years (1949-1988) 10 day period average availability of water at Farakka. The following tables show the arrangements indicated in the treaty:

Availability at Farakka	Share of India	Share of Bangladesh
70,000 cusecs or less	50%	50%
70,000-75,000 cusecs	Balance of flow	35,000 cusecs
75,000 cusecs or more	40,000 cusecs	Balance of flow

Table: 2. Water sharing formula of the 1996 Treaty.⁷

Subject to the condition that India and Bangladesh each shall receive guaranteed 35,000 cusecs of water in alternative three 10-day periods during the period March 1 to May 10.

If actual availability corresponds to average flows of the period 1949 to 1988, the implication of the formula in Annexure I for the share of each side is:

⁶ Ganges Water Sharing Treaty, 1996 hereinafter referred as treaty of 1996.

⁷ Annexure I of Ganges Water Sharing Treaty, 1996.

1	2	3	4	5
Period	Average of Actual Flow (1949-1988)	India's Share	Bangladesh's Share	Ratio:- India: Bangladesh
January				
1-10	107,516	40,000	67,516	37:63
11-20	97,673	40,000	57,673	41:59
21-31	90,154	40,000	50,154	44:56
February				
1-10	86,323	40,000	46,323	46:54
11-20	82,839	40,000	42,839	48:52
21-28	79,106	40,000	39,106	51:49
March				
1-10	74,419	39,419	35,000	53:46
11-20	68,931	33,931	35,000	49:51
21-31	63,688	35,000	29,688	54:46
April				
1-10	63,180	28,180	35,000	45:55
11-20	62,633	35,000	27,633	56:44
21-30	60,992	25,992	35,000	43:57
May				
1-10	67,251	35,000	32,351	52:48
11-20	73,590	38,590	35,000	52:48
21-31	81,834	40,000	41,854	49:51

Table: 3. (Indicative schedule giving the implications of the sharing arrangement under Annexure-I for the period 1st January to 31st May).⁸

⁸ Annexure II of Ganges Water Sharing Treaty, 1996.

From the above tables, it is evident that Bangladesh receives lower amount of flow as per 1996 treaty than the 1977 agreement and quantum of decrease varies from 7117 to 144 cusec during critical period from 21-28 Feb to 11-20 May. On the other hand, India receives more flow as per 1996 treaty than the 1977 agreement that varies from 14590 to 4180 cusec during the same period. During this period Bangladesh will loose about 1.2 million avert of water which is sufficient to irrigate about 1.2 million acres of land the economic values of which is to the tune of some million US\$ every year.⁹ According to the agreement of 1977 and the Treaty of 1996, proportion of water sharing between Bangladesh and India from January 1-May 31, are about 60:40 and 52:48 respectively (Table 1, 3). In comparison with the agreement of 1977, Bangladesh's share decreased about 8 percent under the Treaty of 1996.¹⁰ It is worth noting that for the three critical non-monsoon months (March 1-May 31), the share of Bangladesh has decreased from about 61 percent under the agreement of 1977 to about 50 percent under the Treaty of 1996 (Table 1, 3).

In Annexure II of the Treaty of 1996, the flow at Farakka was calculated on the basis of the average flows at Farakka for the period 1949 to 1988. In the agreement of 1977, water sharing was based on 75 percent availability of flow at Farakka from 1948 to 1973. Consequently, the average Ganges flow at Farakka under the treaty of 1996 (Column 2 of the Table 3) for each 10-day period exceeds the Ganges flows (based on 75 percent availability) at Farakka under the agreement of 1977 (Column 2 of the Table 1) by a margin of 9 percent for each such period.¹¹ This indicates that the treaty of 1996 assumed a higher level of water availability (on average 12.26 percent higher for the period January 1-

⁹ GANGES WATER SHARING TREATY- A Critical Evaluation, Compiled and Edited by the Engineers Association of Bangladesh from the Ganges Water Treaty Meeting by the Shotonagoric Committee held on the 31st January, 1997, at the Press Club, Dhaka, Bangladesh. <http://www.ben-center.org/rivers/RiversFarakkaEngrRep.htm> (access on 13. 09.2009)

¹⁰ Salman, SMA (1998) Co-Management of Resources: the Case of the Ganges River. Conference on Water: dispute Prevention & Development, October 12-13 (online). Center for the Global South, Washington College of Law, American University, Washington, DC, <http://gurukul.ucc.american.edu/maksoud/water98/present1.htm#paper2>. (access on:01.12.2006).

¹¹ *Ibid*

May 31) than the agreement of 1977.¹² Here lies the crux of the problem. Unlike Article II of the agreement of 1977, the treaty of 1996 doesn't provide any minimum guaranteed flow for Bangladesh if the flow at Farakka reduces substantially. Article-II (ii) provides, "The indicative schedule at Annexure II, as referred to in sub para (i) above, is based on 40 years (1949-1988) 10-day period average availability of water at Farakka. Every effort would be made by the upper riparian to protect flows of water at Farakka as in the 40-years average availability as mentioned above."¹³ However, the treaty did not define the term 'every effort'. Thus if the flow at Farakka reduces substantially due to upstream abstraction, India is not under any obligation to protect the flow. Hence, without any clear obligation to control the upstream abstraction of the Ganges flow e.g. Uttar Pradesh, Bihar, West Bengal and no minimum guaranteed flow for Bangladesh, the water sharing according to the Annexure I, II becomes very much dependant on the will of the upstream users of Farakka.¹⁴ A publication in India Today shows that the flow has gone down to around 50,000 cusec in the months of March and April during last 5/6 years. This is not due to any natural cause rather this happened due to upstream abstraction of water in Uttar Pradesh, Bihar, Haryana and West Bengal. Upstream abstraction of Ganges flow likely to increases in future causing reduction of flow at Farakka as well as down stream of it.¹⁵

According to Article- II (iii) of the treaty of 1996, if the flow at Farakka falls below 50,000 cusecs in any 10-day period stipulated in the treaty, no water sharing arrangement exists. This flaw in this treaty opens the path for India to deprive Bangladesh from getting the agreed share of water. The treaty was signed on 12 December, 1996. On 29 March, 1997, at night, the Irrigation Secretary for West Bengal, Sri Amol Kumar, quoting his Government, declared at BBC News that the flow of water at Farakka point has gone down to 50,000 cusecs. Actually the water level gets down bellow 50,000 cusecs only for indiscriminate abstraction by the upper riparian country i.e. by India. John Burns commented in his report on

¹² See *Supra* note 1

¹³ Article- II (ii) of the Ganges Water Sharing Treaty, 1996.

¹⁴ See *supra* note 1

¹⁵ India Today (January 1-15) issue, 1997.

Ganges Water Sharing Treaty published in New York Times¹⁶, "Though the treaty has signed for 30 years India has breached it within 3 months of its inception." The remedy provided in this Treaty for such circumstances is that Bangladesh and India will sit immediately to decide equitable sharing¹⁷, but no time frame for such meeting is mentioned. Here, it should be mentioned that 87 meetings were required for reaching at the decision for signing the Treaty of 1996. So, who knows how many meetings are necessary for tackling the breach of this treaty? Hence, in absence of a minimum guarantee clause, the indicative schedule of Annexure II (which is subject to the conditions of Article II and Annexure I) of the treaty of 1996 does not indicate the entitlement in terms of absolute volume of water for each country on a day-to-day basis.¹⁸ Taking the advantages of this clause India has been violating the treaty from its very inception.

According to Article –IV of the treaty of 1996 a Committee consisting of representatives appointed by the two Governments in equal numbers (hereinafter called the Joint Committee) shall be constituted following the signing of the Treaty. The treaty of 1996 is devoid of any arbitration clause in case of either party to uphold the provision of the treaty. Article –VII of this treaty provides, "The Joint Committee shall be responsible for implementing the arrangements contained in this Treaty and examining any difficulty arising out of the implementation of the above arrangements and of the operation of the Farakka Barrage. Any difference or dispute arising in this regard, if not resolved by the Joint Committee, shall be referred to the Indo-Bangladesh Joint Rivers Commission. If the difference or dispute still remains unresolved, it shall be referred to the two governments which shall meet urgently at the appropriate level to resolve it by mutual discussion." The aforesaid provision doesn't provide clear dispute resolution mechanisms. What level of a government does it refer to and what is the time frame for dispute settlement are not specified in the Treaty. In addition, the Treaty does not bind any party to resolve the dispute if disagreements persist.

¹⁶ The Daily New York Times, 25 May 1997.

¹⁷ Article-II (iii) of the Ganges Water Sharing Treaty, 1996.

¹⁸ See *supra* note 1

Article –X of the treaty of 1996 provides that the sharing arrangements under this Treaty shall be reviewed by the two Governments at five years interval or earlier, as required by either party and needed adjustments. Article –XI stipulates that for the period of this Treaty, in the absence of mutual agreement on adjustments following review as mentioned in Article X, India shall release downstream of Farakka Barrage, water at a rate not less than 90% (ninety percent) of Bangladesh's share according to the formula referred to in Article II, until such time as mutually agreed flows are decided upon. This provision allows India to reduce the release to Bangladesh by 10 percent in case of disagreement on adjustments of the water sharing arrangement. On the contrary, Article XII of the agreement of 1977 assured 100 percent of Bangladesh share under all circumstances.

All the above discussed legal flaws in the provision of the treaty of 1996 are paving the path of exploiting Bangladesh from getting agreed share of water. In 2005 Pakistan Times¹⁹ reported that India violating the 30-year Ganges Water Sharing Treaty has deprived Bangladesh of the water that causes the agriculture of the current 'boro' season, which may lead to serious food deficit. According to the latest data, Bangladesh got 5, 897 less cusecs of water in the last 10 days of January, 2005. According to the 'Indicative Schedule' as described in Annexure-II of the Ganges Water Sharing Treaty, 1996 in January Bangladesh was supposed to get 50, 154 cusecs of water, but got only 44,257 cusecs.²⁰ The total deprivation of the Ganges water in January, 2005 was 29,402 cusecs. Water experts in Dhaka apprehend that the deprivation of water in the sowing season will hamper the current 'boro' (paddy) cultivation of a vast region of Bangladesh. As a result, Bangladesh will face serious food deficit.

A report of (AFP) Dhaka published on March 15, 2006 stating Bangladesh said it had protested to India about falling water levels in the Ganges River, despite a treaty meant to regulate the downstream flow into the delta nation. In the last 10 days of February, 2006 the water measured had fallen by a third below the guaranteed amount. During this time

¹⁹ <http://www.pakistantimes.net/2005/02/12/top9.htm> access: 02.12.2008

²⁰ *Ibid*

Bangladesh measured only 26,783 cusecs against the 39,106 cusecs there is supposed to be²¹. Experts say reduced flow in the Bangladesh part of the Ganges is due to Indian dams supplying water to farmers for irrigation.²²

In January, 2007, Bangladesh received 30,000 less cusecs of water than the agreed share according to Indicative schedule (column 4, Table 3) of the treaty. Bangladesh was supposed to get 67,321 cusecs of water whereas it has received only 37,966 cusecs of water.²³ Bangladesh received only 55,556 cusec water in the first ten days of January 2008, losing almost 12,000 cusec whereas Bangladesh was supposed to get 67,516 cusec water during this period. India breaches the conditions of the deal by depriving Bangladesh of water every year through the Farakka dam.²⁴ All these consequences have been taking place due to the legal flaws in the Treaty.

4.2. REMEDIES

The only remedy for an equitable share of water during lean season is the modification or revision of the provisions of the treaty. Article -X of the treaty provides that The sharing arrangements under this Treaty shall be reviewed by the two Governments at five years interval or earlier, as required by either party and needed adjustments, based on principles of equity, fairness and no harm to either party made thereto, if necessary. It would be open to either party to seek the first review after two years to assess the impact and working of the sharing arrangements as contained in this Treaty. So, there are immense scopes for revising the treaty. The following measures may be recommended for implementing the rightful claim of Bangladesh to get the equitable share of water:-

²¹ http://www.terradaily.com/reports/Bangladesh_Blames_India_For_Water_Shortage.html. access on: 02.12.2008

²² *Ibid*

²³ The Daily Naya Diganta, 14.01.2008, page-1, www.dailynayadiganta.com.

²⁴ THE FINANCIAL EXPRESS, Home Page, Dhaka, Friday June 20 2008, http://www.thefinancialexpressbd.info/search_index.php?page=detail_news&news_id=37206.

1. The treaty of 1996 may be called as an offshoot of the decision of the United Nations General Assembly. After failing in attempts to resolve this issue peacefully and amicably Bangladesh raised the issue of Ganges water sharing in the UN General Assembly session in 1976. Confronting adverse international opinion India had to sign an ad hoc agreement for 5 years on Ganges water sharing in 1977. The agreement of 1977 was the base of the treaty of 1996. Since the treaty is an offshoot of UN General Assembly's decision and the two countries are *ipso facto* members to the Statute of the International Court of Justice²⁵, a provision of seeking remedy before this Court for any breach of treaty may be included.
2. A minimum guarantee clause for Bangladesh should be included which will ensure a minimum flow for downstream Bangladesh in case of substantial reduction of the Ganges flow at Farakka point due to upstream abstraction.
3. The Annexure II of the treaty should be revised and 75 percent availability of flow at Farakka instead of average of the total flow should be replaced. The agreement of 1977 can be followed to revise this Annexure.
4. Provisions providing the role and clear responsibility of Joint River Commission should also be included for implementing the treaty.
5. The treaty is supposed to be reviewed at least every five years, and sometimes less, according to the conditions of the water sharing pact in Article-X. There is scope in the treaty for Bangladesh to propose the time for a review. But no such step has been taken in the past 12 years since the deal was signed. So, the treaty should be reviewed from time to time.
6. Provisions of International arbitration mechanisms for dispute settlement may be adopted in the treaty during its revision.

²⁵ Article 93 of the Charter of the United Nations.

5.0. CONCLUSION:

This long-term treaty defined India's pre-condition for augmenting the flow of the Ganges and may establish Bangladesh's right as a lower riparian to an equitable share of its existing flow. Indeed the then Government successfully completed this treaty for the benefit of Bangladesh. It removed the tense relation between the two countries, and opened the way for their wider cooperation in sharing the water resources of the entire region. But the breaches of the treaty by India are sometimes raising the public fury in Bangladesh. The revisions recommended in this study may extinguish this fury and may establish a long time solution in sharing Ganges water. Bangladesh may get proper quantum of water through the revision of this treaty.