

GANGES WATER TREATY

An Analysis of First Year Implementation

by Amjad Hossain Khan

With the signing to the Mohakhali Treaty between Nepal and India and Ganges Water Treaty between Bangladesh and India there opened a new and positive environment for regional cooperation among the riparian countries.

THE 30-year Ganges Water Treaty between Bangladesh and India was signed in December, 1996. The implementation of the treaty has started from 1st January, 1997.

During the implementation of the Water Treaty which covers a five-month dry season from 1st January to 31st May, 1997, a lot of controversies were raised both in Bangladesh and India, particularly on the availability of the flow of the Ganges at Farakka to be shared by both the countries.

The operational part of the treaty concerning sharing of the Ganges flow available at Farakka are:

a) when the availability at Farakka is 70,000 cusec or less, share of Bangladesh and India are on 50:50 basis.

b) when the availability at Farakka is 70,000 cusec or more, Indian share is 40,000 cusec and the remaining flows for Bangladesh.

c) when the availability at Farakka is 75,000 cusec or more, Indian share is 40,000 cusec and the remaining flows for Bangladesh.

The treaty clearly stipulates that the above sharing arrangement is subject to the condition that India and Bangladesh each shall receive guaranteed 35,000 cusecs of water in alternate three 10-day periods of March 1 to May 10, as given below:

The Ganges Water Treaty was based on the average flow of the availability of the Ganges at Farakka from the records of 1949 to 1988, India has assured in the Treaty (Article II) that "every effort would be made by the upper riparian to protect flows of the water at Farakka as in the 40 years average availability". The Treaty further stipulates in Article II (iii) that "in the event flow at Farakka falls below 50,000 cusec in any 10-day period, the two governments will enter into immediate consultation to make adjustments on an emergency basis in accordance with the principles of equity, fair play and no harm to either party".

Article IV of the treaty provided that a committee consisting of representatives nominated by the two governments in equal numbers (herein after called the Joint Committee) shall be constituted following the signing of the treaty. The Joint Committee (JC) shall set up suitable teams at Farakka and at the Hardinge Bridge to observe and record at Farakka daily flows below the Farakka Barrage, in the Feeder canal, at the Navigation lock, as well as the Hardinge Bridge.

In Article VII, the treaty provides that the JC shall be responsible for implementing the arrangements contained in this treaty and examining any difficulty arising out of the implementation of the arrangements and of the operation of the Farakka Barrage. Any difference or dispute arising in this regard, if not resolved by the JC, shall be referred to the Indo-Bangladesh Joint Rivers Commission. If the difference or dispute still remain unresolved, it shall be referred to the two governments which shall meet urgently at the appropriate level to resolve it by mutual consultation.

Article VIII provides that the two governments recognise the need to cooperate with each other in finding a solution to the long-term problem of augmenting the flows of the Ganges during the dry season.

Article IX stipulates that guided by the principles of equity, fair play and no harm to either party both the governments agree to conclude water sharing treaty/agreements with regard to other common rivers.

The flow data released at Farakka for Bangladesh from 1st January to April, 1997 as submitted by Ministry of Water Resources, GOB in Jatiya Sangsad on 14-05-97 and reported in the press is given below:

Period	Agreed Quantities for BD at Farakka Cusec	Actual release to BD at Farakka Cusec
Jan. 1-10	62,180	62,019
11-20	49,635	49,556
21-31	48,762	48,884
Feb. 1-10	45,604	45,604
11-20	41,015	41,029
21-28	37,399	38,387
Mar. 1-10	33,085	33,489
11-20	35,000	35,028
21-30	-	17,857
Apr. 1-10	35,000	30,137
11-20	19,526	25,613
21-30	35,000	35,065

On 28 March, 8,064 cusec. d) Due to early rain in the second half of April, the flow data at Hardinge Bridge improved.

The abnormal low flow of the Ganges, which started from the month of February caused an embarrassment to both Bangladesh and India. All-

ing storage facilities in the snow-fed Kosi in Nepal and Bhutan.

Mr. Ramswamy R. Iyer, of the centre for policy Research, New Delhi and former secretary of Water Resources, Government of India said that the claims made in both Bangladesh and India about faulty average calculated for the availability of the water at Farakka were wrong. He said that the flow had gone down this year due to "abnormal phenomenon". He said that in the past the flow of the Ganges has gone even below this year level. He claimed that the treaty is being implemented in good faith and things will be all right in the future. He identified three lapses in the Ganges Water Treaty: a) the two sides are to sit and discuss steps taken if the flow at Farakka falls below 50,000 cusec, but there is no formula for sharing if such a situation occurs again, b) water apportioned through 10-day slots should go up and down gradually, and not abruptly. These should be redefined; and c) the two sides should come out with an explanation as to why there emerge difference in readings of water released at Farakka and the actual flows at Hardinge Bridge even after monitoring by joint team of experts.

It appears from the various conflicting news and statements published in Bangladesh and India, the following issues emerge: The availability of the Ganges flow at Farakka is low due to a) Inadequate rainfall in the Ganges catchment area; b) Slow melting of ice in the Himalayas; c) Indiscriminate upstream use of Ganges Water in Uttar Pradesh and Bihar, d) Discrepancy in the measurement of flow released at Farakka and monitoring of the flow recorded at Hardinge Bridge, and e) Reconciliation of data and meeting of the Joint Committee to decide sharing when the availability is less than 50,000 cusec at Farakka.

India has a large number of monitoring stations to record the rainfall data of the Ganges Basin in India. Similar stations are also in Nepal for recording rainfall and snow melting of the Himalaya. Bangladesh has also a network of rainfall stations in the country. The low-flow problem should have been known to India from the rainfall data of the Ganges Basin well ahead.

The fall in the flow of the Ganges from November should have been monitored. Unfortunately, no such data or information was made available to Bangladesh at any time.

The precipitation over the Ganges basin is mainly due to South-West monsoon. The average rainfall in India varies from 350mm in the western part to about 1,000mm in the middle course and 1,500 to 2,200mm near the Delta.

The South-West monsoon brings ample rainfall to Nepal specially in the hilly and mountainous areas. The Mahabharat ranges and the foot hills of the great Himalayan ranges, lying directly across the path of the monsoon are exposed to heavy rainfall on their south-facing flanks. The average annual precipitation in Nepal is about 1516mm. The rain decreases gradually moving from east to the west. On an average about 80 per cent of annual pre-

cipitation is concentrated in the monsoon from June to September. The rain in the winter occurs occasionally. The average rainfall within Nepal varies from 200mm in the North-West to a maximum of 4,000mm in the eastern part.

The 40-year average of the Ganges flow at Farakka is a long time average which covers both good and bad hydrological years. The Indian argument that the year 1997 was an exceptional cannot be accepted without any proper scientific study.

Glaciers are an imprint source of water. Melting generally takes place between February and October in the eastern Himalayas and between April and October in the Western Himalayas. Around 3,500 glaciers probably drain into the Ganges Basin. Over 3,500 glaciers in India and Pakistan drain into the Indus Basin while 611 glaciers drain into the Teesta and Brahmaputra basins.

Published sources indicate that an ice cover of 8,500 sq km is distributed in various river basins in India. Using data of Gara Glacier in the Sutlej catchment, the rough estimate of glacier melt for Indian glaciers amounts to 13.8 million acre feet of water. For the Ganges basin alone glacier melt amounts to 5.35 million acre of water from ice-melt alone.

Bangladesh was aware of upstream developments of the Ganges above Farakka. In spite of repeated requests, no data and information was made available to Bangladesh. India even refused joint inspection of the upper reaches of the Ganges. Accordingly to the information published by India Today (April 30, 1997) the Water flow of the Ganges was drastically reduced by Uttar Pradesh and Bihar since 1988 and started withdrawing 25,000 to 45,000 cusec through 440 lift irrigation schemes.

While negotiating the treaty, Bangladesh was aware of such events and refused to accept figures of availability of the Ganges, since 1988 which would have given India a free hand to temper the water flows of the Ganges in the upper reaches. With 50 per cent probability of the available flow at Farakka and as there is no guarantee of the flow, Bangladesh was justified in rejecting data from 1989 to 1996.

The treaty provided that every effort will be made by the upper riparian to protect the flow of water at Farakka as in the 40-year average. It has become apparent during the implementation of the treaty in the first year (1997) that India has failed to protect the availability flow of the Ganges at Farakka. It is expected that from the lessons learnt during 1997, India will try to protect the availability of flows at Farakka so that such an abnormal situation do not occur in future.

The JC constituted by both the governments of Bangladesh and India is responsible for implementing the arrangements contained in the treaty and operation of Farakka Barrage. The JC set up joint teams stationed at Farakka and at Hardinge Bridge to observe and record the daily flows below Farakka Barrage, in the Feeder canal and at the Navigation lock as well as at the Hardinge Bridge.

Since the middle of February 1997, the flow of the Ganges monitored at the Hardinge Bridge started showing large difference in the figures released at Farakka and monitored at the Hardinge Bridge.

Formal and informal discussion took place in late March and April. The JC held an urgent meeting in New Delhi in the third week of April. Another meeting was also held in Dhaka. But they could not resolve the problem of discrepancy of figures between Farakka and Hardinge Bridge and on the abnormal low flows of the Ganges at Farakka. In spite of the urgency of the matter, a meeting of the JC took more than 4 weeks to sit and discuss the matter. The ministerial level meeting of the Joint Rivers Commission could not be held in April due to uncertain political situation in India. The problem of discrepancy in the two sets of figures of release to Bangladesh and figures recorded at the Hardinge Bridge has not been resolved as yet.

The reasons are not clear but need a thorough scientific study to settle the matter once for all. The issue of regeneration or de-generation can be studied from the records available of the last 10-year agreement period at both the stations.

A news item published in India Today (March 31, 1997) under the heading "Runaway Rivers" has given a grim picture of the Ganges above and below Farakka. 1) If the Ganges main course is diverted to the Pagla, upstream of the Farakka, the Barrage and the downstream towns could be starved of water. 2) The bank line near Jangipur between the Ganges and the Bhagirathi was 6 km apart in 1944. Today, the distance is only 1.4 km. If the bank line of the Ganges give way in the near future, the Ganges will discharge huge quantity of water into the Bhagirathi. 3) If the Ganges clears the silt up channel at the mouth of Bhairab (Jalagi), it could divert water into the Bhairab (Jalagi). All these apprehensive need careful study by the JC along with their scientific study of other relevant issues.

The treaty was silent on the issue of water flow in the Ganges at Farakka below 50,000 cusec. Incidentally, it happened that the water flow of the Ganges at Farakka during the month of March/April came down to less than 50,000 cusec. It is reported that the total availability came down to 48,487 cusec. The modus operandi in such a situation was not thought of during negotiation of the treaty. If urgent consultation take more than 6 to 8 weeks in the critical dry months, then the urgency is lost as happened this year.

The Ganges Water Treaty for 30 years is now a fait accompli. Based on the experience of its operation in the first year, the two governments have to seriously take up the matter for discussion to resolve the issue based on equity, fairness and to harm to either party.

A few urgent matters following the implementation of the treaty has become inevitable.

**Ganges Barrage**

The present flow of the Ganges as per sharing arrangement is not enough to revive the Goral, a distributory of the Ganges in Bangladesh. The ad hoc step taken by the government to excavate the silted up channel of Goral manually followed by dredging will not be a permanent solution. Construction of the Ganges Barrage in Bangladesh is a must. Donors reluctance to finance the Ganges Barrage Project should not deter Bangladesh. Immediate steps should be taken to undertake the Feasibility cum Detailed Engineering of the Project, from our own resources, if necessary.

In spite of decision at the highest political level for construction of Barrages on the Ganges and the Brahmaputra about a decade back, no action was taken so long to implement the decision. Now that we have a firm policy decision on the construction of the Ganges Barrage, there should not be any problem in going ahead.

**Augmentation**

The problem of inadequate flows of the Ganges was known to Bangladesh and India since 1974 when the Prime Ministers of both the countries met. The augmentation proposals submitted by Bangladesh and India had different approach. Bangladesh suggested construction of Storage dams in Nepal for augmenting the dry season flows of the Ganges. Indian proposal was construction of a link canal to divert 100,000 cusec from Brahmaputra to the Ganges. The proposals were not acceptable to each other and rejected.

With the signing to the Mohakhali Treaty between Nepal and India and Ganges Water Treaty between Bangladesh and India there opened a new and positive environment for regional cooperation among the riparian countries.

The research organisations in the three countries Nepal (IIDS), India (CPR) and Bangladesh (BUP) in the book "Converting Water into Wealth" have taken a positive view of the whole issue and identified high possibilities of cooperation on Water, Energy, Trade, Commerce and Navigation. They recommended possible cooperation between India and Nepal, India and Bangladesh and Bhutan, India and Bangladesh.

The likely projects in all the four countries which can be developed for hydropower and augmentation of the dry season flows have been identified. It may be possible, given the goodwill and understanding, to develop many of the potentials in phases. For immediate requirement, the following projects can be taken up as investigations have been completed or near completion.

The Saptkosi High Dam project is nearer to Bangladesh. Bilateral discussion between Nepal and India are in an advanced stage. Detailed project Report will be prepared soon. Bangladesh should be associated with this project from now on. Nepal has also identified this project as a first step in regional cooperation.

The Geilkhola high dam on the Teesta has been under investigation by India for long. The construction of this project will go a long way in meeting the shortage of water of the Teesta. It may be mentioned that both Bangladesh and India have constructed Barrages with total requirement which far exceed the existing dry season flows.

Construction of high dams in Mansas and Sankos in Bhutan has been investigated by India. The hydropower potential is quite large and will also augment the badly needed dry season flows of the Brahmaputra river system.

India has completed investigation of two high dams in Sub-

ansari and Dhang on the tributaries of the Brahmaputra. When developed they will generate large hydropower, flood moderation and augment the dry season flows of the Brahmaputra. It may be mentioned here that the existing dry season flows of the Brahmaputra will not be enough to meet the irrigation demands in India and Bangladesh, including salinity control, and channel maintenance.

The Tpaikmukh high dam in Manipur India is ready for implementation. The likely impacts of this project in Bangladesh should be jointly studied. The project will generate power and augment the flows of the Meghna.

**Sharing of Teesta, Brahmaputra and All Transboundary Rivers**

During the last meeting of the Prime Ministers of Bangladesh and India held in January this year in Dhaka, highest priority was given to the solution of the sharing of Teesta. Incidentally, the two governments have constructed two Barrages for irrigation but the dry season flow of the Teesta has not been shared at yet.

In the absence of any sharing arrangements, Bangladesh has been constrained to expand irrigation to a limited area in the Phase 1. There is an urgency in sharing the existing flows of the Teesta could be augmented by construction of Geilkhola dam or construction dams in Mansas and Sankos in Bhutan. Immediate sharing of the Teesta will create goodwill and confidence of the people in Bangladesh.

Brahmaputra river is the only source of water for large-scale irrigation in Bangladesh. The flows are also needed for control of salinity further inland and channel maintenance and for the ecology. Bangladesh has plans for contraction of a barrage on the Brahmaputra near Bahadurabad. So far no concrete step could be taken in the absence of any sharing arrangement. Bangladesh should initiate immediate talks for sharing of the Brahmaputra, Teesta, and all transboundary rivers. The National Water Management Plan of Bangladesh will be prepared in next 2 to 3 years. Without any understanding of availability of water of all the transboundary rivers, it may not be possible to prepare a viable plan.

**Conclusion**

There is a strong feeling among the South Asian countries like Nepal, Bhutan, India and Bangladesh that there is no alternative but to cooperate with each other for economic development of the region. The region is poor but rich in natural resources like water as prime mover. There are enormous possibilities for development for generation of cheap hydropower and augmentation of the dry season flows of the river system. Other benefits like navigation, trade and commerce could follow.

The goodwill created by signing the 30-year Ganges Water Treaty should not be lost sight of. The problem faced in the first year of its implementation should not be taken as negative points. Based on our experiences, we should move forward to correct the mistakes and misunderstanding with transparency at all levels. Ganges water is a sensitive issue for Bangladesh. The government should not keep the people in the dark. It is time to pause and think seriously about our future course on the water issue.

The writer is Former Chairman of Bangladesh Water Development Board.

Metropolitan



Members of the family of Kazi Nazrul Islam offering munajat at his grave on the poet's 98th birth anniversary yesterday. — Star photo

Nazrul's birth anniversary observed

The nation recalled with gratitude the inspirations it received from the poems of Kazi Nazrul Islam during its War of Liberation while celebrating the 98th birth anniversary of the national poet yesterday, reports BSS.

The national-level programmes for celebrating the Nazrul Jayanti were held in Trishal, Jauhatpur and Comilla, where the rebel poet spent a significant period of life, while other parts of the country had their own programmes.

Different socio-cultural organisations and government institutions had chalked out various programmes to mark the day. These included discussions, cultural sessions, placing wreaths on the grave of the poet and *milad mahfils*.

Day-long programme was arranged in Trishal, Myensingh, where Nazrul spent his boyhood, with LGRD and Cooperatives Minister Zillur Rahman inaugurating it. Zillur Rahman recalled the contributions Nazrul's works provided in facing the weals and woes in one's personal as well as the national life. He urged all to remember the national poet for his invaluable contributions to literature and culture.

Seminars on the life and works of Nazrul were also held in Trishal followed by cultural functions.

The day began in the city, with the placing of wreaths on the grave of the poet beside the Dhaka University Mosque, where hundreds visited throughout the day to pay homage to the great poet. Various institutions, including Bangla Academy and Nazrul Institute, placed wreaths on the grave. Bangla Academy held a discussion on the "evaluation of Nazrul", which was presided over by Dr Mostafa Nurul Islam and participated among others, by Prof Hyat Mahmud and Prof Selma Bahar Zaman.

Call to ensure efficient running of Nazrul Academy

Celebrated artiste of Nazrul songs, Shabnam Mustari, in a statement has urged all concerned, particularly the Cultural Ministry, to help ensure efficient management of the Nazrul Academy.

Mustari, an executive member of the Academy, felt the necessity of running the organisation maintaining its past glory and rich heritage.

Daughter of Talim Hussain, the founder secretary of Nazrul Academy, Shabnam Mustari expressed her dismay at some recent happenings in the Academy, but, at the same time vowed to extend her full support in running the organisation maintaining its dignity.

Photo exhibition on 'China Today' begins

A three-day photo exhibition on "China Today" began at Jatiya Press Club yesterday under the auspices of Bangladesh-China People's Friendship Association, reports BSS.

Inaugurating the exhibition, Chinese Ambassador in Dhaka Wang Chungui said China's 9,600,000 square kilometres of land is adorned with many mountains and rivers and beautiful scenery.

Its five thousand years of history has fostered a splendid national culture and an ancient civilisation reflected in many of its famous historical and cultural sites, he said.

Some 40 photographs depicting national culture and ancient civilisation of China are being displayed in the exhibition.

AL proving itself failure in running country: Ershad

Former President HM Ershad, whose Jatiya Party shares power with the government, has said that the Awami League is proving itself a failure in running the country, reports UNB.

"We extended unconditional support to Awami League and we had also said this support will continue to their good works. But during this tour, I found that Awami League could not do any good," he said. He cited the case of the cyclone victims in Maheshkhali and Kutubdia while visiting the two islands yesterday.

Ershad said that he could have returned to power this time, reiterating that "BNP had given me a proposal for premiership to check Awami League. I rejected that proposal."

The JP Chairman said he did not want power with the support of "a terrorist and corrupt party like BNP which likes to see the country in chaos." He added, "I did not allow them (BNP) to fulfill their motive."

Ershad urged the people to take a correct decision in the next general election as what he said the people have seen the rule of three political parties.

"BNP has done a lot of damage to this country. Awami League is failing to run the country, failing to mitigate the misery of the cyclone victims," he alleged.

He said the Jatiya Party would have to return to power for the well-being of the people.

Ershad criticised the mismanagement of relief works in the affected areas, alleging that no relief reached the remote areas.

GOVERNANCE & DEVELOPMENT: SINGAPORE PERSPECTIVES

VENUE: IBA AUDITORIUM DATE: 25TH MAY 1997, TIME: 11:00 A.M. ORGANISED BY: DEPARTMENT OF POLITICAL SCIENCE UNIVERSITY OF DHAKA



Political Science Department of the Dhaka University held a seminar on 'Governance and Development: Singapore Perspectives' at the auditorium of the Institute of Business Administration of the university yesterday. From (L to R) Prof Ataur Rahman, Prof Sayefullah Bhuiyan, Chairman of the Department of Political Science, Dr Mizanur Rahman Shelley, Chairman, Centre for Development Research, Bangladesh and Prof Talukdar Moniruzzaman. — Star photo

Anwar Hossain visits cyclone-hit areas

CHITTAGONG, May 25: Communications Minister Anwar Hossain today visited different cyclone-damaged roads and railway stations of Pahartali, Anshara, Chandhnish and Banskhalhi of Chittagong, reports BSS.

The minister talked to the people of the affected areas and urged them to face the present calamity with due patience and courage. He said the government would help them in all possible way.

High officials of Roads and Highways Department and Bangladesh Railway were also present.

Matia visits all the cyclone-hit areas of Banskhalhi

BANSHKHALI, Chittagong, May 25: Agriculture and Food Minister Begum Matia Chowdhury today visited all the cyclone affected areas of Banskhalhi thana of the district, reports UNB.

The minister visited every affected families for conducting relief operations. She also directed the officials concerned for rehabilitation and construction of the houses damaged fully or partly in the last week's cyclone.

Armed forces continue relief operations

Post-cyclone relief and rehabilitation operations of the Bangladesh armed forces in close co-ordination with the local administration and other concerned agencies at the cyclone-hit coastal areas and offshore islands are continuing. Meanwhile, Bangladesh Navy ships are continuing to ferry relief and construction materials to different islands.

A Bangladesh Navy ship — BNT Khadem — left Chittagong yesterday morning with a huge quantity of GI sheets for the St. Martin's.