

INDUS WATERS TREATY UNDER STRESS: IMPERATIVES OF CLIMATIC CHANGE OR POLITICAL MANIPULATION

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Abstract

At the time of independence, the boundary line between the two newly created independent countries, i.e. Pakistan and India was drawn right across the Indus Basin, leaving Pakistan as the lower riparian. Dispute thus arose between the two countries regarding the utilization of irrigation waters from existing facilities. The negotiations held under the World Bank, culminated in the signing of Indus Waters Treaty in 1960. In view of the intent and the spirit of the treaty, Pakistan expects that Indian projects on the western rivers would fall strictly in accordance with the provisions of the Indus Waters Treaty so that the water rights as envisaged through the treaty would appropriately be honoured. Though it is true that climatic factors are becoming important to adjudge their effects on flows in river systems, but it is also pertinent to mention that while such factors are being evaluated, Pakistan should make every effort for optimal development of its water resource available through the western rivers. This is probably the only solution available to Pakistan not only to cope with the risk of water scarcity, but also for the wider water resource management, both in view of the climate change, as well as the likely political manipulation of Indus Waters Treaty by India.

Introduction

The Indus System of rivers in the Indus Basin comprises of river Indus and its five main tributaries i.e. Jhelum, Chenab, Ravi, Beas and Sutlej. They all combine into one river near Mithan Kot in Pakistan, which outfalls into Arabian Sea at the south of Karachi. The boundary of the Indus Basin is clearly

defined in the west, the north and the northeast by mountain ridges (watersheds).¹

The total area of the Indus Basin is roughly 350,000 square miles. Most of it lies in Pakistan and the rest in Occupied Jammu and Kashmir, India, China and Afghanistan. The climate in the plains downstream of the rim stations ranges from semi arid to arid. Annual rainfall ranges from about 2 inches to about 30 inches. The total annual average discharge of these rivers at the rim stations is about 170 MAF (Million Acre Feet).

On 14 August 1947, when South Asia was divided into two independent countries, there existed one of the most highly developed irrigation system in the world and approximately 37 million acres of area use to receive irrigation supplies from the flow of waters of the Indus System of rivers.² All of the available water supplies were allocated to the various princely states and provinces in conformity with the principle of equitable apportionment of the waters with preferential right to existing users. At the time of independence, major portion of the Indus Basin formed a part of Pakistan and out of 37 million acres; 31 million acres were in Pakistan. The boundary line between the two countries was drawn without any respect to the irrigation works. It was, however, affirmed by the boundary commission and expressly agreed by the representatives of the affected zones before the arbitral tribunal that the authorized shares of the two zones in the common water supply would be continued to be honoured.

The Background

➤ The First Indian Aggression

- The water dispute between Pakistan and India came up soon after the ceasure of the arbitral tribunal on 31 March 1948. On 1 April 1948, India taking advantage of its being an upper riparian at every river, stopped the waters in all irrigation canals (irrigating about 1.6 million acres in Pakistan), which cross the India-Pakistan border and

demanded that Pakistan should recognize that the proprietary rights on the waters of the rivers in Punjab (India) wholly vest in that government and the Punjab in Pakistan could not claim any share of these waters as a right.

- The claim forwarded by Pakistan, however, was based upon the time honoured formula that existing uses are sacrosanct and the excess water, not previously committed, could be divided amongst the riparians according to the area, population, etc. This principle had the support of several treaties between the nations or states, or even the provinces in the same country.
- The Indians put forward a principle under which the upper riparian has an absolute right to the water and the lower riparian can only get it under an agreement or treaty entered into between the riparians.

➤ **Road to the Treaty**

- India agreed to restore some of the supplies to Pakistan in May 1948, when a very pro-Indian temporary agreement was signed. It was, however, generally realized that Pakistan could not live without a restoration of the full supplies and, on this question, there could be no compromise. Even internationally there was awareness that there could be a war on the issue.
- Direct negotiations between the parties failed to resolve the dispute. Negotiations under the World Bank commenced in May 1952. It was agreed that specific engineering measures be worked out by which the supplies effectively available to each country will be increased substantially beyond what they have ever been.

- The working party set up under the Bank, however, failed to agree on a comprehensive plan for the utilization of the waters of the Indus River System. The World Bank in its proposal of 5 February 1954, listed three basic difficulties (given hereafter), which prevented the working party from reaching the heart of the problem, i.e. a fair diversion of the waters between the two countries.

➤ **Difficulties in Resolution:** The three basic difficulties noted by the Bank in resolution of the dispute were the following:³

- The first difficulty lies in the fact that the water supplies and storage potentialities are inadequate to the needs of the basin;
- The second difficulty is that although the working party is planning on the basis of the development of the Indus Basin as an economic unit, two sovereign states are involved, which greatly limits the practical aspects of planning. The countries would be reluctant to have works regulating the water supplies on which they depend constructed in territory controlled by the other country. The prospects of establishing an efficient and smooth-running joint administration would not be favourable too.
- The third difficulty, and the most serious of all, arose in the course of discussions. The plans put forward by the two sides differ fundamentally in concept. An essential part of Pakistan's concept was that existing uses of water must be continued from existing sources and the corresponding concept of the Indian plan, on the other hand, is that although existing uses (defined to include only actual historic withdrawals) must be continued, they need not necessarily be continued from existing sources.

Indus Waters Treaty - 1960

The bank engineers worked out their initial proposals on averages ignoring the special needs of the season for sowing and maturing of the crops when the demands of water is maximum and the flows are minimum. It took Pakistan two years to convince the bank that Pakistan's contentions were correct that the division of the waters as put forward by the bank would not accomplish the result visualized in the actual proposal. After protracted negotiations under the World Bank, when the bank was convinced that the existing uses in Pakistan could not be met by transferring the waters from the western rivers, and that storages on the western rivers would be required for the purpose, the Indus Waters Treaty was signed in 1960. ⁴

The treaty consists of 12 Articles and 8 Annexures.⁵ It is based on the division of the rivers between the two countries. The waters of the Sutlej, Beas and Ravi rivers, named in the treaty as "eastern rivers", are for the unrestricted use for India; and the waters of Indus, Jhelum and Chenab rivers, named in the treaty as "western rivers", are for the exclusive use of Pakistan; except for certain specified uses allowed to India in upper catchments.

Replacement Works

Under the treaty,⁶ Pakistan was required to construct and bring into operation a system of works on the western rivers, in order to accomplish the replacement of water supplies for irrigation canals in Pakistan, which at the time of partition were dependent on water supplies from the eastern rivers. The replacement works comprised of two storage dams (one on Indus river and one on Jhelum river), six new barrages (diversion dams), remodelling of two existing barrages, seven new inter-rivers link canals and remodelling of two existing link canals. This only became possible through the generous assistance (grants and loans) by the friendly countries like USA, Canada, UK, Netherlands, Germany, France, Italy, Australia, Newzeland, etc. The fund was called the Indus Basin Development Fund and was set up and administered by

the World Bank with the assistance of Indus Basin Development Board, constituted by the Government of Pakistan. India made a fixed contribution £ 62.060 million towards this Fund, which was payable in ten years in equal instalments. Thus India got 24.00 MAF of perpetual flow of the rivers for this amount. The estimated cost of replacement works (1964 estimates) was US \$ 1208.50 million. There was a transition period of 10 years during which Pakistan was to receive waters from the “eastern rivers” for use in the aforementioned canals.

Such a division of rivers was a distinct departure from the concept of international law of upper and lower riparian rights (protection of existing uses from the same source). In this way Pakistan had to forgo the entire perpetual flow of fresh waters of the three eastern rivers (24.00 MAF), which it used to historically receive for irrigation.

Institutional Arrangements

Under the provisions of Article VIII (1) of the Indus Waters Treaty 1960,⁷ both India and Pakistan appointed Commissioners for Indus Waters. Each commissioner, unless either government decides to take up any particular question directly with the other government, is the representative of his government for all the matters arising-out of the treaty and serves as the regular channel of communication on all the matters related to the implementation of the treaty. The two commissioners together form the Permanent Indus Commission. The functions of the Commission are:

- To establish and maintain co-operative arrangements for the implementation of the treaty;
- To promote co-operation between the parties in the development of the waters of the rivers;
- To make every effort to settle promptly any question arising between the Parties; and

- To undertake tours of inspection of the rivers to ascertain facts.

Under the treaty, restrictions have been placed on the design and the operation of hydroelectric plants, storage works and other river works to be constructed by India on the western rivers. India is required to supply to Pakistan certain specified information related to these works at least 6 months in advance of undertaking the river works so as to enable Pakistan to satisfy itself that the design conforms to criteria set out in the treaty. Within a specified period, ranging from two to three months, Pakistan has the right to communicate to India, in writing, its objections, that it may have regarding the proposed design, on the ground that it does not conform to certain criteria specified in the treaty. Under the treaty, restrictions have also been placed for the irrigated cropped area to be raised by India in the basins of western rivers. The treaty also provides for a regular exchange of the daily hydrological data and other data under Articles VI and VII (2) of the treaty.

The treaty provides for a self-generating procedure for the settlement of differences and disputes. Any question, which arises between the Parties concerning the interpretation of application of the treaty or the existence of any fact, which, if established, might constitute a breach of the treaty, is to be first examined by the Commission, which endeavours to resolve the question by agreement.

The Current Stress on the Indus Waters Treaty – Major Ongoing Issues with India

➤ Wullar Barrage and Storage Project

- Under the treaty, India is not allowed to construct any storage on the main stem of river Jhelum. However, 0.75 MAF storage is allowed on the tributaries of river Jhelum.
- The site of the Wullar Barrage is located on Jhelum Main about 40 Km upstream of line of control in

District Baramulla of Occupied Jammu and Kashmir. India started construction of this barrage in 1985 to convert the natural Wullar Lake into a man-made storage work with a capacity of 0.3 Million Acre Feet (MAF) at the outfall of the Wullar Lake. Pakistan lodged a strong protest with India and the work was ultimately got suspended in 1987. Since then, the dispute is under resolution with India at the level of the two Governments, as the Commission was unable to resolve the matter. India has dubbed their project as Navigational Use allowed to India under the treaty. Pakistan has declared the project as treaty violative & non-feasible and has asked for its abandoning. The project if allowed to India will provide them capability to control the flow of river Jhelum.

- So far, 14 rounds of Secretary Level Talks including 5 rounds of Pakistan-India Composite Dialogue have been held. The work is suspended at site. Regular vigilance is being kept through all possible means.

➤ **Baglihar Hydroelectric Plant**

- Baglihar Hydroelectric Plant is located on river Chenab in Occupied Jammu and Kashmir about 147 Km upstream of Marala Headworks in Pakistan. 'Difference' on the design of the Plant between the Parties was resolved by the Neutral Expert in February 2007. The Neutral Expert reduced the height of the dam by 1.5 meter, reduced the storage by 5 Million Cubic Meter (MCM) and raised the level of power intake by 3 meters. However, the number and level of gates for the spillway, and undersluices as proposed by India were retained by the Neutral Expert⁸.
- The changes determined by the Neutral Expert were carried out by India before the completion of the Plant and were inspected at site by Pakistan Indus

Commissioner on 30th July 2008. India formally commissioned the Plant on 10th October 2008, however, the testing of turbines was started on 5 September 2008 as reported in the print media.

- For commissioning of the Plant, India filled the dam for its dead storage in August 2008 and did not abide by the specific provisions of the treaty as to maintain the flow of 55,000 cusecs at Marala Headworks in Pakistan. As per our estimate, there was a reduction of above 200,000 Acre Feet of water during this period.
- In spite of repeated requests by our Indus Commissioner, India did not provide details of schedule for initial filling of Baglihar Plant. The protest on reduction of flow was accordingly lodged with India at the level of the Permanent Indus Commission and the Foreign Office. Pakistan's concern was also raised by the President of Pakistan with the Prime Minister of India at New York. Similarly, the Prime Minister of Pakistan also apprised the Prime Minister of India on the matter in China and the issue also came under discussion between the Security Advisers of the two countries on 13 October 2008.
- On the intervention by Pakistan at the highest level, a site inspection and a meeting of the Permanent Indus Commission was arranged by India from 18-25 October 2008. After the inspection of the site, Pakistan Indus Commissioner in the meeting of the Commission asked for compensation of lost water which was reduced due to violation of the treaty provisions by India. Similarly, hourly data for the operation of initial filling was asked in order to jointly agree the reduction of flow. India, however, did not cooperate to supply the hourly data and refused compensation of flow to Pakistan. Indian Indus Commissioner was of the view that the

reduction of flow was due to structural constraints inherited in the dam besides the unsupportive weather conditions. The Pakistan Commissioner, however, maintained his stance in line with the above noted facts. The issue was lastly debated for resolution at the level of the Commission in the year 2010.

➤ **Nimoo-Bazgo Hydroelectric Plant**

- Nimoo Bazgo Hydroelectric Plant (45 MW) is located on main stem of river Indus. This Plant is also Run-of-river Plant, however, it contains a storage component of about 42,500 acre feet (52.40 MCM).
- Pakistan's Question with regard to free board/parapet wall was addressed by ICIW during the 105th meeting dated 29th May 2010 to 2nd June 2010 by making openings (4x4") in the solid parapet wall at the dam crest level. With reference to the pondage and orifice spillway, however, India was unable to support its design as it lacked data and information. PCIW therefore, recorded his intention to proceed further for the next step as provided in the treaty for resolution of the issue. ICIW however, stated that he would address Pakistan's concern with regard to pondage as well as the spillway gates and in this regard Indian Commissioner wanted consultation with the high ups and asked for a time of one week to inform Pakistan. PCIW agreed to India's request and started that he will give Pakistan reaction after having received information from India. However Indian Commissioner did not agree to make changes in the design of the Plant. The next step to resolve the issue under the treaty may be initiated.

➤ **Kishenganga Hydroelectric Plant**

- The proposed Kishenganga Hydroelectric Project is located in occupied Jammu and Kashmir on river Neelum. The design envisages the construction of 180.05 meter long and 35.48 meter high concrete dam. The full Pondage capacity is 18.35 MCM (0.0169 MAF) with dead storage of 10.80 MCM (0.00876 MAF) and an operating pool of 7.55 MCM (0.0061 MAF). The water of river Kishenganga is to be diverted through a 24 KM long tunnel to produce 330 MW Power. The water after production of power will join the Wullar Lake. The scheme, if implemented by India, will result shortfall of about 21% Neelum inflow for Pakistan's Neelum-Jhelum Hydroelectric Project, thus reducing energy potential by 16%.
- This project was earlier a Storage-cum-Hydroelectric Project (under Annexure E of the treaty) with a dam height of 75.48 m and a reservoir of 0.18 MAF. The diversion tunnel and power producing capacity were same. Pakistan raised objections on the diversion of flow and design of the project by India. The Commission failed to resolve the issue; however, India reconfigured their Project from Annexure E to Annexure D to the treaty i.e. from Storage Work to Run-of-river Plant in April 2006.
- The detailed information about Run-of-river project was received from India on 25 June 2006, Pakistan's objections under the provisions of Indus Waters Treaty, 1960 were sent to India on 24th August 2006. Pakistan's `objections/questions on the proposed Run-of-river Kishenganga Hydroelectric Plant were discussed during three meetings of the Commission held from 30 May to 4 June 2007, 31 May to 4 June 2008 and 24 to 28 July 2008 without reaching the resolution by

agreement. Pakistan Commissioner, therefore, processed the case to resolve the differences regarding design of the Kishenganga Hydroelectric Project through Neutral Expert and for the dispute of “Diversion of Waters” and “Draw Down below DSL” by a Court of Arbitration as provided in the Indus Waters Treaty 1960.

- Government of Pakistan requested Government of India on 10 July 2009 to jointly appoint Neutral Expert for resolving the “difference” and for “negotiations” to resolve the “disputes” by agreement as provided in Article IX of the treaty. Pakistan has instituted the proceedings for establishment of a Court of Arbitration on 17 May 2010. The first meeting of the Court was held in January 2011.
- The construction of our Neelum Jhelum Hydroelectric Project, considered to be a counter project of Indian proposed project, is located in Azad Jammu and Kashmir. The project with a gross head of 420 meter is to produce 969 MW power through two 15 KM and one 17 KM long tunnels. President of Pakistan formally inaugurated the project on 9 February 2008. WAPDA has awarded the contract for construction of Neelum Jhelum Hydroelectric Project to M/s. CGGS-CMEC, a Chinese consortium. Completion of the project at the earliest possibility is quite important for Pakistan in view of its stance against India viz-a-viz Kishenganga Hydroelectric Project.

Conclusion

The crux of the Indus Waters Treaty 1960, is the division of rivers of Indus System between Pakistan and India. Waters of western rivers (Indus, Jhelum and Chenab) were allocated to Pakistan with certain restricted uses allowed to India in Occupied Jammu and Kashmir, whereas the water of eastern

rivers (Ravi, Beas and Sutlej) available for unrestricted uses by India.

In view of the intent and the spirit of the treaty, Pakistan expects that regarding the projects and usage from the western rivers, the Indian design of the works would fall strictly in accordance with the provisions of the Indus Waters Treaty 1960 so that the water rights as envisaged through the treaty would appropriately be honoured.

Though it is true that climatic factors are becoming important to be considered as assessed so as to adjudge their effects on flows in our river systems, but it also would be worthwhile to mention that while such factors are being evaluated, Pakistan should make every effort for optimal development of its water resource available through the western rivers. This is probably the only solution available to Pakistan not only to cope with the risk of water scarcity, but also for the wider water resource management, both in view of the climate change, as well as the likely political manipulation of Indus Waters Treaty 1960 by India.

Author

Syed Jamait Ali Shah, until recently Pakistan's Commissioner for Indus Waters, is a leading technocrat and exponent of Pakistan's position on various key aspects of the treaty implementation process. He was the mainstay of Pakistan's negotiating process for settlement of differences and disputes in accordance with the treaty and also for case processing with the World Bank and the Neutral Expert on controversy over Baglihar Plan. He has also advised Government on the trends of optimal utilization of water resources, hydroelectric developments, flood control and adoption of international laws on utilization of water of common rivers and its impact on the existing Treaties, including preparation of guidelines for a draft agreement between Pakistan and Afghanistan and prepared guidelines for National Technological Policy for research and development in the area of housing, water resources management and infrastructural development.

Notes

¹ Usman-e-Ghani, “Transboundary Waters – Perspective of Indus Waters Treaty - 1960”, Pakistan Engineering Congress, World Water Day 2009.

² David E. Lilienthal, *The Collier’s Magazine*, New York, August 4, 1951.

³ Bashir A. Malik, “Indus Waters Treaty in Retrospect”, Lahore, 2005.

⁴ Mohammad Ayub Khan, “Friends not Masters”, OUP, Lahore, 1997

⁵ Indus Waters Treaty 1960, Printing Corporation of Pakistan, Lahore

⁶ Gulhati, N.D “Indus Waters Treaty”, New Delhi, 1973

⁷ Indus Waters Treaty 1960, Printing Corporation of Pakistan, Lahore

⁸ Press Release – Baglihar Hydroelectric Plant, February 12, 2007.