



Vivekananda International Foundation

Indus Water Treaty: An Appraisal

Maj Gen AK Chaturvedi, AVSM, VSM



Source: <http://www.nationalistonline.com>

VIF Paper - December 2018

About the Author



Maj Gen Ajay Kumar Chaturvedi (Retired) has been a Sapper officer, who post his retirement has been working on issues related to non-traditional threats to National Security and Disaster management. He has written extensively on water and energy security issues. His book, 'Water a Source of Future Conflicts' is considered a good source of comprehensive information on water related issues. Amongst his other works some are: 'Role of Pakistan in India's Energy Security Matrix', 'Nuclear Energy in India's Energy security Matrix - An Appraisal', and 'Disaster Mitigation and Management Strategies'.

Indus Water Treaty: An Appraisal

Voices on Indus Water Treaty at Different Points in Time

“No Armies with bombs and shellfire could devastate a land so thoroughly as Pakistan could be devastated by simple expedient of India’s permanently shutting off the source of water that keeps the fields and people of Pakistan green.” — David Lilienthal, former Chairman of the Tennessee Valley Authority and of the U.S. Atomic Energy Commission.

“Blood and Water can not flow together.”, — Narendra Modi, Prime Minister of India, 26 Sep 2016.

“The 1960 Indus water Treaty between India and Pakistan has survived disputes between the two countries, providing a framework for resolving disagreements over water use”. -- Amina Mohammed, UN Deputy Secretary General, 27 Aug 2018.

Abstract

Water from River Indus and its tributaries in the Indus River basin is the life-line of people living there. However, there is a wide variation in the availability of water between various rivers of the basin and that is why from late nineteenth century efforts were made to create an irrigation infrastructure in the forms of link canals and head works to transfer water from surplus to deficient regions and rivers through an integrated canal system. However, this was essentially limited to Eastern Rivers, namely Ravi, Sutlej and Beas, and benefitted those areas which were along these Rivers and Canals. Gradually a fertile strip emerged along these canals.

At the time of Partition water sharing between India and Pakistan could not be arrived at because of a peculiar situation wherein two of the major Head works, namely Ferozpur and Madhopur Head Works, were in India and canal system was in Pakistan. After sustained negotiations, finally water sharing in terms of river sharing could be achieved when the Indus Water Treaty (IWT) between India and Pakistan, brokered by the World Bank could be signed in 1960. Although both the countries felt that they were short charged in the distribution of water bearing assets, but Treaty has survived wars and hostilities between the two countries over 58 years. In the aftermath of Uri Terror Incident, Government of India has decided to review the treaty.

Thus there is a need to appraise the opportunities and threats which such a review will bring in its wake.

I - Introduction

Above Statement by David Lilienthal brings out the reality of agrarian societies. In fact in the absence of adequate availability of water even industries are also likely to suffer badly. That is why it is important that water resources which are finite in nature are preserved, shared and optimally used particularly in case of those water channels which have more than one riparian States along its course.

4000 years old Indus Valley Civilisation has its roots in agriculture based on a river drainage system which is unitary in nature and manmade boundaries make it quite difficult to work out a fair and just sharing formula. The geography of the Indus River Drainage System is highly unified spread over an area of 1.2 million square km¹. North Western part of Indian Sub-Continent always had adequate water but geography of the area is such that these resources are monolithic in nature and can be optimally utilised only when used in an integrated manner. While overall there was no shortage but there were pockets which had less availability of water and simultaneously there were areas which were well endowed with water. After integration of Punjab into British India, Punjab had a taste of first controlled round the year irrigation in 1859 when Upper Bari Doab² Canal (UBDC) emanating from Madhopur got completed³. Over the next 70-80 years a comprehensive Canal network came up to provide year round irrigation facilities in unified Punjab. However, post-partition, more intricate problem as compared to political division of Punjab came up, in the form of distribution of water resources, which so far were unified from time immemorial, and now were required to be divided between the two legate states.

19 Sep 1960 is an important date in Indo-Pak Relations, as on this day India and Pakistan signed the historic Indus Water Treaty (IWT) at Karachi. The relevance and importance the two country attached to this treaty, is quite evident from the fact that the then Indian Prime Minister Late Pandit Jawaharlal Nehru and the then President of Pakistan Late Field Marshal Mohammed Ayub Khan, HPk, NPK, HJ, MBE, signed the treaty personally, which was brokered by the World Bank (the then the International Bank of Reconstruction and Development). The aim of the Treaty was to create a frame work for sharing the control of the waters of River Indus and its eastern tributaries namely, Jhelum, Chenab, Ravi, Sutlej and Beas between India and Pakistan.

II - Historical Background

Indus River rises in the high mountains of Tibet (South Western China), traverses through Tibet, India, Pakistan including Pakistan Occupied Kashmir (PoK) and empties into Arabian Sea, South of Karachi after traversing a distance of 3180 Km⁴. It is joined by Dhar River near Indo-China border. After entering Jammu & Kashmir (J&K) it flows between the Ladakh and the Zaskar Ranges. It flows through the regions of Ladakh, Gilgit-Baltistan. Average elevation at which the Indus flows through the J&K is about 4000 m above sea level. It is joined by the Zaskar River at Leh, near Skardu in PoK it is joined by the Shyok River. The Gilgit, Gartang, Dras, Shiger, Hunza rivers are the other Himalayan tributaries of the Indus from West.

Kabul River from Afghanistan joins Indus near Attock from West. Thereafter it flows

1. Col Harjeet Singh, "Water availability in Pakistan", Indian Defence Review, issue Vol 25, 04 Oct-Dec 2010/23 Sep 2016.

2. Doab refers to area between two rivers. Upper Bari Doab Canal is between Ravi and Beas Rivers.

3. Ibid 1.

4. Indus River up loaded on Wikipedia.

through the Potwar Plateau. Some of the important tributaries which join River Indus below Attock include the Kurram, Tochi and the Zhob-Gomal. Just above Mithankot, the Indus is joined by Panned (Panchnad) from East, which is formed due to the accumulated waters of the five eastern tributaries - the Jhelum, Chenab, Ravi, Beas and the Sutlej. The river empties into the Arabian Sea South of Karachi after forming a huge delta.



Figure-1: Indus river Basin

(Source: <http://www.en.wikipedia.org>)

Total area of Indus River Basin (IRB) is 1,165,000 Km²⁵ and of this area, 60 % lies in Pakistan and Pakistan Occupied Kashmir (PoK), 22 % lies in India, 10 % in China and 7 % in Afghanistan⁶. Most of the rivers are glacier fed and rain fed. The waters of the tributaries of the River Indus in the Indus IRB begin in Tibet, Afghanistan, the Himalayas, and the states of Jammu and Kashmir and Himachal Pradesh. Annual Rainfall in IRB ranges from less than 100 mm in parts of lower Indus Region above the Arabian Sea to more than 750 mm in the Northern Foothills below the Himalayan Mountains. The geography of the area of the IRB is such that initially there was only a narrow strip of irrigated land along these rivers.

5. Ibid 1.

6. Internet upload at <http://www.simple.wikipedia.org>

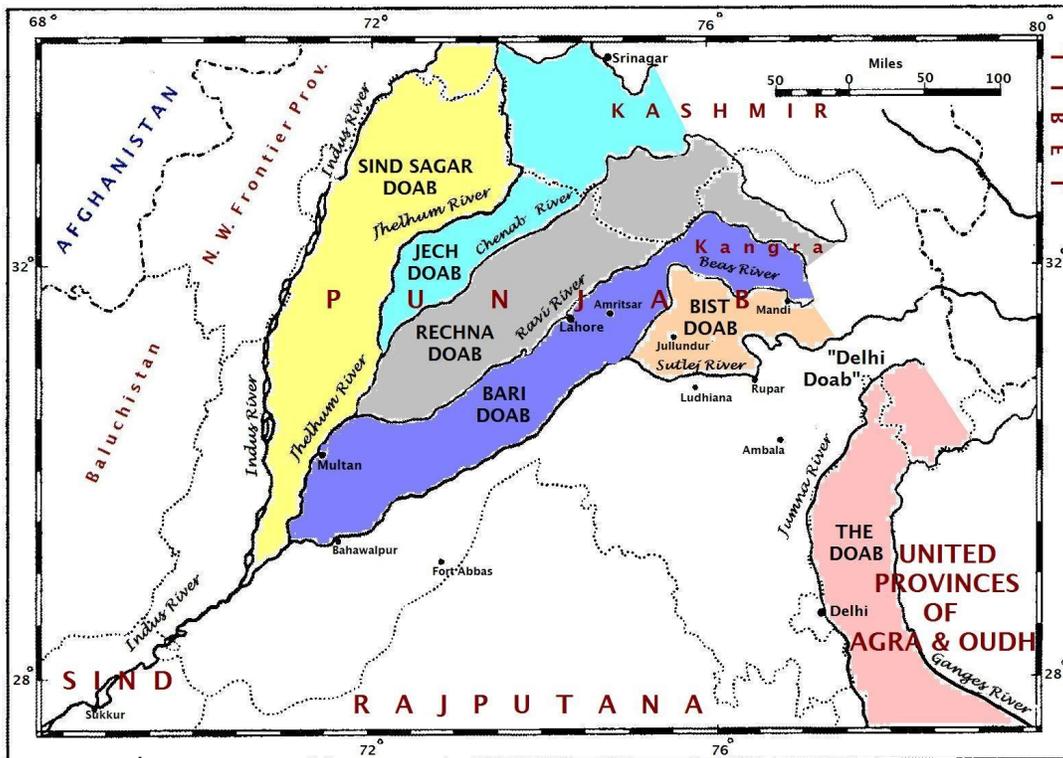


Figure-2: Doabs in IRB in 1947
(Source: <http://www.en.wikipedia.org>)

Towards the last quarter of 19th Century, it became apparent that the water resources of the individual rivers were not in proportion to the potential irrigable land. The supply from the Ravi River, serving a large area of Bari Doab, was insufficient, while Jhelum and Chenab had a surplus supply of water. The first major canal, the UBDC came up in 1859⁷. An innovative solution, the Triple Canal Project, was constructed during 1907-1915. The project linked the Jhelum, Chenab and Ravi rivers, allowing a transfer of surplus Jhelum and Chenab water into the Ravi River. The Triple Canal Project was a landmark in integrated inter-basin water resources management. All these efforts of the developments over the last century have created a large network of canals, 34000 miles of major canals through 13 additional canals and storage facilities that provide water for more than 26 million acres (110,000 km²), the largest irrigated area of any one river system in the world⁸. More than 50 million people are dependent on these waters.

Evolution of Conflict

The conflict between the stake holders commenced as early as 1874. Initially it was between British India and the Princely States, wherein solutions were such that the Princely States had no choice but to accept them. Later in 1942, it was between various states of the British India. Solutions generally were in the form of executive orders. Due to lack of storage facilities, competition for the run-of-river flow increased and led to a dispute between Sind and Punjab in

7. Internet upload: shodhganga.infibet.ac.in/bitstreams/10603/14384/chapter_4.pdf

8. Internet upload: www.fao.org/nr/water/aquastat/basins/indus/index.stm

the 1930s. In 1942 a judicial commission was setup by the British Government to study Sind's concerns over the Punjab's plans to exploit the water resources of the IRB. Commission's report was not found acceptable by either of the states, despite sustained efforts through 1943-45. The issue was finally referred to the Imperial Government at London for a decision in 1947.

However, before the decision could come, the British Parliament passed the Indian Independence Act on 18 July, 1947 and a Boundary Commission under Sir Cyril Radcliffe was formed to decide the boundary between the two resultant sovereign dominions. When it came up to decide the boundary in the State of Punjab, the Boundary Commission realised that the issue was problematic due to the existence of the integrated canal system and the high dependency of agriculture upon canal water⁹. Thus, the nature of the integrated canal system exacerbated the difficulties in deciding the new boundary and there was a need to arrive at an arrangement which could provide a mechanism for the equitable sharing of the water from various rivers and canals located in the IRB.

In this situation, Radcliffe contacted the leaders who were likely to lead their respective countries, namely, Pandit Jawaharlal Nehru and Mr Muhammad Ali Jinnah, and suggested to them that the Punjab irrigation system should be accepted as a joint venture particularly Head Works of the Madhopur and the Ferozepur, run by an independent agency formed jointly by both the countries. However, both Muhammad Ali Jinnah as well as Jawaharlal Nehru did not appreciate the criticality of the decision. Jinnah told him to get on with his job and stated that he would rather have a Pakistan full of desert rather than with fertile fields, watered by the courtesy of Hindus of India. Jawaharlal Nehru on the other hand curtly informed him that what India did with India's rivers, was India's internal affair.

When no decision could be taken with respect to the division of the water available within the IRB, the matter was referred to a committee, called Committee B, formed by the Government of India. Both the governments were required to place their respective problems regarding the distribution of water before the Committee B. The report of the Committee B came up before the Punjab Partition Committee, chaired by the Governor of Punjab and consisting of equal representation of East Punjab and West Punjab. The Partition Committee accepted the points on which Committee B was in agreement, "that the pre-partition shares of West Punjab and East Punjab in the canal waters would be maintained." But Partition Committee, like Committee B, was unable to agree on the valuation of the canal system. As such, finally, the Punjab Partition Committee decided to refer the case to the Arbitration Tribunal¹⁰. This Tribunal was headed by the then Chief Justice of India, Sir Patrick Spence and its tenure was up to 31st March 1948. As per terms of reference of this tribunal, disputes and difficulties between the two countries over the division of assets or liabilities formed by the partition could be placed before the Tribunal until December 1947¹¹.

In regard to the equitable water sharing, there were two different views from two disputing states. N.D Gulhati, the then Chief engineer of East Punjab summed up the issue and by 30 November 1947, five issues were placed before the Arbitration Tribunal. All these issues related to financial adjustments and referred to the following:-

9. Gulhati, *Indus Water Treaty: An Exercise in International Mediation*, 57.

10. Muhammad Ali Choudhury, *The Emergence of 'Pakistan* (Lahore: Research Society of Pakistan, 1989).

11. Palijo, *Sindh-Punjab Water Dispute 1859-200*, 22.

- a. Irrigation system,
- b. Crown waste lands,
- c. Irrigated forest plantations,
- d. Seigniorage charges for canal use in transporting water around the IRB,
- e. The general ratio for calculating the financial adjustment needed.

With the Chairman's permission, on 22 December 1947 West Punjab (Pakistan) submitted its claim for the Mandi hydro-electric plant¹². Chaudhary Muhammad Ali, who was heading the Pakistan side stated that the most vital national interest, water was not put forward in the Arbitration Tribunal, because of the agreement reached by Committee B and the Punjab Partition Committee where the view was that the pre-partition shares of water would be maintained¹³. The Dispute arose between East Punjab and West Punjab over the continuation of water supply from the Ferozpur head-works (in East Punjab) to the UBDC (West Punjab), when the East Punjab (India), as an upstream user of the three eastern rivers, claimed that the property rights in the waters of East Punjab's rivers were vested with India and that West Punjab (Pakistan) could not make a claim on those waters as its right (under the Punjab partition-appointed Assets and liabilities Order, 1947, and the Arbitral Award of Property rights).

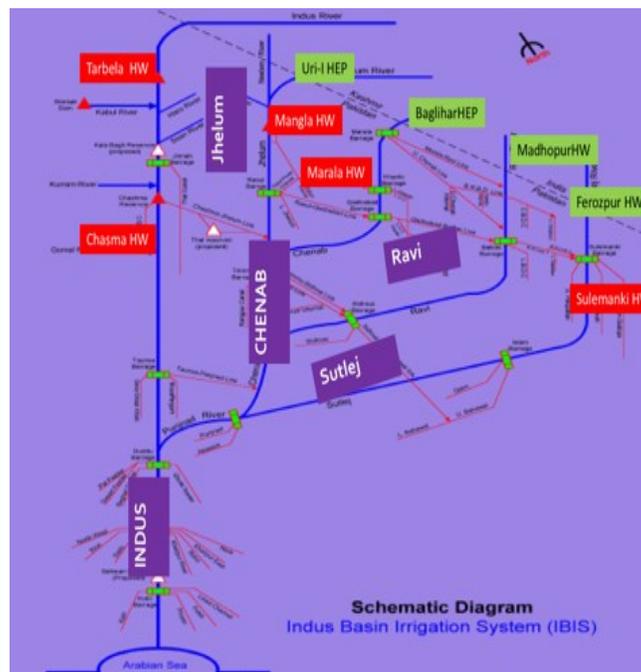


Figure-3: Canal layout in Indus River Basin

(Source: Victor Miguel Ponce, "Link Canals in Indus Basin Irrigation System, Uploaded on <http://www.ponce.sdsu.edu>)

12. Gulhati, Indus Water Treaty: An Exercise in International Mediation, page-49.

13. Muhammad Ali Choudhury, The Emergence of 'Pakistan' (Lahore: Research Society of Pakistan, 1989), 318.

In contrast, the West Punjab's standpoint was that the Arbitral Award protected its rights and also as per the International Law and justice, the West Punjab had rights to the waters of the Eastern Rivers¹⁴. The real problem behind this spiraling dispute was that out of 26 million acres of land irrigated annually by the IRB canal system, 21 million acres of land and ten canals remained in Pakistan and 5 million acres of land and only two canals were left in India¹⁵. Most of the developed canal system and the famous canal colonies, the granary of the Punjab, were left in West Punjab (Pakistan)¹⁶. India, as the middle/ upper riparian, wanted to develop new irrigation facilities for those areas in India which were not under irrigation, while Pakistan's claim was based on its argument that the objective of the canal system, when it was developed, was to provide water to those areas in the Pre- Partition days which were now located in Pakistan, and therefore supply from the Eastern Rivers should be maintained hither to fore in the existing Canal Network.

According to Michel¹⁷, Water sharing dispute became critical between East and West Punjab when monsoon flows receded in the autumn of 1947 with a likely impact on the standing Rabi Crop. To resolve it, the chief engineers of the East and the West Punjab met and signed a 'Standstill Agreement' on 18 December 1947, which froze water allocations at the existing level, allowing discharges from head-works on the UBDC, the Dipalpure Canal and the Bahawalpur Canal systems¹⁸. This Standstill Agreement was to continue till 31 March 1948, and it was clearly stated that any kind of agreement for sharing water, post the period stipulated would have to be negotiated. Both the parties agreed to the Standstill Agreement with the hope that a permanent solution to the problem would be found within the stipulated period of aforesaid agreement.

However, either deliberately or circumstantially, West Punjab (Pakistan) did not take any initiative till 31 March 1948 to resolve the issue, the date of expiry of the agreement¹⁹. A situation for a full-blown water conflict between the two countries developed on 01 April 1948, when East Punjab discontinued the delivery of water from the Ferozepur Head-Works to the Dipalpure Canal and two main branches of the UBDC within its territory. Pakistan had not anticipated an action of this kind, as such there was a clamour in Pakistan for going to war on this issue. As a consequence of the development, post 31 Mar 1948, in the absence of any formal water agreement with West Punjab (Pakistan), the East Punjab (India) acquired legal rights on the use of water of the Eastern Rivers²⁰. The shutting off of the canal's water in West Punjab (Pakistan) resulted in strained political relations between the two countries.

To resolve this dispute, the East Punjab (India) invited the Chief Engineer of the West Punjab (Pakistan) to meet his East Punjab counterpart at the Province's new headquarters at Shimla on 15 April 1948, to re-negotiate resumption of the water supply. After due deliberations, an interim Standstill Agreement was signed on 18 April 1948²¹. Discussions and deliberations continued and finally an 'Inter-Dominion Agreement', popularly referred as the 'Delhi Accord', was signed by India and Pakistan on 04 May 1948. On behalf of India, Pandit Jawahar Lal Nehru,

14. Tabassum, River Water Sharing Problem between India and Pakistan: Case Study of Indus Water Treaty, 10.

15. Ibid 4.

16. J.S. Mehta, "The Indus Water Treaty: A Case Study in Resolution of an International River Basin Conflict," Natural Resources Forum Vol. 12 (1988): 70-74.

17. Michel, The Indus Rivers: A Study of the Effects of Partition.

18. Michel, The Indus Rivers: A Study of the Effects of Partition, 195.

19. Asit K. Biswas, "Indus Water Treaty: The Negotiation Process," Journal of Water International, (1992): 203.

20. Gulhati, Indus Water Treaty: An Exercise in International Mediation, page-63.

21. Gulhati, Indus Water Treaty: An Exercise in International Mediation, page-49.

Sardar Swaran Singh and Sri NV Gadgil signed the Accord and for Pakistan the signatories were Jenab Ghulam Mohammad, Jenab Shaukat Hayat Khan and Mia Mumtaz Daultana²².

As per this Accord India was required to resume water supply through the canals originating at Madhopur and Ferozepur and Pakistan was required to pay for the cost of the water. As per the provisions of the Accord, the Water Supply would continue till Pakistan finds alternate means to compensate for the loss of water²³. No Solution could however, be found post the accord, because neither side was willing to compromise their respective stated positions and negotiations reached a stalemate. From the Indian point of view, there was nothing that Pakistan could do to prevent India from any of the planned schemes to divert the flow of water in the rivers to areas which, in its assessment, needed these waters²⁴. Pakistan wanted to take the matter to the International Court of Justice, but India refused, arguing that the conflict was between India and Pakistan and as such, required only a bilateral resolution.

It is worth appreciating that the partition of India indeed had internationalised the dispute. Pakistan felt that its livelihood was threatened by the prospect of Indian control over the Eastern Rivers, namely the Ravi, Sutlej and Beas, of the Indus Drainage System (IDS) that fed water into the canal system in the Pakistani portion of the basin, which was vital for the irrigation of its cultivable land. It is relevant to note that at that point in time, the canal system to exploit the waters of the Western Rivers, namely the Chenab, Jhelum and Indus of IDS, was not well developed. On the contrary, India felt that it was her right to harness the water resources available in that part of the Indus River Basin (IRB) which she had inherited consequent to the partition, and that Pakistan's insistence on its historical rights, in view of the new ground realities, was not justified.

The Indian Argument was based on the ground situation as existing in IRB during early part of the decade of the 1940s. In this context, India, using the 1941 Census, claimed that although 21 million people lived in Indian Punjab and 25 million people lived in Pakistani Punjab, yet, out of 105,000 km² irrigated annually in the IRB, less than 20 percent or 21,000 km² was meant for the East Punjab territory. This imbalance needed correction. Therefore, India now wanted to correct the situation by establishing its own claim to the waters of Eastern Rivers²⁵. Another relevant aspect in the entire consideration was that Pakistan was missing the point that the geography of partition was such that not all the sources of rivers of the IRB were in India. Rivers Indus and Sutlej had their origin and sources in China; Kabul River, a Western tributary, had its origin in Afghanistan, and only Jhelum, Chenab, Ravi and Beas originated in India. This made China and Afghanistan becoming Upper Riparian States in cases of Rivers Indus, Sutlej and Kabul respectively, with attended implications for the availability and control of the water for the lower riparian states. Thus the insistence of both India and Pakistan that the dispute was bilateral was flawed from the very inception.

In 1948, David Lilienthal, formerly the chairman of the Tennessee Valley Authority and of the U.S. Atomic Energy Commission, visited the region to write a series of articles for the Collier's magazine. Lilienthal had a keen interest in the sub-continent and was welcomed by the highest levels of both Indian and Pakistani governments. Although his visit was sponsored by

22. Extracted from the Media Centre of the Ministry of External Affairs uploaded on <https://mea.gov.in/bilateral-documents.htm?dtl/5198/InterDominion+Agreement+on+Punjab+Canal+Waters>

23. An internet upload on www.internationalwaterlaw.org/documents/.../punjab-canal.html: Inter-Dominion Agreement Between the Government of India and the Government of Pakistan, on the Canal Water Dispute Between East and West Punjab.

24. What Indus water treaty means By Dr Adam Nayyar, DAWN Archived May 11, 2012, at the Wayback Machine.

25. Gulhati, Indus Water Treaty: An Exercise in International Mediation, p-59.

Collier's, Lilienthal was briefed by the state department and executive branch officials, who hoped that Lilienthal could help to bridge the gap between India and Pakistan and also gauge the severity of the hostilities between the two newly created sovereign states within the Indian sub-continent. During the course of his visit, it became clear to Lilienthal that the tensions between India and Pakistan were acute. In this context it is relevant to note that whatever expansion and the modernisation of the irrigation system in Punjab had happened during British Rule, had actually happened in the territory that later went to West Punjab (now Pakistan). East Punjab (Punjab in post-Partition India), regarded this as an injustice, especially as any future development would now need expensive storage facilities.

Like Radcliffe earlier, Lilienthal also recommended that India and Pakistan should work out a plan, which entails development and operation of all water resources available within the IRB system and the infrastructure to exploit them jointly. The scope of such a plan would be to build new dams and irrigation canals with a view to get additional yield from the Indus and its tributaries. The financial support to this plan could be provided by the International Bank of Reconstruction and Development (predecessor of the World Bank)²⁶. Lilienthal's idea was well received by the officials at the World Bank, and, subsequently, by the Indian and Pakistani governments. India's previous objections to third party arbitration were remedied by the Bank's insistence that it would not adjudicate the conflict, but would rather work as a conduit for the agreement²⁷.

However, hopes for a quick resolution to the Indus dispute were premature. Neither India nor Pakistan was seemed willing to compromise their stated positions (Pak's historical 'Rights' argument versus India's argument based on 'Needs' due to new geopolitical reality). While Pakistan insisted on its historical right to waters of all the Indus tributaries because of the fact that in the absence of adequate water supply in the Canal Network, half of the West Punjab which was dependent on the water supply from the Canal Network, was under threat of desertification, the Indian side argued that the previous distribution of waters should not prejudice the future allocation based on newly emerged political landscape (partition of the country), and new social and economic needs that had emerged. The Indian side argued to set up a new bench mark for distribution of water within the IRB.

The main point of the proposed distribution plan entailed that the waters of the Western tributaries should be allocated to Pakistan and the waters from the Eastern tributaries should be allocated to India. Pakistan decided to renege from Inter Dominion Agreement in July 1950, stating that the agreement had been accepted under 'compulsion' and signed under 'duress'²⁸ and as such she decided to give a notice for its termination (*It needs to be noted that probably it was beginning of a pattern wherein Pakistan has mastered the art of renegeing on agreements which she gets into when under duress and goes back on them when it suits it*). Pakistan stopped depositing the amount (which was fixed in the agreement of 04 May 1948) and stated that this amount would be paid only after this dispute is taken to the International Court of Justice or the UN Security Council or any other international organisation.

26. Gulhati, Niranjan D., *The Indus Waters Treaty: An Exercise in International Mediation*, Allied Publishers: Bombay, 1973, p-93.

27. Mason, Edward Sagendorph, Asher, Robert E. (1973). *The World Bank Since Bretton Woods* (First ed.). Washington: The Brookings Institution. P- 612.

28. Asit K. Biswas, "Indus Water Treaty: The Negotiation Process," *Journal of Water International*, (1992): 204.

III - The Treaty

After nearly two years of negotiations, in 1954, the World Bank offered its own proposal. The proposal offered entailed following:-

- a. India to get waters from the three Eastern tributaries of the basin and Pakistan to get waters from the three Western tributaries of the basin.
- b. Canals and storage dams were to be constructed to divert waters from the Western Rivers and replace the current system of supply of waters from Eastern Rivers lost by Pakistan.

The Indian side was amenable to the World Bank proposal because she was eager to settle the Indus Waters Issue as a large number of developmental projects were put on hold due to the slow progress of the negotiation. Pakistan, on the other hand, found it unacceptable as they thought that it was unfair. They threatened to withdraw from the negotiations. Pakistani press reported rumours of an end of negotiations with a talk of increased hostilities between the two countries. However, notwithstanding the high domestic hysteria the Pakistan Government was ill-prepared to go for a violent conflict with India and could ill afford to forego talks; as such, they were forced to reconsider their position. The negotiations continued based on the World Bank proposals for next six years²⁹. Finally the Treaty was signed by the supreme leaders of both the countries, Pandit Jawahar Lal Nehru, Prime Minister of India and Field Marshal Ayub Khan, President of Pakistan, and Mr W.A.B. Iliff of the World Bank on 19 Sep 1960 at Karachi³⁰, to be effective from 01 April 1960.

The treaty has 12 Articles; serially numbered from I to xii and eight Annexes; serially numbered from A to H³¹. The details can be accessed from the Treaty documents but the broad headings are as tabulated below:-

Table-1: Articles

Article-I	Definitions
Article-II	Provisions regarding Eastern Rivers
Article-III	Provisions regarding Western Rivers
Article-IV	Provisions regarding Eastern rivers and Western Rivers
Article-V	Financial Provisions
Article-VI	Exchange of Data
Article-VII	Future Cooperation
Article-VIII	Permanent Indus Commission
Article-IX	Settlement of Differences and Disputes
Article-X	Emergency Provisions
Article-XI	General Provisions
Article-XII	Final Provisions

29. "Indus Waters Treaty: View From Kashmir". 2006. Retrieved 22 September 2016.

30. "Indus water treaty". <http://web.worldbank.org>. World Bank. Retrieved 28 October 2014.

31. "Indus water Treaty 1960".pdf. Site Resources; World Bank pp1-24, up loaded on www.site.resources.worldbank.org

Table-2: Annexure

Annexure-A	Exchange of Notes between Government of India and Government of Pakistan
Annexure-B	Agricultural Use by Pakistan
Annexure-C	Agricultural use by India from the Western Rivers
Annexure-D	Generation of Hydro Electric Power by India on the Western Rivers
Annexure-E	Storage of water by India on the Western Rivers
Annexure-F	Neutral Expert
Annexure-G	Court of Arbitration
Annexure-H	Transitional Arrangements

(Source: siteresources.worldbank.org)

It needs to be noted that the original plan of the International Bank of Reconstruction and Development (predecessor of the World Bank) for the utilisation of the Indus Waters could not be pursued as both India and Pakistan refused to budge from their respective stances on “Need” and “Historic Rights” based division. In fact that would have helped both the nations to meet their needs as well as the historic rights. This plan was, as mentioned on Page 122 of Gulati³², was akin to the plan put up by India for the most effective utilisation of the rivers in the IRB. It talked of joint management of the water resources of the IRB. Pakistan, however, did not agree to the proposal and that is why a crude division of the rivers was resorted to. In hindsight, it appears to have been a blessing in disguise because the later experiences of dealing with Pakistan, suggest that the joint management would have been a non-starter due to congenial anti-Indian mindset of Pakistan.

IV - Salient Points of the Treaty

The Indus system of rivers comprises of three Western Rivers, namely Indus, Jhelum and Chenab, and three Eastern Rivers, namely Ravi, Sutlej and Beas. The Treaty, under Article 5.1, envisages the sharing of waters of the rivers Ravi, Beas, Sutlej, Jhelum and Chenab which join the Indus River on its left bank (Eastern side) in Pakistan. According to this treaty, Ravi, Beas and Sutlej were declared as the ‘Eastern Rivers’ and Indus Jhelum and Chenab were declared as ‘Western Rivers’.

Some of the important provisions of the Treaty are as follows³³ :-

- a. Under the Treaty, the waters of Eastern Rivers were allocated to India. Pakistan for agricultural purposes could withdraw from certain tributaries of Ravi, located downstream of Madhopur Head Works, namely, Basantar, Bein, Tarnah and Ujh - a total of 45400 acres of water (Article II of the Treaty).

32. Ibid-26

33. Internet upload: <http://wrmin.nic.in/writereaddata/internationalcooperation/induswatertreaty196054268637.pdf>

- b. India would be under obligation to let flow the waters of the Western Rivers except for the following usage (Article-III):-
 - i. Domestic Use;
 - ii. Non-consumptive use;
 - iii. Agricultural use as specified;
 - iv. Generation of hydro-electric power as specified.
- c. India was permitted to construct storage of water on Western Rivers (Annexure-E) up to a maximum of 3.6 million acre feet (MAF) for various purposes. No storage was developed so far (this was the state at the time of the signing of the Treaty).
- d. India was permitted 'Agricultural Use' (Annexure-C) of 7,01,000 acres, over and above the Irrigated Cropped Area (ICA) as on 01 Apr 1960. Out of this additional ICA of 7,01,000 acres, only 2,70,000 could be developed (i.e. a total ICA of 9,12,477 acres including that on 01 Apr 1960) till adequate storage facilities were constructed and 0.5 MAF of water was to be released from there every year. ICA during 2011-12 was 7,84,955 acres.
- e. Under the Treaty, India and Pakistan, both were required to create permanent posts of Commissioner for Indus Waters (Article-VIII). They together constitute the Permanent Indus Commission (PIC) which is entrusted with the implementation of the Treaty. The PIC is required to hold meetings and tours. It is required to submit report on its work to the two governments every year. It has held 117 tours and 111 meetings so far.
- f. Both sides are required to exchange information related to river flows observed by them not later than three months of their observation, and to exchange specified information on Agricultural Use every year (Article-VI).
- g. India is under obligation to supply information of its storage and hydroelectric projects as specified.
- h. India communicates as a gesture of goodwill, flood data to Pakistan from 1st July to 10th October every year, to enable them to undertake advance flood relief measures. The arrangement is reviewed every year.
- i. The Commissioners may discuss the questions arising about the issues covered by the Treaty under the provisions of the Article IX of the Treaty related to Settlement of Differences and Disputes, and in the case of non-resolution, take further action under this Article for resolution through a Neutral Expert, (Annexure-F) negotiators or a Court of Arbitration.
- j. A transition period of 10 years was permitted in which India was bound to supply water to Pakistan from Eastern Rivers. During this period Pakistan was required to build the necessary canal system for the utilisation of the waters of Jhelum, Chenab and the Indus itself, as allocated to it under the Treaty. After March 31, 1970, when the 10 year moratorium would end, India would secure full rights for use of the waters of the three Eastern Rivers³⁴ allocated to it (Annexure-H)^{35,36}.

34. Shreyan, Sengupta. "Transboundary water disputes" (PDF). ETH Zurich. Retrieved 24 September 2013.

35. Garg, Santosh Kumar (1999), "International and interstate river water disputes", Laxmi Publications. pp. 54-55.

36. "Indus Waters Treaty 1960", Site Resources, World Bank. pp. 1-24.

- k. Pakistan will receive one-time financial compensation for the loss of water from the Eastern Rivers. India will pay a sum of Pound Sterling £ 6,20,60,000 in 10 equal Installments on 01 Nov each year starting from 01 Nov 1960 (Article-V).

V - Analysis of the Treaty

The treaty had few problems even when it was signed. Some of the issues were as enumerated in succeeding paragraphs.

The Treaty is highly unbalanced:

- a. Despite IRB being a monolithic geographical entity, the IWT crudely divided the five rivers from East and Indus along the longitudes³⁷.
- b. Also, it did not take into account that two of the rivers namely Indus and Sutlej originate in Tibet Autonomous Region of China, with its implications on availability of water in these rivers.
- c. The treaty does not take into account other rivers joining Indus from West like Kabul, which has bearing on availability of water in Indus.

The Treaty does not cater for the changing social, economic, technical and environmental issues:

- a. Increased urbanisation in the region from a population of 485 million in 1961 to 1.39 billion in 2011 has affected the demand. This has also led to massive deforestation, increased pollution and the drainage system getting blocked due to squatters, which has further adversely affected the water availability and consequent demand supply gap on either side of the border³⁸. In fact, water availability was 5000 cubic feet in West Punjab (Pakistan) in 1960 which has come down to 1500 cubic feet in 2016 during the same period water availability in East Punjab (India) came down from 6000 cubic feet to 1600 cubic feet³⁹. During the same period the population of Pakistan rose from 50 million to 175 million⁴⁰. It was a double whammy for Pakistan because on one side the water availability has reduced and on the other side demand has grown. No wonder Pakistan is looking to grab more water than what is entitled to it as per the provisions of the IWT.
- b. Impact of global warming is impacting availability of water and that is making 'Rights versus Needs' debate shriller. Regional climate change is reducing the flow in the rivers located in the IRB⁴¹. It is anticipated that by 2040 River Indus is likely to become a seasonal river⁴². Because of global warming, consequent melting of glaciers and the melted glaciers flowing down from great heights of Himalaya bring tremendous amount of silt with them, the reservoirs at Tarbela, Trimmu and Mangla on Pakistan's side and Salal on Indian side have substantially been silted and almost 25 percent of their holding capacity is now wasted.
- c. The Treaty clubs J&K with India and PoK with Pakistan, and as such the aspirations and needs of the people of J&K have not been taken care of by the Treaty.
- d. A sizeable number of canals in Pakistan are unlined and almost 41 MAF of water per year is

37. Ibid 1.

30. Sarfraz,H., "Revisiting the 1960 Indus water Treaty" pub in water international, 38 (2) during 2013, p-205

39. MS Gill, "Water Crisis of East and West Punjab", pub in The Hindu dated 15 Dec 2016.

40. Ibid 36.

41. Faris S., "The Last Straw: If You Think These Failed States Look Bad Now, Wait Until The Climate Changes", pub in Foreign Policy, available at http://www.foreignpolicy.com/articles/2009/06/22/failed_states_index_the_last_straw. Accessed on 15 Jan 2010.

42. Internet upload: http://www.un.org/esa/population/publication/wpp2008/wpp2008_text_tables.pdf. Accessed on 15 Jan 2010.

lost due to seepage⁴³. This aspect needs to be flagged when Pakistan raises the unfair deal as per the provisions of the IWT.

Allocation of water is interpreted differently: Both countries consider it unfair because Pakistan argues that its demand should have been considered based on traditional 'Rights' (prior to independence the canal system on Eastern Rivers was made for those areas which now form part of Pakistan) but India wants it to be interpreted on the basis of 'Needs' (this point has already been explained earlier). In this connection it needs to be noted that although Pakistan accepted the distribution but it was with a grudge, which is quite evident from Field Marshal Ayub Khan's Statement post the signing of the Treaty. He said, "*Every factor was against us. The only sensible thing to do was to try and get a settlement, even though it might be second best, because if we did not, we stood to lose everything. The very fact that Pak had to be content with waters of three Western Rivers underlined the importance of having physical control over the higher reaches for max utilisation of the growing needs of West Pakistan. In my mind, therefore, the only solution of the Kashmir issue acquired a sense of urgency on the conclusion of the Treaty urgency on the conclusion of the Treaty.*"⁴⁴

IWT does not conform to the UN Convention on the Law of Non-Navigational Uses of International Water Courses, 1997: This Convention though came much later but puts the rights of lower riparian states in the case of international water channels in perspective. In the instant case, for Indus and Sutlej, China, and for Kabul Afghanistan are the Upper Riparian States. Since China and Afghanistan are not part of the treaty, their activities related to water utilisation without the consent of lower riparian states have a bearing on the availability of water in the river channels, and as such, the assumed quantum of water does not remain the same. The IWT does not take into account this kind of revised water availability. Probably there is a need to explain to Pakistan this aspect and try working out a common cause in conjunction with Pakistan against China. As far as Afghanistan-Pakistan issue with respect to availability of water in Kabul River is concerned, Pakistan can take its own call.

The Treaty has too many engineering provisions, which give Pakistan undue advantage to vet the designs of the Indian projects on Western Rivers: No wonder none of the proposed Indian Projects are getting cleared easily. Salal Hydro Power Project (a run of the river power project), and the Baglihar Hydro Power Project (A run of the river power project) earlier, had faced many problems during the planning and design phase, even Kishenganga Hydroelectric Project, a 330 MW Run of the River Project which was inaugurated in May 2018⁴⁵ is still being resented and resisted by Pakistan at every international forum though India has met all conditions which were stipulated by the International Court of Arbitration. As per the Award, the Court had allowed India to go ahead with the construction, upheld India's right under the provisions of the IWT to divert waters from the Kishenganga for power generation; however India was required to release a minimum of nine cubic meters per second into the River at all times to maintain environmental flows⁴⁶. Pakistan is now raising questions about Pakal Dul (1000 MW), Lower Kalnai (48 MW⁴⁷), Ratle (a 850 MW Run of the River Hydroelectric Project, cleared by

43. Ibid 1.

44. Maj Gen AK Chaturvedi, "Water A Source Of Future Conflicts", pp-160, pub by Viji Books India Pvt Ltd.

45. A PTI Report, "India Pakistan to resume talks on Indus Water Treaty in Lahore this week", published in Economic Times dated 27 Aug 2018.

46. Ibid 36.

47. Ibid, 'India invites Pakistan experts to hydroelectric projects sites in J&K'.

World Bank in 2017⁴⁸) and Tulbul Navigation Projects⁴⁹ - all these have been facing problems for clearance. It is worth noting that as against 3.6 MAF which India can store on Western Rivers, till date the total storage capacity that has been created is mere 0.5 MAF⁵⁰. And Pakistan is crying hoarse that India is stealing Pakistan's water!

Rights of Gujarat were totally missed out while negotiating on IWT: IWT negotiations were steered by David Lilienthal at the behest of the World Bank (the then the International Bank of Reconstruction and Development). In this connection, almost forgotten is that the right of Gujarat had not been addressed – Kutch vs Sind rights over Indus waters in Pre-Partition British India is worth recalling. India needs to flag the issue to highlight the conduct of Pakistan in not getting design concurrence for its Left Bank Outfall Drain (LBOD); this Drain passes through the Great Rann of Kutch, over areas adjacent to India's Kutch, and causes floods besides contaminating water bodies on Indian side, in violation of the Article VI and Article IX of the IWT⁵¹.

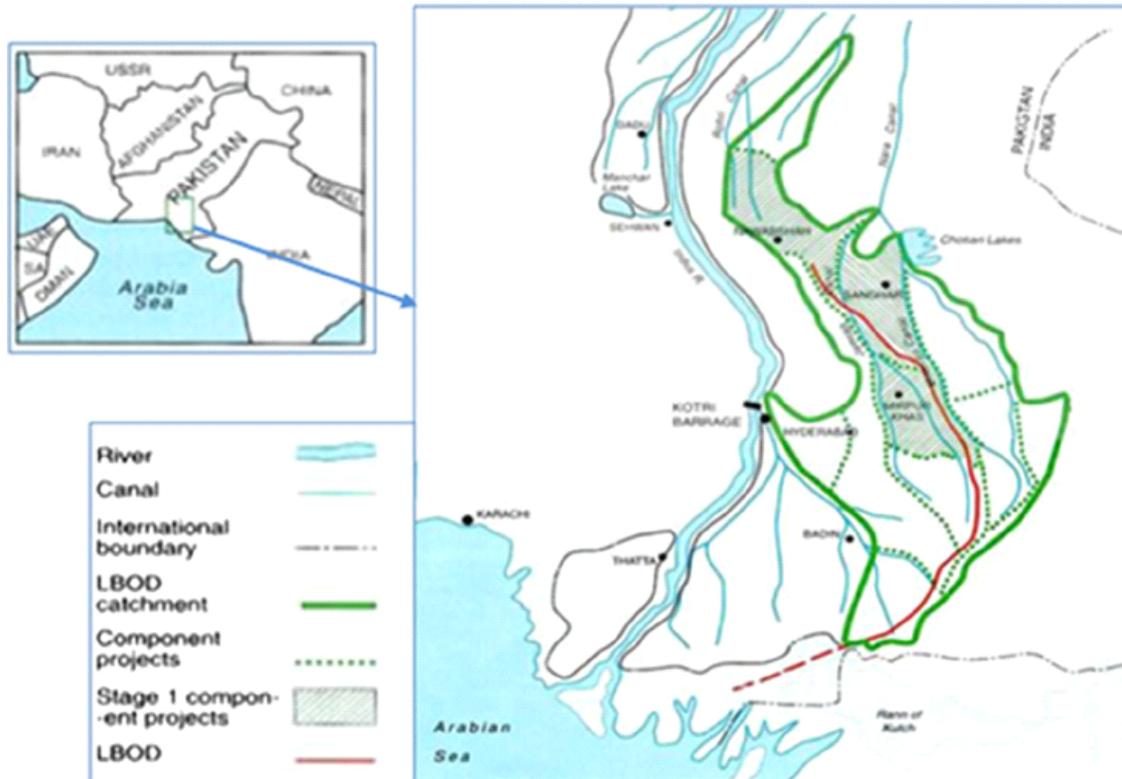


Figure-4: Layout of Left Bank Outfall Drain (LBOD)
(Source: Kori et al 2013, extracted from Researchgate.net)

The Review system is almost non-workable: As per Article XII of the IWT, it can be modified only when both the parties agree⁵².

48. Internet upload: <http://timesofindia.indiatimes.com/india/india-permitted-to-construct-kishanganga-rattle-projects-worldbank/articleshow/59874464.cms>

49. "Wular Lake", uploaded on en.wikipedia.org

50. Amitabh Sinha, "Turning off Indus tap easier said than done", pub in Indian Express 03 Oct 2016.

51. "Wrangles over water: Pakistan wages a water war on India". Retrieved 22 September 2016.

52. Iftikhar Gilani, "Explained: How the Indus water Treaty Affects India and Pakistan", pub in DNA dated 27 Sep 2016.

The Case of Jammu & Kashmir

The J&K from where Chenab, Jhelum, Indus, and part of Ravi and its tributaries pass, has no special provisions in the Treaty. Thus whatever provisions with respect to Western Rivers are made about storage and hydro power generation, these are not being permitted by Pakistan. For Example, in 2007 the Water Ministry of the Government of India had estimated that J&K could increase its Integrated Crop Area (ICA) by 425,000 acres, but out of 600,000 hectares of cultivated land in J&K only 150,000 hectares is under irrigation. Further, hydro-power potential of the water resources available in the J&K is 20,000 MW but as on date a mere 25,00 MW is being harnessed, all because of the dilatory tactics of Pakistan on projects like Tulbul Navigation Project, Ratle Run of the River Project, Kishenganga Hydro-electric Project and a large number of other projects which are either not being progressed, like the Tulbul Navigation Project, or have not even started (in a recent decision to review the suspension on this Project, the Indian Cabinet has decided to resume the work notwithstanding Pakistan's objections^{53 54} .

In fact, the Hydro-electric Policy of J&K, 2011, stipulates setting up of 28 projects in both public and private sector. 16 of these projects are under various stages of execution and when all these get completed, it will add a total of 1872.26 MW of capacity. In addition, there are 12 projects which are under planning and will add another 5756.5 MW of capacity⁵⁵. It is significant to note that completion of these projects will not violate the provisions of the IWT for storage as far as Western Rivers are concerned. Yet, exploiting the provisions of Article VIII and Article IX with respect to the dispute redressal mechanism, Pakistan is putting impediments to their execution. No wonder, in 2003 the J&K Assembly passed a resolution to review the IWT⁵⁶. This kind of double- speak on the part of Pakistan needs to be highlighted to the people of J&K so that the dissatisfied locals can be apprised of facts.

VI - Fresh Evaluation of Treaty Provisions

The Uri Incident and Subsequent Developments

On 18 Sep 2016 Pakistani militants attacked an army administration base near the town of Uri in North Kashmir when 23 (19 Security personnel and four militants) fatal casualties were reported. In addition, another 19-30 non-fatal casualties were also reported⁵⁷⁵⁸. The nation was enraged and the Prime Minister of India on 27 Sep 2016 told top officials, who had gathered to review the implementation of the 56-year-old IWT, "*rakt aur paani ek saath nahin beh sakte*" (blood and water cannot flow together). Moving to mount pressure on Pakistan in the wake of the Uri attack, the Government decided that the meeting of the Indus Water Commissioners of the two countries can "only take place in an atmosphere free from terror". This meant that the meetings of the Commissioners, held twice a year, stood suspended since that date - since 1960, the water Commissioners have met 112 times.

New Delhi has also decided to maximise, within the overall ambit of the provisions

53. An IANS Report, "Reviewing Tulbul Navigation Project can put Pakistan on Backfoot: Officials" pub in Buisness Standard dated 26 Sep 2016.

54. Jayant Jacob, "Why Indus Waters Treaty is a Bad Bargaining Chip for India", pub in Hindustan Times, 29 Sep 2016.

55. An internet upload: www.indianenvironmentalportal.org.in/.../1_j&k%20state%hydroelectric, "Jammu & Kashmir State Hydro 56 Electric Projects Development Policy", given as Annexure to Government Order No 205 PDD dated 07 Jul 2011.

56. Brahma Chellaney, "Securing the Indus treaty", pub in The Hindu dated 05 Aug 2016.

57. Uri attack: BSF jawan succumbs to injuries, death toll rises to 19". The Indian Express. 25 September 2016.

58. Uri terror attack: List of jawans who died fighting terrorists, The Indian Express, 18 September 2016.

stipulated vide Article III of the IWT, the potential of India's use of water on the three Western Rivers, namely Indus, Chenab and Jhelum in the areas of hydro-power, irrigation and storage. She also decided to withdraw the earlier agreed goodwill gesture of 'unilateral suspension' of the Tulbul Navigation Project on the Jhelum in Kashmir.

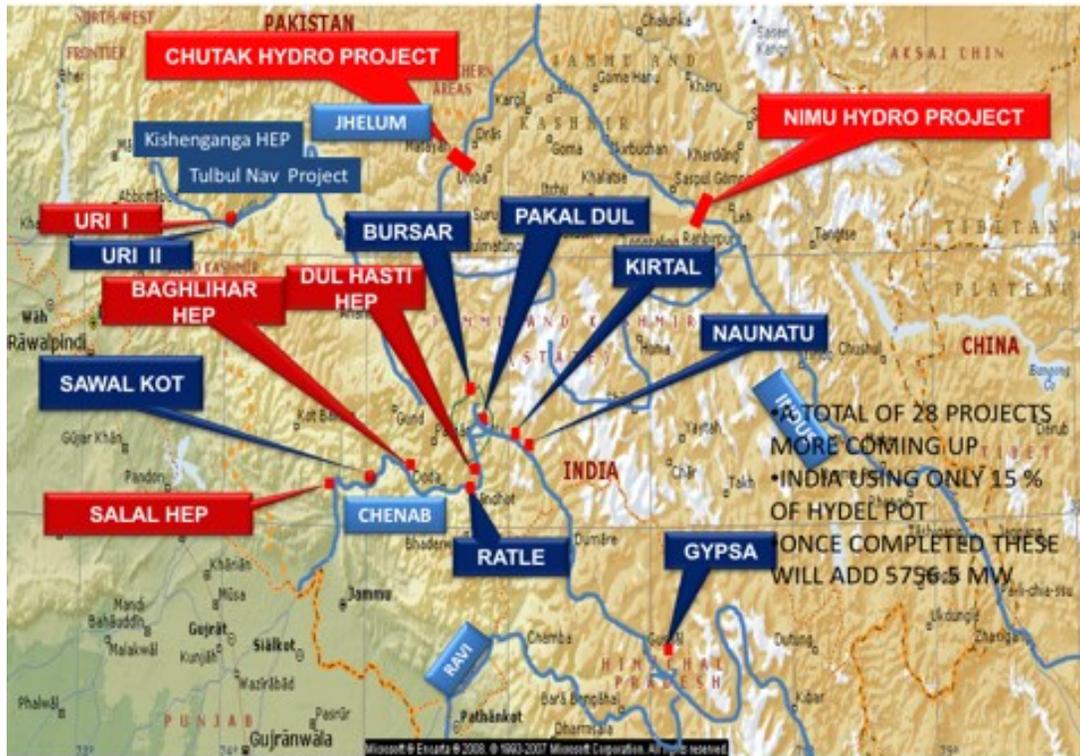


Figure-4: Existing/ under Construction/ Proposed Hydro Projects /HEP

(Source: Developed by Author: Red are those which have already completed, dark blue are those which are either under construction or are under planning and light blue are those which will be taken up subsequently. It may be noted that Kishenganga HEP has already completed but is being questioned by Pakistan.)

The Government has further decided to “move expeditiously” on the three power projects on the Chenab River, namely, Pakaldul (1000 MW) which is under construction, and Sawalkot (1856 MW) and Bursar (800 MW) which are in advanced stages of planning⁵⁹. Pakistan has raised objection with respect to Kishenganga and Ratle Hydro Energy Project (HEP) and both sides have approached the World Bank to find solution and stipulate the procedure to be adopted. The World Bank, on 13 Dec 2016, has paused the two separate mechanisms for dispute resolution - neutral expert as asked by India, and Court of Arbitration (COA) as asked by Pakistan.

Fresh Look on IWT

The Government of India in the meantime has formed an Inter-Ministerial Task Force, to be headed by the Principal Secretary to the Prime Minister, to look into all the strategic aspects of Indus Water Treaty (IWT) with Pakistan. Other members of the team include National Security

59. Shubhajit Roy and Amitabh Sinha, “Blood and water can’t flow together, says PM Modi at Indus Water Treaty meeting, Govt plans cross-border river strategy”, The Indian Express, 27 Sep 2016

Advisor, foreign secretary and secretaries in ministries of finance, environment, power, water resources and Chief Secretaries of Punjab and J&K⁶⁰. First meeting of the Task Force was held on 23 Dec 2016. It was decided to speed up Sawalkot, Pakal Dul and Bursar projects for execution in a time bound manner⁶¹.

India has decided to fast track three projects to reduce the wastage from the Eastern Rivers. These include dams and reservoirs at Shahpur Kandi in Punjab, Ujh in J&K and expediting work on Sutlej-Beas Link in Punjab. The three projects will help to save a lot of water from the 0.58 million acre feet of water getting wasted to Pakistan. It will also help to generate 198 MW of power from Ujh Hydro Electricity Project. The main beneficiary will be J&K. The proposal has already been forwarded by the Government of J&K to the Advisory Committee of the Ministry of Water Resources for clearance. In September 2018, Punjab and J&K Governments have signed an agreement to resume work on Shahpur Kandi Project. When completed it will enable the upstream Dam Project Power Station to act as a peaking station, besides having its own Ranjit Sagar generation capacity of 206 MW and irrigation benefit for 37,173 hectare to Punjab and J&K⁶². The Government of India has also asked the Punjab Government to prepare a Ravi-Beas link to further enhance utilisation of the share of India from the Eastern Rivers⁶³.

An Appraisal of the Future of the Treaty

Pakistan, despite its protestations, is unlikely to ever abrogate this Treaty because of its own vulnerabilities caused by the increasing shortage of water within Pakistan. The shortage is due to various factors many of which are of Pakistan's own doing. But she will keep making noise to claim victimhood. India, due to the geography of the IRB, is indeed in a position to influence the flow in the downstream. No wonder, in view of the current state of tension between the two countries, many of the strategic thinkers in India are of the view that the Treaty needs to be abrogated or at least reviewed, and they feel that the water can be used as a weapon to restrain Pakistan from its inimical behaviour. However, there is a need to take a call on either abrogation or maintaining *status quo ante* based on rational thinking rather than as knee jerk reaction. In this regard the aspects meriting consideration are discussed below.

The IWT does not contain a provision for either party to unilaterally suspend or terminate the provisions of the Treaty. Article XII(4) of the IWT provides that "*The provisions of this Treaty or the provisions of this Treaty as modified under the provisions of Paragraph (3), shall continue in force until terminated by a duly ratified treaty concluded for that purpose between the two Governments*"⁶⁴.

All treaties and agreements, bilateral or multilateral, are signed on the basis of the *Pacta Sunt Servanda Principale*⁶⁵, i.e. 'agreements must be kept'. Although Pakistan's own record on this account is not very good, but India which prides itself in being a responsible country should not do it, lest it affects her credibility and moral high ground.

60. PTI, "Government forms high level task force on Indus Water Treaty" dated 17 Dec 2016.

61. PTI, "Indus Water Treaty meet: Issues of fast-tracking hydropower projects in J&K discussed", pub by Indian Express on 23 Dec 2016.

62. PTI Report, "Govt to expedite 3 Projects to stop share of Indus Waters forgoing to Pak", pub in Business Standard dated 25 Nov 2018

63. Navneen S Garewal, "2nd Ravi-Beas Link forgotten", pub in The Tribune dated 18 May 2018

64. Gautam Sen, "Deactivating the Permanent Indus Waters Commission", pub as IDSA Comment dated 03 Oct 2016 uploaded on <http://www.idsa.in/taxonomy/term/1509>.

65. From the Vienna Convention on the Law of Treaties, signed at Vienna on May 23, 1969, entered into force on January 27, 1980, art. 26, and the Vienna Convention on the Law of Treaties between States and International Organisations or between International Organisations, signed at Vienna on March 21, 1986, not yet entered into force, art. 26.

India also needs to take into account her position vis-a-vis China, where she is a lower riparian state. Although no water treaty exists as yet with China, but unilateral abrogation of the IWT will definitely have a bearing on the credibility and as such on future negotiations, particularly in view of the Zangmu Dam on Brahmaputra, Dam on Indus at Nagri opposite Eastern Ladakh, and the Pari Chu incident in 2004-05 which caused devastation in Himachal Pradesh. Additionally, India is likely to make its position weak while challenging the Pakistan's ceasefire violations which are also acts of violation of certain agreements.

Pakistan is almost a water scarce country whose problems on account of water are extremely daunting. Lack of water in lower reaches in the Indus has resulted in flow speed reducing to the extent that sea ingress into the Sukkur Bowl (main rice production bowl) has taken place fairly deep, which is likely to affect Pakistan's food security. Lack of water, absence of consensus amongst various states and shortage of funds are substantially affecting Pakistan's power generation capacity and aggravating dissension among various provinces. In such a situation, closing the tap on Pakistan may result human rights violation charge against India. It may also be noted that worst affected areas in such a scenario will be Sind and Balochistan where presently disaffection against the central authority is substantial and India is seen by these groups as someone who can help them in longer run. Abrogation of IWT may alter that equation.

Pakistan's water woes are of its own making. It is worth noting that currently Pakistan does not have sufficient water storage reservoirs, it is currently 10 percent below the global water storage capacity of 40 percent⁶⁶. In terms of days it works out only 30 days of storage⁶⁷. Whatever capacity exists is also not being optimally utilised. In this connection, a reality check reveals that the live storage capacity of Tarbela Dam which once was at 11.95 BCM in 1974 has eroded to 7.82 BCM and it might further plummet to 6.49 BCM by 2025. Likewise, storage capacity in Mangla Dam has gone down to 5.50 BCM of water from 6.58 BCM in 1967 and is prone to reduce more to 4.93 BCM by 2025. And in Chashma Barrage, the live storage capacity has gone down by 0.55 BCM from 1972 and is also likely to reduce to 0.55 BCM⁶⁸. This is basically due to silt accumulation. To add to it, as mentioned earlier, about 41 MAF of water every year is lost due to seepage from unlined canals. With these problems, India need not do anything to disturb the existing arrangement, Pakistan is set to commit enough mistakes on its own.

Currently, through leakage from India's various water storage facilities – due to not fully stopping the flow of the tributaries of Ravi South West of Madhopur Head works, namely, Ujh, Basantar, Bein and Tarnah, and not utilising her full quota of Western river storage - plenty of water which belongs to India under the provisions of the IWT is flowing into Pakistan. India currently has water storage capacity of only 220 days. Although that is better than Pakistan but it is much less as compared to capacities of some other countries - Egypt 1,000 days only on the Nile River, America 900 days, Australia 600 days, South Africa has carry-over capacity of 500 days on the Orange River⁶⁹. In case India decides to abrogate the treaty without creation of adequate storage capacity, it would be absolutely impractical, rather disastrous, particularly during the monsoon seasons. India appears to have realised the mistake and is planning to

66. Abdul Rasheed Azad, "Water Storage Capacity far below Global capacity", pub in Business recorder dated 07 Dec 2017.

67. Imran Rana, "Pakistan's Water storage Capacity falling Continuously", pub in the The Express Tribune dated 22 Jun 2018.

68. Ibid-62.

69. Ibid-62.

construct additional 2,500 dams by 2050 to add 180 BCM of storage⁷⁰. Silting is also an issue with India and a technical solution needs to be found out to ensure that the reservoirs like Salal are rejuvenated and dams like Baglihar are not allowed to get silted, and that all future dams have built-in arrangements to get the silt cleared as part of the maintenance arrangements.

It is also pertinent to consider the geo-political implications of any abrogation. The IWT was brokered by the World Bank (International Bank of Reconstruction and Development) but fact of the matter is that it was at the behest of United States of America, and therefore it will be naïve to think that the USA would not try to resist its abrogation. In such a scenario, Pakistan will claim the victimhood and may find support from USA which would be detrimental to the geo-political aspirations of India. Closer home, it will send a wrong message to Bangladesh, a lower riparian state for a large number of common rivers (54 in number⁷¹) and Nepal, a upper riparian state having 6000 common water channels⁷². It will also have an adverse impact on Indo-Chinese water relations where China is upper riparian state for Indus, Sutlej and Brahmaputra Rivers. China has not signed the UN Convention on the Law of the Non-Navigational Use of International Water Courses of 1997. The ramifications of this point have already been discussed earlier in the paper.

The Way Ahead

While it may not be prudent to unilaterally abrogate the treaty, but a review of the IWT, to use it as an important element of the national strength and as part of the strategy to deal with Pakistan is highly desirable. Following aspects are relevant in this connection:-

- a. **Early Completion of Water Retaining Structures and Power Projects.** This would be essential to ensure that the infrastructure which needs to be developed to fully harness the capacity as provisioned under the IWT with respect to both Western and Eastern Rivers should be completed expeditiously in a time bound manner. Neither the kind of generosity which India showed earlier in case of Tulbul Navigation Project (stopped work in 1987, unilaterally, in difference to the objections raised by Pakistan⁷³), nor the lack of commitment by the Project Team and the State Administration shown in Ratle Hydro-Electric Project to progress land acquisition and construction should be acceptable. In this connection, it would be necessary that Pakistan's effort to delay the projects based on the rights it has been granted vide Article VIII of the treaty ("India is under obligation to supply information of its storage and hydroelectric projects as specified") needs to be addressed on high priority and disposal of the cases as required vide Article IX is completed as quickly as possible. Pakistan's design of putting impediments in the progress of legitimate projects on Western Rivers, as evident in the case of Baglihar, Tulbul and Kishenganga, should not be allowed to sabotage India's efforts to build these structures in a time bound manner. Although never used as a weapon and nor is likely to be ever used as such, completion of all the proposed structures will definitely provide an option to India to regulate flow of water in the Western Rivers.
- b. From the point of view of India's overall interests, factoring-in the power sector development and agricultural and allied sectoral needs of J&K, it may be appropriate to

70. Ibid-62.

71. An internet upload: http://en.wikipedia.org/wiki/sharing_the_water_of_the_Ganges.

72. An internet upload: <http://www.thethirdpole.net/en/2017/05/02/india-nepal-border-plagued-by-water-troubles/>

73. Sameer Yaasir, "Indus Water Treaty, the Tulbul Project and its Implication on India-Pakistan Relations", pub in First Post dated 27 Sep 2016.

plan to exploit the provisions of the IWT for more effective water usage arrangements, and thereafter, adhere to own stand determinedly in defence of the measures taken in consequence. It is of the essence to reckon that any project of water regulation and usage in a state like J&K requires at least a ten-year time-span to be successfully operationalised. In this connection, it is worth noting that Pakistan too has certain sane voices who admit that India has not violated the provisions of the IWT. In April 2008, Pakistan's Indus Water Commissioner, Jamaat Ali Shah, in a frank interview conceded that the water projects undertaken by India do not contravene the provisions of the Indus water treaty of 1960. He said that "in compliance with IWT, India has not so far constructed any storage dam on the Indus, the Chenab and the Jhelum Rivers (rivers allotted to Pakistan for full use). The hydro-electric projects India is developing are from the run-of-the-river waters, projects which India is permitted to pursue according to the treaty⁷⁴". Such sane voices in Pakistan need to be supported to counter the misinformation campaign which the Pakistani establishment has been deliberately spreading. It also needs to be appreciated that ameliorating the deficient power situation and increasing the ICA will go a long way to reduce disaffection among the people of J&K.

- c. Afghanistan's authorities, with the help of Indian experts, have completed the feasibilities and detailed engineering designs of 12 hydro-power projects with the total capacity to generate 1,177 MW of electricity to be built on the River Kabul. If the 12 projects get completed, they will store 4.7 MAF of water. That would squeeze to some extent the flow in the river and have impact on availability of water in the lower reaches of River Indus⁷⁵, and that could have a bearing on the production of paddy in Pakistan's Sukkur Bowl. Therefore, Pakistan, rather than inciting trouble and funding its aggressive behavior, needs to be more serious in managing its waters. In any case, India needs to continue its engagement with Afghanistan, notwithstanding protestations by Pakistan.
- d. There is a need to complete the Shahpur Kandi Dam at the earliest so that Ravi waters which are so desperately needed in the Kathua District of J&K reach their destination and the desired benefit to the locals start accruing. It is relevant to note that recently J&K and Punjab have agreed to fast-track completion of the Dam. Besides augmenting supply in Ravi-Tavi Irrigation Complex, it will also provide much needed 206 MW of power⁷⁶. Also, this arrangement will substantially reduce the leakage from Madhopur. There is also a need to harness the water of rivers Ujh, Basantar, Bein and Tarnah on which Pakistan has only limited entitlement.
- e. From the Eastern Rivers, presently almost 3 MAF water is going un-utilised. If harnessed fully, besides providing better irrigation facilities in Kathua Sambha area, it will also help in restricting the waters allocated to India as per the provisions of the IWT going across the border, where one of the major usages of this water is in filling of Pakistan's Ditch-cum-Bund (DCB) defences; it is ironical that India buys battle tanks to cross the same DCBs! There is a definite need to save this water for domestic use, besides limiting Pakistan's capacity to create formidable defence positions.
- f. India's diplomatic efforts need to be gingered up to explain to the world in general and Pakistan in particular that for Indus and Sutlej Rivers India is middle riparian state, and as such, China, who is the upper riparian state, needs to be brought to the discussion table so

74. Dr. S. Chandrasekharan, "The Indus Water Treaty In Post Uri Situation – Analysis" pub in Eurasia Review dated 26 Sep 2016.

75. Khalid Mustafa, "India Out to Damage Pakistan's Interests on Kabul River", Pub in International: The News dated 05 Jun 2016.

76. Pawan Sharma, "Shahpur Kandi Dam: Punjab, J&K agree to sign Fresh Pact", published in Hindustan Times dated 03 Oct 2015.

that the rights of middle and lower riparian states, India and Pakistan, are not usurped. Although that sounds little far-fetched at this stage, but maybe some day Pakistan will see the merit in the argument that a joint diplomatic pressure can ensure that she China does not unilaterally use India's and Pakistan's share of River Indus and River Sutlej waters. Secondly, Chinese help in the -aimer Bhasha Project in the Gilgit-Baltistan area of the PoK needs to be contested, because that area is a sovereign part of India and presently is in illegal occupation of Pakistan. Simultaneously, efforts need to be made to highlight the ill-effects of this project on local ecology and cultural heritage. Ways and means need to be found to make locals aware of that, so that they protect their interests and resisting its construction.

- g. Issue of the construction of the LBOD in Great Rann of Kutch needs to be taken up with Pakistan. This construction is a violation of the provisions of the IWT, as it has already been discussed earlier in this paper.

VII - Conclusion

Formation of a Task Force to review the IWT is a good move and hopefully it will help India in creating adequate water management infrastructure in a time bound manner so that she is able to utilise all the waters that she is entitled to harness. The unending debate over 'Rights of Pakistan vs Needs of India' may be left to continue without having to abrogating the IWT.

(The paper is the author's individual scholastic articulation. The author certifies that the article/paper is original in content, unpublished and it has not been submitted for publication/web upload elsewhere, and that the facts and figures quoted are duly referenced, as needed, and are believed to be correct).

About the VIVEKANANDA INTERNATIONAL FOUNDATION

The Vivekananda International Foundation is an independent non-partisan institution that conducts research and analysis on domestic and international issues, and offers a platform for dialogue and conflict resolution. Some of India's leading practitioners from the fields of security, military, diplomacy, government, academia and media have come together to generate ideas and stimulate action on national security issues.

The defining feature of VIF lies in its provision of core institutional support which enables the organisation to be flexible in its approach and proactive in changing circumstances, with a long-term focus on India's strategic, developmental and civilisational interests. The VIF aims to channelise fresh insights and decades of experience harnessed from its faculty into fostering actionable ideas for the nation's stakeholders.

Since its inception, VIF has pursued quality research and scholarship and made efforts to highlight issues in governance, and strengthen national security. This is being actualised through numerous activities like seminars, round tables, interactive dialogues, Vimarsh (public discourse), conferences and briefings. The publications of VIF form lasting deliverables of VIF's aspiration to impact on the prevailing discourse on issues concerning India's national interest.



VIVEKANANDA INTERNATIONAL FOUNDATION

3, San Martin Marg, Chanakyapuri, New Delhi – 110021

Phone: +91-11-24121764, 24106698

Email: info@vifindia.org, Website: <https://www.vifindia.org>

Follow us on [twitter@vifindia](https://twitter.com/vifindia)