



Analysing the Indus Waters Treaty 1960: Beyond the Hype, Hoopla and The Hyperbole

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Introduction

In the context of India and Pakistan hydro-politics, the Indus Waters Treaty (IWT) of 1960 is the cornerstone and has over the years been studied and commented upon extensively. Post-Independence and the division of water infrastructure along with the boundary demarcation, the flow of water from India to Pakistan became a major political issue, along with the post-partition riots, migration of population, division of financial and other assets and most importantly the accession of J&K with India. Many temporary agreements were signed so that Pakistan could continue to irrigate its farmland and produce crops. In this backdrop, negotiations between the two nations started with the sharing of waters of the Indus Basin with the World Bank acting as a mediator which culminated with the signing of the IWT on 19 Sep 1960.¹

Pakistan is an agrarian economy which is majorly dependent on the water resources of the Indus Basin. Since its independence in 1947, water and related sectors have suffered from lack of long-term vision, foresight, planning, inadequate funding, mismanagement, corruption, long standing inter-province water sharing squabbles and a lack of infusion of the latest agricultural and irrigation techniques, which has led to the country becoming alarmingly water deficient. Like most of what ails its society and polity, it makes

for a convenient narrative for Pakistan to link the issue of mismanagement of water to the perceived danger posed by India to its water resources to rouse jingoistic feelings and shift focus away from its criminal neglect and gross mismanagement of the problem.

Indus Waters System at A Glance (Figure1)

The Indus is the 12th largest river in the world and has its source at Lake Manasarovar (Lake Ngangla Rinco in Chinese) on the Tibetan plateau. The basin stretches from the Himalayan mountains in the north to the dry, alluvial plains of Sindh province in Pakistan and flows out into the Arabian Sea.

Outside of the polar regions, this basin contains the greatest area of perennial glacial ice in the world (20,000 km²).²

The Indus River Basin has a total area of 1.12 mn km², distributed between Pakistan (47 per cent), India (39 per cent), China (8 per cent) and Afghanistan (6 per cent). In Pakistan, the basin covers around 5,20,000 km², or 65 per cent of the territory, comprising the entire provinces of Punjab and Khyber Pakhtunkhwa and most of Sindh and the eastern part of Baluchistan. The drainage area lying in India is approximately 4,40,000 km², i.e., nearly 14 per cent of the total area. About 14 per cent of the total catchment area of the basin lies in China, covering about one per cent of the area of

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the country. In Afghanistan, it covers 11 per cent of the area. Roughly 300 mn people live in the Indus Basin.³

It has two main tributaries, the Kabul River from Afghanistan and Panjnad (comprising the Jhelum, Chenab, Ravi, Beas, and Sutlej). The total inflow from China to India is approximately 181.62 km³. The Total inflow from Afghanistan to Pakistan is approximately 21.5 km³. The Mean annual inflow into Pakistan from India through the western rivers is 170.27 km³. Through the eastern rivers it is approximately 11.1 km³, which forms part of India, but is presently flowing unutilised into Pakistan.⁴

The total water withdrawal in the Indus River Basin is approximately 299 km³, Pakistan - (63 per

cent), India - (36 per cent), Afghanistan – (01 per cent), China - (0.04 per cent).⁵ Of the six, Indus and Sutlej originates in China, and the rest four i.e., Jhelum, Chenab, Ravi, and Beas originate in India.

Provisions of IWT and its Implementation

The IWT was signed after long and arduous negotiations stretching over close to 10 years on 19 Sep 1960 in Karachi by Prime Minister Jawahar Lal Nehru, President Field Marshall Mohammad Ayub Khan, and Mr WAB Liff on behalf of the World Bank.⁶ Post ratification, it came into effect retrospectively from 01 Apr 1960.



Figure 1: Indus Waters System

Broad Layout of the IWT.⁷ The Treaty has a preamble, twelve articles and eight annexures. The articles lay down the provisions in detail while the Annexures lay down the exact procedures to be followed for the implementation of the same. Certain important aspects of the Treaty are highlighted as under:

- **Article II: Provisions Regarding Eastern Rivers.** Covers the provisions regarding Rivers Ravi, Beas and Sutlej which were apportioned to India in their entirety. The only leeway given to Pakistan vide Annexure B was to withdraw waters from the various tributaries of the Ravi River for irrigating 45,500 acres of agricultural land annually.

- **Article III: Provisions Regarding Western Rivers.** It covers provisions regarding the western rivers viz Indus, Jhelum and Chenab which were apportioned to Pakistan.

- **Article VII: Future Co-operation.** It lays down the obligation of the two countries to assist each other in installation of hydrological measuring stations as well as any construction or improvement of works in each other's territory. It also obligated both parties to share data and plans about any construction that one party did, and which could affect the other party materially.

- **Article VIII: Permanent Indus Commission.** India and Pakistan were to each appoint a commissioner for Indus Waters, ordinarily a high-ranking hydrologic engineer. Each Commissioner is to be the representative of his government in all matters arising out of this Treaty.

- **Article IX: Settlement of Differences and Disputes.** This article lays down the dispute redressal mechanism. Any difference arising has to be discussed with the Permanent Indus Commission. In case it fails to resolve it then the same is to be referred to a neutral expert. If any

of the parties is not satisfied with the award of the neutral expert, then the issue will be deemed to be a dispute, which will thereafter be referred to a Court of Arbitration.

- **Article XII: Final Provisions.** The Treaty provides that it can be modified by a mutually agreed upon and duly ratified Treaty and the Treaty or a modified one will continue to remain in force until it is replaced by a duly negotiated and ratified Treaty. This effectively implies that the Treaty will remain active in perpetuity and there is no provision for abrogation of the same.

Annexures. Broad details of important Annexures are as under: -

- **Annexure C: Agricultural Use by India from The Western Rivers.** It lays down that India can continue to withdraw waters from western rivers for the area under cultivation as on date the Treaty comes into force and certain specific conservation storages that it was allowed to construct.

- **Annexure D: Generation of Hydro-Electric Power by India on The Western Rivers.**

- India was allowed to operate all hydroelectric plants that were already functional or under construction on the day the Treaty came into effect.

- India has an unrestricted right to generation of hydro-electric power from the western rivers as governed by the provisions in Annexure E.

- It also lays down that in case India decides to construct a new plant, Pakistan will be informed as per a laid down format at least six months in advance. Pakistan will then have to accept it or convey its disagreement within three months.

- **Annexure E: Storage of Waters by India on The Western Rivers (Article III (4)).**

- Run of the river Hydro-electric plants can be constructed and designed in a manner that any seven days' worth of cumulative quantity of waters received upstream must be released within those seven days only. Discharge on any of the seven days cannot be less than 30 per cent and more than 130 per cent of the water received in any 24 hrs cycle.

- India is specifically allowed to construct off channel storage on Jhelum river for flood control purposes with the provision that the stored water is to be returned to Jhelum as quickly as possible. Diversion of water is permitted only in case water level rises beyond low flood control levels.

- **Annexure F:** Neutral Expert (Article IX (2)). This Annexure lays down the specific disagreements that can be referred to a neutral expert once the Permanent Indus Commissioners from the two countries are unable to resolve the same.

- **Annexure G:** Court of Arbitration (Article IX (5)).

- The annexure lays down the conditions when a disagreement which has been declared as a dispute will be referred to a Court of Arbitration, its composition, and the method that it will follow for rendering its judgement.

- The award of the Court of Arbitration signed by four or more arbitrators will be treated as final and binding.

Of the 207.6 Bn Cubic Metres (BCM) of usable water available in the Indus River system, Pakistan was allocated 167.2 BCM or 80.52 percent while

India was allotted the balance 40.4 BCM or 19.48 percent.

Implications of the Treaty for India and Pakistan

Water Stress in Pakistan and its Manifestation.

Pakistan is one of the world's driest countries, with an average rainfall of under 240 mm a year and is heavily dependent on an annual influx into the Indus River system of about 180 km³ of water flowing through India and on glacial melt in the Western Himalayas.⁸ Pakistan's singular dependence on the Indus Basin Irrigation System makes it particularly vulnerable. Various reputable international reports indicate that the country is fast moving from water-stressed to water-scarce. Pakistan Strategic Country Environmental Assessment Report, 2006, says water availability per person has drastically fallen from about 5,000 m³ in 1947 to 1,187 m³.⁹ It projects that water availability will fall below 700 m³ per capita by 2025.¹⁰ The World Bank in its 2005 report observed that Pakistan was one of the most water-stressed countries in the world and spiralling downwards continuously. In 2007, the Asian

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Development Bank report stated that Pakistan is "nearly at water scarcity threshold of 1,000 m³/person/year."¹¹ As per Pakistan's Water and Power Development Authority (WAPDA), it can store only 10 per cent of its annual river flows against the world average of 40 per cent.¹² The gap between water supply and demand is widening. In 2004, Pakistan's water shortfall was 13.2 km³ which is expected to go up to 37.2 km³ by 2025. This increasing gap has led to a severe water shortage in all sectors. Currently Pakistan's water requirement in the Indus water system is 167.45 km³ while availability is 162.7 km³, a gap of 4.75 km³. Some global warming projections have estimated a decrease in the water availability in the Indus river system by a staggering 40 per cent by the middle of the present century, which if it were to happen,

would threaten the very survival of a population already swollen beyond sustainability.¹³

Issues for Pakistan related to the implementation of IWT.

India has been trying to develop the hydro-potential of the western rivers within the provisions of the Treaty. However, Pakistan has been objecting to all the projects vehemently. Salal¹⁴ was the first one to be objected to and after lengthy negotiations it was settled through bilateral talks. Baglihar¹⁵ became a 'difference' and went to the neutral expert for resolution¹⁶ while Kishenganga¹⁷ had been classified as a 'dispute' and a Court of Arbitration had to be convened for its resolution.¹⁸ In each of these cases, India's stand has been vindicated and the changes given in the award by both the neutral expert and the Court of Arbitration were minor and of a technical nature. Both also upheld India's right to construct hydropower projects within the technical and legal confines of the provisions of IWT which Pakistan had tried to challenge post facto. India has also initiated Tulbul Navigation Project which was conceived in 1980s as a Navigation Lock cum Control Structure at the mouth of Wular Lake. The aim of the project was to ensure year-round navigation from Anantnag to Srinagar and Baramulla. Even though, with the commissioning of the project, the output of all the downstream Indian and Pakistani hydel projects would have been enhanced, Pakistan refuses to see reason and the project is stalled despite 12 to 13 rounds of secretary level talks.¹⁹

Pakistan's Obsession with Cumulative Storage over Western Rivers.

Despite six decades of the Treaty coming into force, India has been able to exploit less than 20 per cent of the hydro-power potential of the western rivers and that too at great cost over runs because of the intransigencies displayed by Pakistan at each stage. As per the J&K State Economic Survey of 2017, the Union Territory (UT) has the potential to produce 16,475

(Mega Watt) MW of hydro power, though, till now only 3,263.46 MW has been harnessed.²⁰ All the dams being constructed by India are run-of-the-river projects which technically do not have any storage or pondages. Despite clear-cut provisions in the Treaty, Pakistan continues to claim that the cumulative live storage of these projects could provide India with a leverage in terms of both, stopping of waters during the lean period and releasing excess waters during the monsoon season and has used this bogey to stonewall/cause delay in all projects.

Provisions for India wrt Western Rivers Apportioned to Pakistan.

India is allowed unrestricted domestic use of water for drinking, washing, bathing, recreation, sanitation, stock and poultry, and industrial purposes. Non-consumptive use of water for navigation, flood protection and control, fishing, and wildlife etc., too is allowed. India can withdraw specified amount of water from Chenab for irrigation and hydro-power generation. India is also allowed to irrigate all fields which were under irrigation on the effective date of the Treaty. In addition, India was allowed to use another 1.3 Mn Acre-Feet (MAF) for irrigation which could irrigate a crop area of 13,43,477 acres. So far, we have utilised only 7,92,426 acres²¹ or approximately 59 per cent of this provision. India is also allowed to construct storage aggregating 3.6 MAF which India is yet to utilise even after more than six decades of the Treaty being in operation. India is allowed unrestricted use of waters of the western rivers for the construction of run-of-the-river hydroelectric projects. However, it is subject to very specific safeguards so that such use does not impact either the quantity of water reaching Pakistan or interfere with the natural timing of those flows.

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Kishenganga and Ratle: The Present Bones of Contention and Role of the World Bank.

- Pakistan has been trying to rake up the water issue with India ever since the IWT was signed. Realistically speaking, with the signing of the Treaty, the water issue between the two nations was deemed to have been resolved in perpetuity and what remained was that the provisions and mechanism for handling projects over the rivers apportioned to each other, should not be in violation of the legal and technical parameters given in the Treaty.²²
- It has been widely reported in the media that India has issued a notice to Pakistan for starting discussions on modification to the IWT. The notice was sent on 25 Jan 2023 through India's Permanent Indus Waters Commissioner.²³ Pakistan has been objecting to India building Kishenganga and Ratle Hydroelectric Projects in the UT of J&K. As part of the Dispute Redressal Mechanism, Pakistan had approached the World Bank for the appointment of a neutral expert to examine its technical objections to the two projects. It thereafter unilaterally withdrew the request and asked for the constitution of a Court of Arbitration. From 2017 till 2022, the World Bank continued discussions with both the countries to resolve the issue until finally in the beginning of 2023 it started a parallel process by appointing a neutral expert and constituting a Court of Arbitration.²⁴
- This was objected to by India since Paragraph 6 of Article IX of the Treaty which deals exclusively with 'Settlement of Differences and Disputes' clearly states that while any 'difference' is being dealt with by a neutral expert, no other dispute redressal mechanism can be triggered for the same issue

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simultaneously. It is thus clear that the World Bank had erred in appointing a neutral expert and constituting a Court of Arbitration for the same issue. India thereafter refused to take part in the proceedings of the Court of Arbitration. The first meeting of the Court of Arbitration was held in the Hague on 07 Feb 2023 in the absence of any representative from India.²⁵ On 06 Jul 2023, the Court of Arbitration, via a press release, ruled that it had been constituted within the provisions of the Treaty and rejected India's contention as to its illegality due to the same issue being simultaneously under the consideration of a neutral expert.²⁶ Rightfully so, Govt of India rejected the same and reiterated that the constitution of the Court of Arbitration was not consistent with the provisions of the IWT.²⁷

Options for India with Respect to Future of IWT

With the water issues between India and Pakistan gaining prominence of late, there is a need to holistically examine the options available to India and analyse as to which one suits it the best in the long run. Broadly, the options are three i.e., abrogate, re-negotiate, or optimally utilise the provisions.

Unilateral Abrogation of the IWT

There being no exit clause in the Treaty, unilateral abrogation may be exceedingly difficult for India to justify. There are two international treaties/conventions which are often cited by researchers as providing an internationally accepted exit clause from such treaties. First is the Vienna Convention on the Law of Treaties 1969. Article 56²⁸ of the Treaty talks of withdrawal from a Treaty containing no provision for the same. Though it does give leeway to countries to withdraw unilaterally,

however, it only applies to agreements concluded post 27 Jan 1980. In any case India has neither signed nor ratified it though Pakistan did sign it but has not ratified it. Second is the law regarding the Responsibility of States for Internationally Wrongful Acts 2001.²⁹ These lay down the principles as to when and how a state can be held responsible for a breach of an international obligation. Considering the fact that Pakistan has been aiding and abetting terrorism in India, in case abrogation is to be thought of, then the latter may provide some legal justification for the same.

Likely Consequences of Unilateral Abrogation.

In case India abrogates the IWT unilaterally, its ability to gain international legitimacy and acceptance will be virtually zero. In fact, such an act may result in far reaching negative consequences. Water being an existential and highly emotive issue, an abrogation could be construed as an 'act of war' with obvious consequences.

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- Water and sanitation are recognised as human rights by the United Nations General Assembly.³⁰ The right to water is also derived from Article 11.1 of the International Covenant on economic, social and cultural rights which makes it binding under international law. Any unilateral abrogation of the Treaty will immediately result in the UN Water Conventions of 1997 also to kick in under which Pakistan's water rights as a lower riparian will be assured. It will not only allow it to keep using the waters of western rivers but may also open the sharing of waters of eastern rivers to India's detriment.³¹
- India also needs to factor in the control it exercises over the waters of the western rivers to be able to make a material difference to the existing water flows.
- It will call into question all the international agreements and treaties signed by India and

may even result in some of the countries unilaterally abrogating or exiting some critical treaties in support of Pakistan. The impact of any abrogation on India's relations with its South and South-East Asian neighbours will also be quite damaging. The political and diplomatic costs for India may be too heavy to absorb.

- India will also have to calculate the Chinese response since it is a staunch ally of Pakistan. China is much better placed to control the transboundary waters flowing into India. India also needs to look at the Pari Chu incident over Sutlej in 2004-05 which caused devastation in Himachal Pradesh and the sudden turning of the waters of the Siang River in Arunachal Pradesh black and turbid. Whether these were natural phenomenon or part of a larger Chinese game plan for testing water conflict strategies is open to interpretation.³²

Re-negotiating The Treaty

It has been more than six decades since the Treaty has been in vogue and there is undoubtedly a need to have a relook at it in keeping with the current realities. India has also informed Pakistan about its intent to renegotiate the same. Some of the issues which may warrant a relook during re-negotiations are: -

- Pakistan has always treated the IWT as a prior right and not based on the usage, whereas India wants the Treaty to be based on optimal usage.
- The navigational aspect of these rivers has not been explicitly included in the Treaty.
- There has been an exponential increase in the population of J&K and the existing Treaty does not cater for the aspirations and needs of the Union Territory as it exists today.

- When the Treaty was being negotiated, climate change, an increase in population and pollution were not foreseen. This is one major reason which calls for a review of the Treaty.
- The redressal mechanism in the Treaty is lengthy and time consuming and provides Pakistan with a veto over any projects planned by India over the western rivers.
- Measures to enhance trust between the copriarian need to be incorporated if optimum utilization of this finite resource is to be ensured. Any enhancement of trust can only happen when there is joint ownership of assets and the accruals.
- Joint collaboration for location of storages and canal designs to reduce losses due to evaporation, seepage and salinity need to be incorporated.
- Role of Afghanistan and China needs to be factored in, while keeping the security and geo-strategic implications in mind.

India would want to have a say over the western rivers as also look to safeguarding interests of J&K. On the other hand, Pakistan would want to reduce the leeway given to India for the use of western rivers for building hydro-power projects while seeking more share from the eastern rivers. In fact, seeing the political distrust, even the talk of re-negotiation may cause a lot of internal political turmoil within the two nations. For anything like this to happen, the relations between the two nations must improve manifold, but this is unlikely to happen. So, be that as it may, re-negotiating the IWT, though the ideal way ahead is also unlikely to happen anytime soon.³³

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Optimizing the Existing Provisions of IWT

A detailed study of the existing provisions and their implementation over the years would reveal that there are still many stipulations, both explicit and implied, that India is yet to utilise. It is therefore imperative that these are exploited at the earliest to stop our share of waters flowing unhindered into Pakistan.

Eastern Rivers. Approximately 11 km³ of India's share of waters from eastern rivers flows into Pakistan yearly³⁴ even as India's demand–supply deficit from the Indus Basin is projected to be 52 per cent by 2030.³⁵ As per the Pak Bureau of Statistics approximately 7 MAF (8.5 km³) of waters of eastern rivers is routinely being used for its Rabi and Kharif crops alone. India must augment the storage and carrying capacities of its barrages and canals over eastern rivers so that this water, less environmental flows, can safely be impounded and used for its own irrigation purposes. It would also put immense pressure on the already water stressed Pakistan irrigation system.

India's Projects to use Unutilised Waters.³⁶ Of the 11 km³ of these waters, approximately 2.4 km³ is from Ravi River. Some of the projects to utilise these waters and their progress is as under: -

- **Shahpurkandi Project.** This project will help utilise the waters coming out from powerhouse of Thein Dam to irrigate 37,000 hectares of land in J&K and Punjab and generate 206 MW of power. The cost of the project is 2,715.70 crores. Construction work is presently on and is likely to be commissioned by middle of 2024.
- **Ujh Multipurpose Project.** The project will create a storage area of about 781 mn m³ of

water on the River Ujh which will be utilised for irrigation and power generation. It will provide irrigation facilities for 31,380 hectares in Kathua, Hiranagar and Samba districts of J&K apart from providing water for Kathua Town. The estimated cost of the project is Rs 11,907 crores and will take six years to complete.³⁷ The project is still at the approval and clearance stage.

- **The 2nd Ravi Beas Link below Ujh River.** This project will divert excess water flowing to Pakistan through River Ravi, even after construction of Thein Dam. It involves constructing a barrage across Ravi for diverting water through a tunnel to Beas Basin. The project will divert about 0.7 km³ of surplus waters below Ujh Dam to Beas Basin.³⁸ Even this project is at approval and clearance stage.

Western Rivers. The estimated hydropower potential over the western rivers is 16,475 MW and of this only 3,263 MW has been harnessed till now.³⁹ Pakistan has already taken two cases, one to a neutral expert and one to the Court of Arbitration, both of which ruled in favour of India albeit with minor modifications to the design. India now needs to hasten the process of dam construction while creatively using the awards of the neutral expert and the Court of Arbitration by not allowing/entertaining similar objections to the dam designs.

- Vide Article III India is allowed certain leeway from western rivers for domestic and agricultural use⁴⁰ as has been brought out earlier.
- Post 2016, India has revived plans for enhancing irrigated areas out of its share of waters of western rivers through four projects viz Tral Irrigation Project in Pulwama,

Prakachik Khows Canal in Kargil, restoration, and modernisation of Main Ravi Canal in Jammu's Sambha and Kathua and the fourth project of Rajpora Lift Irrigation. While the first three projects will help irrigate around 1.45 lakh acres of land, the Rajpora Lift Irrigation is expected to help irrigate around 59,305 acres of land.

- Annexure C also allows India use of 1.3 MAF for irrigation. As per experts this amount of water can irrigate 1.34 mn acres while we are utilizing only 0.792 mn acres worth of water⁴¹ at present.
- India is allowed to construct 3.6 MAF total storage over the western rivers which India is yet to utilise. These projects need to be taken up with renewed urgency.⁴²

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Recommended way Forward

Unilateral abrogation of the Treaty is not a practical option while re-negotiating it in the present tension ridden atmosphere may not be feasible, hence optimising the

exiting provisions remains the best way forward. A detailed study of the clauses of the agreement and an audit of the implementation so far reveal that even within the existing provisions, India retains a lot of leeway to optimally utilise waters, something that India has not been able to do so far. Besides this, the most troubling statistic is the almost 11 km³ of water from eastern rivers which flows unchecked into Pakistan all these years due to a lack of impoundment facilities or optimum diversion capacity via canals. It is a strategic imperative that measures are immediately put into place to divert this precious resource even as the government explores the possibility of re-negotiating the IWT.

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