

Revisiting the Indus Waters Treaty

GEOPOLITICS | SECURITY | TECHNOLOGY & ECONOMY



Centre for Research on Strategic and Security Issues

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About Us

NatStrat is an independent, not-for-profit centre for research on strategic and security issues. It is headed by its Convenor, **Pankaj Saran**, and has **Shantanu Mukharji** as its Adviser.

Vision

The 21st century is upon us. The post-World War II global architecture is becoming unsustainable. The international security and strategic environment is changing. The centre of gravity of global influence is shifting, and new powers are emerging. India is one of them. Despite the odds, India has withstood internal and external challenges to preserve its democratic and constitutional ethos. Its diversity and pluralism have grown while being firmly rooted in its civilisational heritage. As a result, the states of India are more empowered today than before. More than half its population, larger than the combined size of Europe and the US, is under the age of thirty.

The transformation underway in India will unleash powerful impulses beyond India's borders. This will profoundly impact the world's political, social, cultural and economic systems. As India rises and finds its rightful place on the world stage, its unique identity, traditions and value systems will become critical to global peace and stability.

India is looking ahead to mark the centenary year of its post-independence existence. How India thinks will matter. How India acts will matter even more.

The success of India is crucial to humankind. We seek to understand the domestic and external security challenges facing India and what drives India's strategic calculations. We will ask the right questions without fear or favour and provide our views and insights fearlessly.

We will bring an authentic Indian perspective to understanding the world. We aim to make India's voice heard and count in the international community.

Aims and objectives

NatStrat undertakes research on issues that impact India's security and foreign policy interests with a focus on three areas – geopolitics, national security, technology, and economy. NatStrat's research is objective, impartial and rigorous. It upholds the highest standards of excellence and scrutiny.

NatStrat seeks to reach out to decision-makers, policymakers, practitioners and the strategic community within and outside India. It engages with international counterparts and with institutions and scholars across India.

NatStrat produces a variety of material, including research papers, commentaries, monographs and policy briefs. Its contributors are among the most authoritative and experienced professionals with international repute and acclaim. It also promotes new and fresh perspectives by encouraging young thinkers to write and work for it. As part of its activities, NatStrat hosts seminars, round table discussions, lectures, podcasts and interviews.

Abstract

The Indus Waters Treaty was signed in 1960 after nine years of negotiations between India and Pakistan with the help of the World Bank to utilise and distribute the water of the Indus River and its tributaries. It is considered one of the most successful international treaties, having survived frequent tensions and wars between India and Pakistan. The water from the Eastern Rivers (Ravi, Beas and Sutlej) has been allocated to Pakistan while that of the Western Rivers (Indus, Jhelum and Chenab) is India's share. The Treaty also allows India 'non-consumptive' use of water from Western Rivers for needs like power generation and fish culture. The Treaty also contains mechanism for cooperation and information exchange between the two countries by setting up Permanent Indus Commission which has a commissioner from both sides. There is a dispute settlement mechanism in the Treaty to be used in case of disagreements pertaining to its legal aspects.

From time to time, there have been demands to renegotiate the Indus Waters Treaty. This compilation analyses the Indus Waters Treaty through historical, technical, legal, sustainable development and policy perspectives through the views of Indian experts who have been involved with this treaty.

Ambassador Pankaj Saran and PK Saxena in their contribution *The Indus Waters Treaty: Time to move ahead* have argued that it is unrealistic for Pakistan to expect India's compliance in those bilateral agreements which are biased towards Pakistan's interest, such as the Indus Water Treaty. The current government has set up a Task Force under the Prime Minister's Office to ensure proper exercise of India's rights under the Treaty. Various hydro- electric projects on the Western Rivers with a combined capacity of more than 6500 MW have been fast-tracked by the Modi administration.

In the second article *Indus Waters Treaty 1960 – A flawed judgement*, PK Saxena highlights that the Indus Waters Treaty is being abused by Pakistan to advance its political agenda of

hampering the development of Kashmir by objecting to every development project, irrespective of its size. Due to Pakistan's obstructionist approach, there is a growing feeling that the Treaty is a major impediment towards the development of water resources in the Union territory of Jammu and Kashmir. Hence, India is rightly calling for renegotiating the Indus Waters Treaty.

In the third article, *Indus Waters Treaty – Overtaken by technology and climate change*, Devendra Kumar Sharma writes that Pakistan was given a disproportionate and excessive share of water despite having a lesser catchment area. On the other hand, on India's side, there is an acute shortage of water in the States of Punjab, Haryana, and Rajasthan. The Treaty also does not take into account the impact of rapid climate change on the environment. Risk resilience has not been built into the governance mechanism of the Treaty. Climate change and its likely impact on the Indus water basin warrant a modification.

The fourth article, *Rethinking Indus Waters Treaty: A Critical Review for a Sustainable Framework*, by Devendra Kumar Sharma highlights that water storage, sediment management and climate change adaptation measures are critical for the construction of hydroelectric projects on the Western Rivers for sustainability of the Treaty. Changed parameters must be taken into account if the Treaty has to remain sound, sustainable and fair to the people of the Indian subcontinent.

In the last article of this volume, *Indus Waters Treaty: Looking Back, Looking Ahead*, Uttam Kumar Sinha argues that by simultaneously appointing a neutral expert upon India's request and setting up the court of arbitration, goaded by Pakistan, the World Bank committed a gross procedural violation. The World Bank needs to be reminded that it is a facilitator and not an arbitrator on differences and disputes between India and Pakistan.

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THE INDUS WATERS TREATY: TIME TO MOVE AHEAD

Pankaj Saran and PK Saxena



The River Indus near Leh

Blood and water cannot flow together

In September 2016, Prime Minister Narendra Modi made what was one of the boldest statements on the Indus Waters Treaty by an Indian Prime Minister. He said, following the terrorist attack in Uri, that blood and water cannot flow together. The message to Pakistan was that it cannot run with the hares and hunt with the hounds. It cannot expect business as usual from India while waging a proxy war of terror and more against India. His remarks were a sign that India's patience had finally run out.

The Prime Minister's remarks however also reflected the deep-seated conviction that India had given way too much to Pakistan in 1960 through the Treaty in the initial euphoria of trying to build good-neighbourly relations with a new-born state, and belief in the principle of "fairness".

Enter the World Bank

To further compound the error, the Treaty handed over a central position to the World Bank by making it the arbiter of disputes that may arise between the two countries. This faith reposed by India in the World Bank to act as a neutral party was yet another gross misjudgement after the naivete displayed in referring the invasion by Pakistani soldiers disguised as raiders and tribesmen into Indian territory to the UN a few years ago.

Time and successive events have shown that the trust reposed by India on both Pakistan and the World Bank has proved to be misplaced. It is only the current government that has become alive to the realities of the Treaty and ready to correct historical errors. Not many had wagered, for example, that there would one day be a Government in India that would abrogate Article 370 of the Indian Constitution.

As far as Pakistan is concerned, it has repeatedly

used the Treaty provisions to block projects by India. The objections could not prevent the Baglihar and Kishenganga projects from being implemented and coming into operation in 2019 and 2018 or for the Ratle project to get final investment approval. They did however lead to significant time delays and cost overruns, the onus for which rests on Pakistan.

As far as the World Bank is concerned, its inability to deal with Pakistani challenges to the Kishenganga and Ratle projects in recent years reveal two flaws. One, the imperfections and ambiguities in the Treaty on dispute resolution and second, the lack of adequate technical and legal competence within the World Bank to handle such disputes.

The case of Baglihar

The Baglihar Project is a good case study of Pakistan's behaviour. It is a 450 MW run-of-river hydroelectric project located in Ramban district in the Union Territory of Jammu & Kashmir on the Chenab River. The project was conceived in 1992 and approved in 1996. India gave advance notice to Pakistan under provisions of the Treaty in May 1992. Pakistan's objections raised in August 1992 remained under discussion in the Permanent Indus Commission. In January 2005, Pakistan formally moved the World Bank for the appointment of a 'Neutral Expert' to decide on the differences between the two countries, in response to which the World Bank appointed a Swiss expert a few months later. The 'Neutral Expert' gave his determination in February 2007, largely supporting the Indian position. This proved that Pakistani objections to Indian projects on the Western Rivers of the Indus, all run of the river, are more a reflection of Pakistan's anxieties as a lower riparian, than an actual violation of the Treaty by India.

The case of Kishenganga

In 2007, Pakistan raised six objections on the 330 MW Hydro-Electric Project on the river Kishenganga, a tributary of the Jhelum River – four of them related to the design and two on legality of diversion and drawdown of water below the dead storage level. The matter

remained under discussion in the Permanent Indus Commission till 2009. Even as discussions were in progress Pakistan decided to take the two legal issues to the Permanent Court of Arbitration. The Court gave its Final Award on 20 December 2013. While upholding the water diversion by India, the Court indicated that the minimum release of nine cubic meters per second should be maintained by India which can be reviewed by the parties after seven years, if necessary. The Court also held that India should not employ drawdown flushing meant for removing sediment from the reservoir of the Kishenganga Hydro-Electric Plant and her future projects on Western rivers.

This ruling is most significant because it effectively prevents India from using modern techniques that are being used around the world to remove sedimentation from reservoirs since these technologies were not available when the Treaty was signed. Denying India, the option of using technological advances in dam construction has affected the longevity of Indian projects on Western rivers. The irony is that Pakistan is itself using the same technologies in its own projects.

In 2016, even as the four design issues were under bilateral discussion, Pakistan, guided by political considerations, unilaterally approached the World Bank for constituting a Court of Arbitration. India argued that these issues are technical and requested for appointment of the Neutral Expert. Ignoring India's repeated written advice, and after keeping the whole matter paused between 2016 and 2022, the World Bank simultaneously initiated parallel processes to satisfy both sides – appointment of a Neutral Expert in October 2022 and constituting a Court of Arbitration whose hearings began in January 2023. This was an extraordinary decision with no basis in the Treaty. The Bank's actions were in clear violation of the Treaty. It has no mandate to unilaterally interpret the Treaty. India has refused to participate in the latter process.

The case of Ratle

Similar objections on the design aspects were

raised by Pakistan on the 850 MW Ratle Project in 2012. These were also under discussion in the Commission till July 2015, but as in the case of Kishenganga, Pakistan unilaterally approached the Bank for a Court of Arbitration for Ratle.

Compounded by illegal activities in PoJK

Meanwhile, Pakistan has built or is building hydro-electric projects in territory which belongs to India in Pakistan-occupied Jammu and Kashmir, some with Chinese funding. These include the major Daimer Basha project and those in Mahl, Patrind and Gulpur on the River Indus and its tributaries.

India throws the gauntlet

In January 2023, India finally served notice to Pakistan seeking amendments to the Treaty. This is a major and long overdue move which should have been done many years ago. In its notice, India has accused Pakistan of violating the “graded mechanism” of dispute settlement under Article IX and has correctly pointed out that the first step has to be the appointment of a Neutral Expert. India has further accused Pakistan of refusing to discuss the issue during the Permanent Indus Commission meetings held between 2017 and 2022. India has thus drawn attention to Pakistan’s misuse of the Treaty, the lacunae in the Treaty itself and gone a step further by suggesting an “update” in the Treaty to take into account the lessons learnt over the last sixty-three years.

It is understood that Pakistan has responded to India’s notice and stated that the proposal for amending the Treaty may be taken up in the Permanent Indus Commission. India has rejected this suggestion, arguing that the Commission is meant only for technical issues, not issues of substance relating to the Treaty itself.

The full import of these moves in the last few months has not been fully understood.

Fast tracking at home

At the same time, India has been tardy in not fully utilising the share of water it has under the Treaty for power generation and irrigation. It is again the Modi government that has sought to correct this neglect.

Concerted action is now being taken by the Centre as well as the concerned State governments to fast-track various hydro-electric projects on the Western rivers. The Government has set up a Task Force under the directions of the Prime Minister’s Office to ensure exercise of India’s rights under the Treaty. The second meeting of the Task Force took place on 26th May 2023, in Srinagar under the chairmanship of Deputy National Security Adviser Vikram Misri.

The nine main projects being fast tracked include Ratle, Sawalkote, Kirthai-II, Kiru, Kwar, Sachkhas, Dugar, Kiru and Kwar, with a combined capacity of more than 6500 MW.

Nothing is cast in stone

International treaties enjoy acceptance and therefore legitimacy not only by force of law but also by virtue of being implemented in good faith by all sides and being equal and just. This is even more important when the parties to the Treaty are adversaries. Additionally, international agreements are not cast in stone. There are numerous instances where Treaties have been updated or modified, or otherwise have simply been relegated to the dustbin of history. Pakistan has flouted all norms of civilised behaviour and international principles governing inter-state relations by its brazen use of terrorism as a tool of war against India. Its expectation of compliance by India of bilateral agreements that suit Pakistan such as the Indus Waters Treaty is unrealistic.

Pakistan has overplayed its hands. Such brinkmanship has been the hallmark of Pakistan's overall India policy. However, the time for reckoning for Pakistan has come. Its free ride of the liberal share of the river waters granted to it under the Treaty, repeated attempts to veto India's legally permissible usage as well as benefiting from the historical neglect by India to ensure full utilisation of its share can no longer be taken for granted. The time has come to move ahead.



Pankaj Saran

Pankaj Saran is a former diplomat with forty years of experience in foreign, strategic and national security affairs. He has served in key positions within the Government of India in the Prime Minister's Office, the National Security Council Secretariat, Ministry of External Affairs and in Indian Missions abroad. He has served as India's Ambassador to Russia and India's High Commissioner to Bangladesh, and as Head of the Northern Division in the Ministry of External Affairs dealing with Nepal and Bhutan.

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INDUS WATERS TREATY 1960 - A FLAWED JUDGEMENT

PK Saxena



On 6 July 2023 the Court of Arbitration at Hague rendered its Award on its competence, in an arbitration initiated by Pakistan against India on its two hydroelectric projects, namely Kishenganga (330 MW) in the Jhelum basin and Ratle (850 MW) on Chenab. India did not take part in the proceedings of the Court on its principled position that the constitution of this Court Arbitration (CoA) is in contravention of the provisions of the Indus Waters Treaty. In its decision, the Court held that India's non-appearance in these proceedings does not deprive the Court of Arbitration of competence to address all questions raised in Pakistan's Request for Arbitration.

India rejected the Court's observation and reiterated its "consistent and principled" position that the constitution of the unauthorized "so-called Court of Arbitration" is in contravention of the provisions of the Indus Waters Treaty as the same violates the graded mechanism for resolution outlined in the treaty. India holds that, as per Article IX of the Treaty, when a question arises concerning the interpretation or application of this Treaty, it is

first taken to the Permanent Indus Commission, comprising two Commissioners from either country; if the differences are not resolved, then either party can escalate the issue to a neutral expert. The matter can be taken to the Court only under two conditions: one, if both the parties agree that the issue requires legal interpretation of the Treaty; and two, when the neutral expert appointed earlier, refers the matter to the CoA. But in the present case, both options were not followed, and Pakistan unilaterally dragged India to the CoA.

Analysis of the Court's Award

The Court's Award, which India rejected, is skewed - deliberately or otherwise - and overlooks a multitude of vital facts to reach the conclusion that India's request for the appointment of a neutral expert was after Pakistan had already initiated

the proceedings for the Court, an action which consequently resulted in the parallel proceedings.

In carefully chosen words, the Award stated that “By way of a Request for Arbitration dated 19 August 2016, Pakistan initiated the present arbitration proceedings before the Court of Arbitration...” and “Subsequently, on 4 October 2016, India requested the World Bank to appoint a neutral expert...” A careful read of the Award will reveal that while the Court mentioned the date on which Pakistan “initiated the proceedings” to appoint the Court i.e., 19 August 2016, it carefully avoided mentioning the date when India “initiated the proceedings” of appointment of the Neutral Expert and instead used the phrase “requested the World Bank”. This skewed interpretation which was made by the Court several times in its Award doesn’t seem to be without an intent.

While arriving at this conclusion, the Court completely ignored the fact that the request for appointment of the Neutral Expert is a three-stage graded procedure outlined in Annexure F of the Treaty. It begins with a notice issued by a commissioner to his counterpart under paragraph 5(a), to notify his intention to ask for the appointment of a Neutral Expert and prepare a joint statement within two weeks under paragraph (5)(b). After the expiry of the period of two weeks, the first Commissioner may request both Governments under paragraph 5(c) to jointly appoint a Neutral Expert under paragraph 4(b)(i). If no appointment is made jointly by both Governments within one month after the date of the request, the Commissioner can request the World Bank to appoint the Neutral Expert under paragraph 4(b)(ii). In the present case, India initiated the process by serving notice to the Pakistan Commissioner on 11 August 2016, eight days before Pakistan initiated the proceedings of the Court. This was followed by the notice to both Governments on 6 September 2016 and then a request to the World Bank made on 4 October 2016. Clearly, India initiated the process of appointment of a Neutral Expert much before Pakistan, a fact that

the predetermined Court chose to overlook, for the reason brought out subsequently.

Further, the Court noted that India’s “non-appearance does not deprive the Court of competence, nor does it have any effect on the establishment and functioning of the Court, including the final and binding nature of its awards.” In its zeal to go ahead, the Court ignored that the non-participation of a party in the proceedings of the already constituted Court is different from its non-participation in the constitution of the Court itself.

Paragraph 4 of Annexure G of the Treaty stipulates how the Court is established. It states that “Unless otherwise agreed, between the Parties, a Court of Arbitration shall consist of seven arbitrators appointed as follows...” and goes on to describe how these seven Arbitrators are appointed, that is, two Arbitrators each from both the countries and the three Neutral Umpires appointed pursuant to paragraph 4(b) of Annexure G. Further, paragraph 11 of the same Annexure stipulates that “As soon as the three umpires have accepted the appointment, they together with such arbitrators as have been appointed by the two Parties under paragraph 6 shall form the Court of Arbitration.”

There is not a single provision in the Treaty that provides for a different or curtailed composition of the Court in the absence of the participation of a party. This vouches for India’s assertion that the formation of the court itself is illegal.

Pakistan relies on paragraph 11 of Annexure F, that “Unless the Parties otherwise agree, the Court shall be competent to transact business only when all the three umpires and at least two arbitrators are present.” This is a “transaction of business clause” for the seven-member court constituted under paragraph 4 of Annexure G and not for constituting the Court itself. It is difficult to believe that ignoring such a glaring provision by the Court is not deliberate.

Furthermore, the Court held that “a “dispute” could arise and be placed before a court of arbitration without first being addressed by a neutral expert, so long as a commissioner had not already made an actual request for the appointment of a neutral expert to address the matter. On the factual record, India made no such request prior to Pakistan’s initiation of the Court’s proceedings”. This conclusion, again, has been reached based on the skewed interpretation of the dates of “initiating” the respective proceedings, as mentioned earlier.

Lastly, the Court admitted that an essential requirement of Article IX (3) relating to the preparation of a report in the Commission on the “dispute” has not been fulfilled and no report had been prepared by the Commission. To justify the same, it jumped to the provisions of Article IX (4) to hold that “the Treaty permitted the process of forming a court of arbitration to move forward where one Party was of the view that the report was being “unduly delayed”. The Court found that, in the present circumstances, Pakistan had reasonably come to the conclusion that the report was being “unduly delayed”. The fact that the then Pakistan Commissioner intimated his intent to constitute the Court of Arbitration on 25 February 2016 and the Indian Commissioner, on 14 March 2016 had requested for an early meeting of the Commission, only to be ignored by Pakistan, is not commensurate with this assertion. Pakistan continued to reject India’s requests for a meeting of the Commission.

It is also interesting to note that the questions raised by Pakistan explicitly fall within the provisions of Part 1 of Annexure 'F' which requires them to be resolved by a Neutral Expert under Article IX(2)(a). This was done in the case of Baglihar (2005-2007) where the issues were resolved by the Neutral Expert. This fact was admitted several times by the Pakistan side itself before giving the notice for the appointment of the Neutral Expert to resolve these issues in 2015 but revoked later in 2016. The Court did not explain why it had chosen to ignore this unambiguous provision of the Treaty, as well as the precedence. Ignoring the facts brought out by India and even twisting them while giving the

Award, highlights the bias in the award.

The dubious conduct of the World Bank

Despite the World Bank’s claims that its role is procedural, the facts remain that backed by some poor legal advice, the World Bank did not interpret its role accurately, much to the ire of both parties. To cover up the initial follies, it went on to commit a series of blunders resulting in what can only be dubbed as a tragedy of errors.

More than a week after India filed a request with Pakistan on 11 August 2016 to jointly appoint a Neutral Expert, Pakistan responded on 19 August 2016 to appoint a court of arbitration and quite mischievously copied the request to the World Bank as well. It was duly acknowledged by the President of the World Bank pursuant to paragraph 9 of Annexure G.

This was against the provisions of the Treaty. Paragraph 7 (b)(ii) of Annexure G allows both parties 60 days to establish the Court of Arbitration jointly. Only if the parties fail to do so, does the Treaty allow the World Bank to step in. Thus, there was no reason for the World Bank to enter the stage in this issue before 18 October 2016. However, the Bank brought itself into the act, invoking paragraph 9 of Annexure G, much before the mandatory sixty days, based only on Pakistan's perception that “there is no reason to wait until that date”. The Treaty does not provide for the World Bank to act on the requests based on the perceptions of either party.

Further, after India’s request dated 11 August 2016 to appoint the Neutral Expert did not evoke a favourable response, the Indian Commissioner informed the Governments of both India and Pakistan on 4 September 2016 under the provisions of paragraph 4(b)(ii) of Annexure F. This was followed by a request dated 4 October

2016 to the World Bank, after the mandatory sixty days to appoint the Neutral Expert under paragraph 4(b)(iii) of Annexure F. Thus, on 4 October 2016, by way of India's request to appoint the Neutral Expert, the World Bank had only one legal request before itself, that is, that of India. However, instead of acting on the same, the World Bank waited till 18 October 2016 when the aforesaid mandatory 60 days period elapsed and then declared that the Bank was now seized of two requests and would initiate the two parallel processes. This, while acknowledging that "such an action is 'fraught with practical and legal difficulties, risking to render the Treaty unworkable.'" "The Bank has no acceptable answer for its inaction between 4-18 October 2016 thus keeping the Indian request pending. It attributed this delay to "due diligence" and "evaluating whether the submission had been made in accordance with the relevant Treaty requirements". This action of keeping the Indian request pending for two weeks allowed Pakistan's request to mature. Clearly, it is more than a "function of happenstance" as the Bank later claimed.

Additionally, during the first round of the process of appointment of the Neutral Expert, the World Bank deliberately and wrongly disclosed to Pakistan the names acceptable to India as Neutral Expert and went on pursuing hasty and unreasonable timelines for action on Pakistan's request. This puts in shadow the Bank's impartiality in handling the matter. In a nutshell, the World Bank's actions were arbitrary - both legally and logically - and contradict its stated "usual neutral, proactive and pragmatic approach."

Conclusion

The Indus Waters Treaty 1960 is the most generous Treaty ever signed by an upper riparian country wherein India could get only 18% of the waters and even for this, she contributed ₹62.06

million (around \$ 4 billion at today's level) towards the costs of the replacement works. The restrictions imposed by the Treaty are not generous but accepted, nevertheless. It is India's right to design the project on Western Rivers consistent with the principles of sound and economical designs within the limiting conditions imposed by the Treaty. India cannot relegate this right given under the not-so-generous provisions of the Treaty and cannot accept selective and convenient interpretations of Pakistan, based on nefarious perceptions to impose further restrictions.

India, as a responsible state, has never hindered water flows to which Pakistan is entitled, not even during wars and other periods of tense relations. The success of any water Treaty largely depends on the upper riparian state. The fact that the Treaty is widely quoted as a success story for over sixty years, highlights the commitment of India towards the successful implementation of the Indus Waters Treaty, which was originally signed with a mutual desire to attain the most exhaustive and satisfactory utilisation of the waters of the Indus system of rivers.

Lately however, for quite a few years now, this Treaty is being abused by Pakistan to advance its political agenda of hampering the development of Kashmir by objecting to every project in J&K, irrespective of its size. Because of Pakistan's obstructionist approach, there is a growing feeling that the Treaty is a major impediment towards the development of water resources in the Union territory of J&K, thereby becoming the proverbial albatross around our collective necks. The Pakistani "intransigence" on its implementation aided by the actions of the World Bank and the so-called Court of Arbitration has proven to be a flash point.

It is a welcome step by India to reject the Award of the illegally constituted Kangaroo Court and call for renegotiations of the Treaty. The dispute resolution mechanism in the present Treaty is a relic of the colonial era which heavily relies on the West and allows them to meddle in bilateral affairs. It is time for India to assert her right to exploit her resources for the benefit of our people and take all necessary steps to secure this right.



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INDUS WATERS TREATY - OVERTAKEN BY TECHNOLOGY AND CLIMATE CHANGE

DK Sharma



The Indus Waters Treaty between India and Pakistan, signed in Karachi on September 19, 1960, by the then Indian Prime Minister Jawaharlal Nehru and the then Pakistani President Ayub Khan, is a water distribution treaty organized and negotiated by the World Bank, to utilize the water accessible in the River Indus and its tributaries. This landmark Treaty at that time brought an end to the water dispute between the two nations. However, with the passage of time, it has become clear that technological progress has outpaced the original intent and spirit of the Treaty, thus making it imperative for both India and Pakistan to re-negotiate the Treaty under Article XII (3). That technical knowhow mentioned in the Treaty has become outdated is a known fact and also there is a need to re-examine the pact in the light of climate change.

Background of the water

dispute: The role of the World Bank

During the pre-independence period, water debates existed among Punjab and Sindh areas, in unified India. The water dispute developed into an international conflict after India and Pakistan gained independence in 1947. The dispute over the water was brought to the attention of the Governments of India and Pakistan in 1948, and after that, for the next four years, representatives of both countries had discussions, but both sides continued to state and reiterate their positions. In May 1952, the World Bank, which had active institutional and financial interests in both countries, entered the scene. The World Bank's then President, Eugene Black, offered the Bank's assistance in resolving this conflict. After lengthy discussions, the offer of the World Bank to mediate was accepted by both countries. Thereafter, negotiations continued and finally on

September 19, 1960, the Treaty was signed between both countries. This Treaty was one of its kind for both emerging economies at that point in time to peacefully manage a valuable natural resource.

Under the Treaty, waters of the Eastern Rivers shall be available for unrestricted use of India. Pakistan is under an obligation not to permit any interference with the waters of the River Satluj Main and the River Ravi Main in reaches where these rivers flow in Pakistan and have not yet crossed into Pakistan. Similarly, Pakistan shall receive the waters of Western rivers. India shall have restricted use of the Indus, the Jhelum, and the Chenab rivers for domestic use, non-consumptive use, agriculture uses as set out in Annex C of the Treaty, and generation of hydroelectric power as set out in Annexure D of the Treaty. The Treaty also covers the engineering and legal complexities of the dispute in its eight Annexures.

The Indus River basin

Broadly, the Indus River has two main tributaries, the river Kabul on the right bank and the river Panjnad (Panchnad) on the left. The river Panjnad is the culmination of the river Jhelum and the River Chenab, known as the Western rivers in the Indus system. The river Panjnad empties into the Arabian Sea south of Karachi. The Ravi, the Beas, and the Satluj rivers are known as the Eastern rivers.

In India, major tributaries of the Indus include the Jhelum, the Satluj, the Chenab, the Ravi, the Beas, and the Ghaggar rivers. The Indus and Satluj rivers originate in Tibet and the rest originate in India. Apart from these tributaries, the Kabul originating from Afghanistan joins the River Indus in Pakistan. The outlets of the sub-basins are at Nimoo for the River Indus and Akhnoor for the River Chenab.

Imbalances in water distribution

According to the Treaty, India was allowed

exclusive use of the waters of the Eastern rivers which was estimated at 40.7 BCM (billion cubic meters) or 33 MAF (million acre-feet). Pakistan was allowed to utilize the whole of the Western rivers which was estimated at 166.5 BCM or 135 MAF. Ironically, India is allowed only around 19.6% of the water share of the river Indus system through the Eastern rivers though it has almost double the catchment area of this percentage. On the other hand, Pakistan receives around 81% of the water share of the Indus system, with around half of the catchment area of this percentage falling in Pakistan.

The latest estimations of the water flow in the Indus basin through the different riparian countries may differ from the values of the 1960s. In the River Indus system, 50.86 BCM of water originates from India through the River Indus and the River Satluj. 186.48 BCM of water is allotted to Pakistan through the Western rivers. In 2019 Pakistani officials reported that they received 168.60 BCM in the Western rivers and an additional 6.04 BCM in the Eastern rivers. In addition, Pakistan also receives 33 BCM of water from Afghanistan. Thus, in total Pakistan receives 207.20 BCM, out of which around 46.90 BCM flows to the Arabian Sea due to inefficiencies of its system.

Pakistan was given a disproportionate and excessive share of water despite having a lesser catchment area. On the other hand, on India's side, there is an acute shortage of water in the States of Punjab, Haryana, and Rajasthan.

In the Indian State of Punjab, net dynamic groundwater resources are 21.44 MCM (million cubic meters), whereas pumping from the ground is 31.16 MCM, leading to a groundwater deficit of 9.72 MCM every year. The State falls under the “over-exploited” category. The groundwater table in most parts of Punjab is today more than 200 metres below the surface. Out of the State's area of 5.03 million hectares,

4.32 million hectares have a severe problem of falling groundwater levels. Similarly, the Indian State of Haryana, carved out of Punjab after the signing of the Treaty, is suffering badly and is under severe water stress. The State of Rajasthan where the Thar desert is located receives only 83 mm of annual rainfall in the Jaisalmer district. Large stretches of land in Rajasthan, which has multiple communities that are impacted by high temperatures of more than 50 degrees Celsius, are covered with sand dunes. Water availability for the survival of the growing population in the State is under severe stress.

Water crisis in Indian states

Inefficiencies in agriculture, a deteriorating canal system, surface/groundwater pollution, soil pollution, and interstate differences between Indian states plague the Indus Basin. In addition, the region is characterised by an expanding population and declining per capita water availability. The states of Punjab and Haryana, accounting for around 4% of the population in India, produce 25% of total wheat production. It is vital to meet the water requirements of these States, support their financial and human advancement and ensure food security to the 1.4 billion people in India.

Technology is not frozen in time: Location of the spillways

The generation of hydroelectric power on Western rivers in India is another area of contention. Part 3, Annexure D of the Treaty allows India to construct a new run of the river's hydroelectric plants. It further adds that in case gated spillways are necessary in such plants, the bottom level of such gates in "normally closed position" shall be located at the highest level consistent with "sound and economical design and satisfactory construction and operation of works".

The fact is that the technological know-how for construction of dams for hydroelectric projects

has undergone a sea change since 1960. In 1960, the concept of low-level sluice spillways in a dam for passage of the entire flood discharge and flushing of sediments did not exist due to limitations on the capacity of hydraulic hoisting arrangements for the operation of sluice gates. The Chenab and the Indus rivers carry huge amounts of sediments each year.

A proper interpretation on the Treaty implies that its provision of "sound and economical design and satisfactory construction and operation of works" should enable India to use current best technologies rather than being forced to construct dams with "overflow spillways" at the top of the dam. The location of these spillways is critical to the longevity of the reservoirs.

Spillways located at the top of the dam hasten the sedimentation process with the result that the dam gets clogged in a few years after commissioning of the project, leading to reduction of peaking storage capacity and severe wear and tear of generating units and operation and maintenance problems.

The dam of the Salal Hydroelectric Project on the River Chenab is already filled with sediment almost up to the top of the dam. Similarly, the dam of the Baglihar Hydroelectric Project located on River Chenab has suffered the same fate with the filling up of the reservoir almost up to the top. As per a study conducted by an International Consulting Company, about US \$ 0.8 billion per year or Rs. 6000 crore per year has been denied to J and K every year during the past five decades due to restrictive provisions in the clauses of the Treaty.

Pakistan's double standards

A number of major hydroelectric projects like Daimer Basha, Dasu, Mahl, Patrind, and Gulpur are under construction on the River Indus and its

tributaries in Pakistan and Pakistan Occupied Jammu & Kashmir. The Karot Hydroelectric Project was commissioned in 2022. These projects have a provision of passing design flood and sediments through low-level sluice spillways. In other words, none of these projects are using the technological knowhow of the 1960s. It is therefore untenable for India to be restrained by the technological know-how of the 1960s, as the Treaty does. The question the World Bank needs to answer is whether it will approve a project for funding anywhere in the world using a technology with overflow spillways on highly sediment laden sluices that dates back to the 1960s, as is being thrust upon India.

The Treaty also does not take into account the impact of rapid climate change on the environment. Risk resilience has not been built into the governance mechanism of the Treaty. Climate change and its likely impact on the Indus water basin warrants a modification.

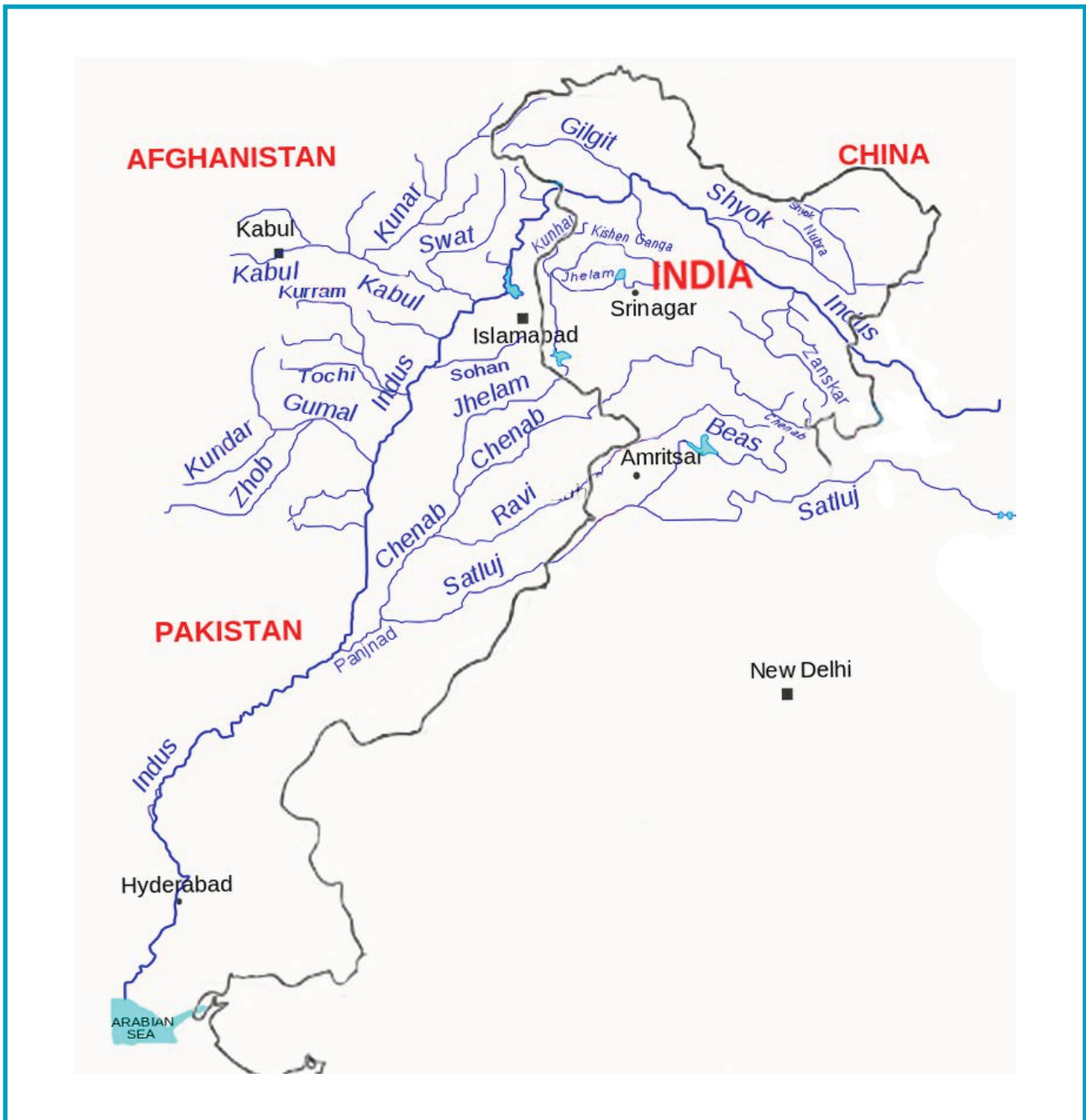
Looking ahead: Revisiting the Treaty

As we look ahead, the circumstances under which the Treaty was ratified 63 years ago no longer hold good.

The Treaty needs to take into account new realities of India as an emerging economy with the world's largest population that is heavily dependent on the monsoon and agriculture economy and high risks associated with climate change and sedimentation. India's success in dealing with climate change is vital not only for its large population but also for humankind. These factors have to be taken into account if the

Treaty has to remain sound, sustainable and fair to the people of the Indian subcontinent.

In accordance with modern engineering practices, India must have the freedom to construct hydroelectric projects with provision for low level sluice spillways. This needs a new framework to be established. Such a revision is also necessary to mitigate the losses India is suffering each year on account of damage to the dams. The Treaty can survive only if it addresses the changed parameters and advances in technological knowhow, and thereby ensures both equitability and sustainability.



Source: <https://www.pmfias.com/indus-river-system-jhelum-chenab-ravi-beas-satluj/>



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RETHINKING INDUS WATERS TREATY: A CRITICAL REVIEW FOR A SUSTAINABLE FRAMEWORK

DK Sharma



The River Indus | Credits: Praveen Selvam

Introduction

The Indus Waters Treaty between India and Pakistan, signed in Karachi on 19th September 1960, by the then Indian Prime Minister Jawaharlal Nehru and the then Pakistani President Ayub Khan, will complete sixty-three years of its existence today. This water distribution Treaty was arranged and negotiated by the World Bank to use the waters available in the river Indus and its tributaries. In 1960, at the time of signing of the Treaty, it was believed that this Treaty would bring an end to the water dispute between India and Pakistan

Sixty-three years into its inception, the Indus Waters Treaty must reconcile with immense change in technical, environmental and socioeconomic factors. The pace of change challenges the operating parameters as well as the spirit of the Treaty. In the last sixty-three years, it has become clear that increased sediment load in the rivers, sustainability of reservoirs, technological progress, water stress in the Indian states as well as in some parts of Pakistan, have changed the key metrics for management of water resources in the region.

After partition in 1947, East Punjab (42% of the area) became part of India while West Punjab (58% of the area) became part of Pakistan. Before the partition of India, five major canals in undivided Punjab were constructed in the early 20th century. These are:

1. Lower Chenab Canal
2. Lower Jhelum Canal
3. Upper Jhelum Canal
4. Upper Chenab Canal
5. Lower Bari Doab Canal

Out of 26 million acres of land irrigated annually by the Indus canals, 21 million acres of irrigated land went to Pakistan whereas only 5 million acres came to India in East Punjab. Within the Indus plains, of the area irrigated in 1945-46, 19.5 million acres came to Pakistan and only 3.8 million acres came to India. According to the 1941 census, out of the population dependent on water of the Indus system, 25 million was in Pakistan and 21 million in India. After partition, apart from canals at Upper Bari Doab Canal (UBDC) and Ferozepur, in the remaining canal system, 131 canals were in Pakistan and only 12 in India. Thus, the ratio of water resources allocation was not proportionate to the population of the two Punjab.

This allocation of water resources had wider implications beyond the bordering regions. Areas distant from the rivers and the hilly region in the East Punjab were awaiting development at the time of partition. Out of the total quantity of water used, canals on the Indian side used only 8.3 million acres feet as against 64.4 million acres feet in Pakistan. India had around 2.2 acre-feet of water per acre of irrigated area compared to 3.3 acre-feet per acre in Pakistan. The few canals which came to India after partition were very thinly spread compared to those in Pakistan. This becomes important considering the fact that regions of Indus plains in East Punjab (India) were much less developed compared to the areas which fell in Pakistan.

As a result of partition, it can be clearly seen that the East Punjab portion in India was water thirsty and

was almost left to starve with very little development and only a meagre portion of the irrigated system. Even today, Punjab state in India falls in an 'over-exploited' category with 145% drawal of groundwater. The groundwater table in most parts of East Punjab in India has gone down and is in the range of 200 to 300 metres below surface.

In order to overcome the water crisis in East Punjab (India), immediately after Independence, India prepared a project report to divert the River Chenab in 1949 for construction of a dam across it in Himachal Pradesh, located around seven kilometres downstream of village Tindi in the state. This would have diverted the water of the River Chenab to the Churah valley in the River Ravi basin in Himachal Pradesh. This proposal, however, was shelved after signing the Indus Waters Treaty in 1960. This illustrates how the Treaty undermined development efforts rather than promoting them.

The historical background of the water dispute and signing of the Indus Waters Treaty

To study any water dispute between the two parties, one has to travel back in time to the Indian Independence Act passed by the British Parliament on 18th July 1947. At the time of the passing of this Act, the boundary between India and Pakistan was not known. The use of river water was left to be decided subsequently by the two dominions. This happened against the backdrop of the partition that brought with it bloodshed on both sides, and an immeasurable cost to both.

The Upper Bari Doab Canal had its headworks in India at Madhopur. Depalpur Canal had to receive its water from a barrage at Ferozepur in Eastern Punjab. After Independence, two Chief Engineers of East (India) and West (Pakistan) Punjab, who had worked together before

partition entered into an agreement on 20th December 1947 to continue the status quo on the Madhopur and Ferozepur headworks located in East Punjab (India) till 31st March, 1948.

After signing the agreement on 20th December 1947, West Punjab (Pakistan) did not take any action for its further renewal beyond 31st March 1948 despite East Punjab giving notice on 29th March 1948. East Punjab then decided on 1st April 1948 to discontinue the use of its installations despite downstream canals in Central Bari Doab Canal (CBDC) near Lahore running dry.

It is noteworthy how such decisions were made at a time when the people of both nations were under unfathomable emotional and financial distress. The Secretary General of Pakistan Chaudhari Muhammad Ali, who later became Prime Minister of Pakistan, described the behaviour of West Punjab in not renewing its agreement as a "...neglect of duty, complacency and lack of common prudence – which had disastrous consequences for Pakistan".

The two Standstill Agreements

Two Standstill Agreements were signed between the engineers of East and West Punjab at Shimla on 15th April 1948, regarding the Depalpur Canal with headworks at Ferozepur and CBDC with headworks at Madhopur, to be in effect till 15th October 1948. West Punjab (Pakistan) agreed to pay seigniorage charges, proportionate maintenance cost and interest on a proportionate amount of capital to East Punjab.

These charges were similar to those levied by the undivided Punjab on the Bikaner state. Pakistan even started digging a new canal on the right bank of the river Satluj in its territory, upstream of Ferozepur Headworks in India to connect the River Satluj directly to the Depalpur Canal. This

would have endangered the safety of the Ferozepur Headworks in India.

On a protest by East Punjab (India) to West Punjab (Pakistan), East Punjab (India) was told to take up the matter at the federal government level. On 1st November 1949, West Punjab (Pakistan) abruptly stopped paying seigniorage charges, and also in a manner that was unsubstantiated under all agreements. Despite the lack of cooperation, India continued to supply water to Pakistan in good faith. This position did not change until the signing of the Treaty in 1960.

Provisions of the Indus Waters Treaty

The Indus Waters Treaty was brokered by the World Bank. The Treaty at that point resolved the disputes between both emerging economies to peacefully manage a valuable natural resource. The Treaty was signed with hope and optimism. However, over the years numerous technical and economic issues as well as unprecedented challenges that come with climate change have outpaced the framework and spirit of the Treaty. Moreover, even with the current state of the Treaty one must reconcile with the disproportionate allocation of water resources relative to the catchment areas and per capita demand for those resources.

As per the Treaty, India is only allowed around 19% of the water share of the Indus system through the Eastern rivers though it has almost double the catchment area of this percentage. On the other hand, Pakistan receives around 81% of the water share of the Indus system, with only half of the catchment area of this percentage falling in Pakistan. In other words, Pakistan was given a disproportionate and excess share of water despite having half the catchment area,

whereas India with almost double the catchment area has been given half the water share.

Despite the disproportionate allocation of water resources, India has upheld the spirit of the Treaty without much reciprocation. For instance, despite Pakistan's failure to pay seigniorage charges for maintenance of the Madhopur and Ferozepur Headworks as per the Agreement dated 15th October 1948, India upheld its commitment to the region. From 1st November 1949, India, as per Article V of the Treaty, paid more than £62 million (around \$4 billion at today's value) towards the costs of the replacement works. This demonstrates how the Treaty has been most generous towards Pakistan while undermining India's share of water resources as a function of catchment area and other factors.

Construction of hydroelectric projects on Western Rivers by India

One of the most significant limitations of the Treaty is its impact on developing hydroelectric projects on the rivers – Chenab, Jhelum, and Indus – collectively referred to as the Western Rivers.

Annexure D of the Treaty governs the use of the waters of the Western Rivers for the generation of hydroelectric power. Under Paragraph 8, Annexure D of the Treaty, hydropower plants on the Western Rivers are to be constructed by India so as to be consistent with “sound and economical design and with satisfactory operation of the works”. It also clearly defines that the hydroelectric projects be constructed with ‘customary and accepted practice of design for the designated range of the plant’s operation’. The Treaty clearly states how new projects should be constructed as per the accepted range

of design for satisfactory operation of the projects. However, the Treaty has clauses under Annexure D that contradict this principle, limiting the validity of the arguments under the annexure above.

This contradictory design is evident in Annexure D in which the Treaty is being interpreted to restrict provisions of outlets below the dead storage level, unless necessary for sediment control or any other technical purposes.

Sediment load in the Chenab and other Western Rivers has become much higher than it was in 1960. The Treaty also refers to the unfeasible proposition of ungated spillways to be provided for development of hydroelectric projects on the Western Rivers. This is unfeasible for Western Rivers because they follow a steep gradient in the hilly regions.

Salal and Baglihar hydroelectric projects

A case in point is the dam of the Salal Hydroelectric Project constructed by India on the River Chenab and commissioned in 1987. This dam has been completely silted almost up to the top. This project's operation and maintenance has become a challenge due to excessive sediment load and wear-and-tear of the turbine parts. Sediment load in the river Chenab at the site of the Salal Dam is such that in the upper reaches of the reservoir, sedimentation has started building/rising above full reservoir levels and has started encroaching on the fields of the farmers and has started entering the houses of the villagers along the riverbanks.

Similarly, the dam of the Baglihar Hydroelectric Project (900 MW in Stage I & II) located on the River Chenab has suffered the same fate with filling up of the reservoir almost up to its top. The local population cannot be forced to undergo misery due to flawed interpretations of the Treaty. Even Pakistan, at international fora,

agrees that part of the water storage of its Mangla and Tarbela dams has been filled with sedimentation.

Sedimentation - The new challenge

The subject of sediment control has acquired international salience and the entire world is fighting to control the monster of sedimentation in their reservoirs. There have been thousands of books and journals on the subject across the world since 1955.

It would be unfair to assert that hydroelectric projects in India on the Western Rivers should continue to be constructed as per the standards prevailing for sediment control and operations as they existed in 1960. The Treaty must adopt an evidence-based framework and be updated to fulfil the provisions of ensuring ‘sound and economical design’ with satisfactory operation of the works contained in it. Pakistan is providing low-level sluice spillways in almost all its hydroelectric projects which are under construction or have been constructed in the past.

Similarly, projects in India are also required to be constructed with “customary and accepted practice of design for the designated range of the plant’s operation” as per the provisions of the Treaty. The Treaty is limiting India’s ability to adopt such similar state-of-the-art infrastructure as India cannot be expected to dump billions of dollars in the river on construction of hydroelectric projects such that its dams get filled up with sediments in a few years after construction. There cannot be double standards for the construction of hydroelectric projects in India and Pakistan.

Solution to sedimentation - examples from China and

Japan

Low-level sluice spillways are now being provided throughout the world to ensure long-term sustainability of hydroelectric projects.

For instance, Sanmenxia Dam, a concrete gravity dam on the middle-reaches of the Yellow River near Sanmenxia Gorge on the border between Shanxi Province and Henan Province in China was completed in the year 1960. This multi-purpose dam was constructed for flood and ice control along with irrigation, hydroelectric power generation and navigation. Construction began in 1957 and was completed in 1960 (at the same time of signing of the Indus Waters Treaty). Soon after its completion, sediment accumulation threatened the benefits of the dam. Renovation was carried out to flush out sediments and flushing pipes at the bottom began operating in 1966 and the tunnels in 1967 and 1968.

In the second stage, eight bottom sluices were added to the left side of the dam which became operational between 1970 and 1971 for sediment management. Silt balance was achieved in 1970. Two more bottom sluices were added which began operating in 1990 along with another in 1999 and the final in 2000. Thus, even in the existing dams’ bottom sluices are being provided to tackle the sediments.

The Yamasubaru Dam in Japan, constructed in 1931 on the River Miyazaki with overflow spillways, offers another example. In order to tackle the sedimentation problem, two sluice spillways have been provided by cutting the existing spillways section in the middle of the dam by 9.30 metres and lowering the invert for providing sluice spillways. This work has been completed in 2022. Such low-level sluice spillways have also been introduced in other existing dams in Japan. These examples clearly bring out that sluice spillways are essential for tackling the menace of sediments in the river.

This shows that the interpretation of provisions of the overflow spillways in construction of new dams is unsustainable.

The examples above show how the number and size of sluice spillways has to be optimised based on international design practices and not be restricted because of unfounded fears of invalid interpretation of the provisions of the Treaty. Thus, for the sustainability of hydroelectric projects being constructed by India on the Western Rivers, it is essential to provide low level sluice spillways. This calls for a revision of restrictions under Annexure D, Paragraph 8 of the Treaty.

Annexures D and E

As per Paragraph 9 of Annexure D of the Treaty, “India shall, at least six months in advance of the beginning of construction of river works connected with the Plant, communicate to Pakistan, in writing, the information specified in Appendix II of this Annexure”. Under this Annexure, Pakistan has objected to all projects, whether small, medium or large. Annexure D has curbed the execution of Indian projects, thereby leading to cost and time overruns. More importantly, such provisions are not bilateral, giving one party asymmetric agency against the other. Therefore, it is essential to revisit such provisions in the spirit of bilateralism, which should lie at the foundation of all Treaties.

Annexure E on the other hand lays down provisions for the storage of waters by India on the Western rivers. At the moment, average annual unutilised water going to sea in Pakistan is around 35 million acres feet (MAF).

It would be in the larger interest of both the nations to store water in

reservoirs on the Western rivers in India so that it is utilised for the benefit of humanity. Both countries need to move forward and carry out a review of the storage of water allowed under the Treaty.

Throughout the world, as and when an upstream facility for water storage and retention of sediments is created by the construction of a dam for hydroelectric or for irrigation projects, the downstream party has to share the cost of such storage facilities.

Water Storage – The new imperative

Water storage has become critically important in a world where climate change resilience is a must. Water availability in the rivers has been severely impacted due climate change since signing of the Treaty in 1960. The pattern of inflow in the Himalayan rivers is changing due to climate change. Extreme hydrological events are already on the rise. As the intensity of extreme weather events becomes more severe and their frequency unpredictable, it is imperative to have storage of water on these Western Rivers. Water storage dams have now been recognised as a means to combat the adverse impacts of climate change as well as for energy transition. India’s serious efforts to deal with climate change is vital not only for its large population but also for mankind.

Given the complexity and burdens that come with climate change adaptation, the Treaty has to be revisited to revise Annexure E towards a more resilient storage and distribution mechanism for both nations.

Conclusion

As highlighted throughout this article much has changed since the Indus Waters Treaty was ratified in 1960. Considering historical water disputes and a disproportionate allocation of water relative to drainage and population, the parameters of operating and implementing the Treaty must evolve. The Treaty must not restrict India's ability to upgrade and maintain its hydroelectric infrastructure as per the state-of-the-art.

Further, considering the sediment load in the rivers, water stress in the Indian part of Punjab which extends to neighbouring states of Haryana, Rajasthan and Himachal Pradesh in India, and similarly downstream in some parts of Pakistan, it is essential to revisit the Treaty for the benefit of both nations.

Water storage, sediment management and climate change adaptation measures are critical for the construction of hydroelectric projects on the Western Rivers for sustainability of the Treaty. Changed parameters have to be taken into account if the Treaty has to remain sound, sustainable and fair to the people of the Indian subcontinent.

India and Pakistan need to agree to a new framework of the Treaty to allow the region to gain the maximum sustainable benefits from the Indus River system.



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INDUS WATERS TREATY: LOOKING BACK, LOOKING AHEAD

Uttam Kumar Sinha



Introduction

The Indus Waters Treaty (IWT) signed in 1960 between India and Pakistan, despite having functioned for 63 years, is, in the current political context, troubled. Well-wishers of the Treaty—like those who champion an India-Pakistan dialogue—often dub it as “uninterrupted and uninteruptible”. The World Bank, as a third party—pivotal in facilitating the IWT—is feeling the heat and erring in judgement¹ while observing the implementation of the Treaty. The role of India as a responsible upper riparian state abiding by the provisions of the Treaty, has been consistent, but it is under pressure to rethink the extent to which it can commit itself as its overall political relations with Pakistan become intractable. It is also important to underline that the reason the Treaty has remained ‘uninterrupted’, is because India allows it to work. This also means that the Treaty can become quidquid voverat atque promiserat (null

and void) if India decides to make it so. However, for this to be achieved, several politico-security and hydrological factors need to be determined as also a political consensus to abrogate the IWT in which India has invested politically and financially.

Every now and then there is a clamour for abrogating the Treaty as a response to Pakistan’s support to cross-border terrorism. Inevitably, the discourse shifts away from the rationality of sharing the waters with Pakistan to using the shared rivers as an instrument of coercion and a tool of punishment. What emerges in the water debates with Pakistan is an interesting interplay between India’s justifiable anger over Pakistan’s support to cross-border terror and

correcting the history of Indian generosity. Importantly, it reopens the past and with it, the re-examination of the IWT—both the context in which it was framed and the text that was negotiated.

It is remarkable that the IWT has survived the tumultuous relationship between India and Pakistan. That the Treaty has lived is because India respects being its signatory and values trans boundary rivers as an important connector in the region both in terms of diplomacy and economic prosperity. There have been several occasions—the Indian Parliament attack in 2001, the Mumbai terror attack in 2008, the terrorist attacks in Uri in 2016 and the 2019 Pulwama attack—which could have prompted India, within certain conditions, to contemplate withdrawing from the IWT. However, on each occasion, based on its cost-benefit assessments, India chose not to.

Looking back

Partitioning the Indus River system, comprising the six rivers, was inevitable after the partition of India in 1947. The sharing formula, devised after prolonged negotiations and with the World Bank's good offices, divided the Indus system into two halves. The three western rivers (Indus, Jhelum and Chenab) went to Pakistan and the three eastern rivers (Sutlej)², Ravi and Beas) were portioned to India. Equitable it may have seemed, but the fact remained that India conceded 80.52 per cent of the aggregate water flows in the Indus system to Pakistan. Probably it is the only Treaty in the world that was not only volumetric (water-sharing) but also partitioning. India also gave £62 million to Pakistan to help build replacement canals from the western rivers. Such generosity is unusual of an upper riparian.

Did India compromise its position? This is a query raised in retrospect. Water was critical for India's development plans, irrigation facilities and power. It was crucial, therefore, to get the waters of the eastern rivers for the proposed Rajasthan

canal and the Bhakra Dam. Without these waters both East Punjab and Rajasthan would be left dry, severely hampering India's food production. India's Prime Minister Jawaharlal Nehru, while inaugurating the Bhakra canals described it as "a gigantic achievement and a symbol of the nation's energy and enterprise". In Pakistan, however, it was an occasion for the expression of strong resentment. Nehru was always conscious that the Bhakra canals should not be at the cost of reduced water supplies to Pakistan. However, he was also very clear that India's interest on the eastern rivers should be protected. Nehru at a public meeting in Bangalore stated: "So far as Pakistan and India are concerned, I have been convinced that the only policy we should pursue is one of friendship with Pakistan. So, we have consistently pursued that policy. Naturally, that does not mean that we should abandon our vital interests. That is not the way to seek friendship."

On the Indus waters, Nehru in the same speech goes on to say, "The Indus water dispute is one of the differences still to be settled between India and Pakistan. On all these issues India pursues a policy of candour and regard for human needs on both sides of the border and is always willing to negotiate in a friendly spirit to the end that she and Pakistan should someday come to live on their sub-continent as amicably and cordially as the United States and Canada live in North America."¹

It is interesting to note that India's negotiating approach was in clear contrast to the position on the Farakka barrage on the Ganga in East Pakistan (which later became independent Bangladesh). Pakistan in 1951, had objected to India's plans, fearing that such a barrage would reduce the availability of water for projects in East Pakistan. Several notes were exchanged and in 1957 Pakistan even suggested taking the matter to the UN. But India did not budge an inch.

Soon after the signing of the IWT, Nehru and Pakistan's President Ayub Khan discussed the Farakka barrage in London in 1961, but nothing concrete was decided. A number of expert-level meetings were held between 1960 and 1969 but the issue remained unresolved until 1996, when India and Bangladesh signed the Ganges Water Treaty.

Clearly, due to its strategic location and importance, the Indus basin attracted far more serious attention than the Farakka issue. The Indus tributaries passed through Jammu and Kashmir (J&K) which had received, by then, considerable international attention.

In fact, David Lilienthal, the US public administrator who headed the Tennessee Valley Authority and later the Atomic Energy Commission, wrote in August 1951 in the US magazine *Collier's* after visiting India and Pakistan, that the two countries were on the edge of a war over Kashmir and the US might be drawn into it. Lilienthal had feared that "another Korea is in the making."²

While in India the IWT is perceived to be highly generous towards Pakistan, the view in Pakistan has been radically different. The main impression in Pakistan has been that the loss of the eastern rivers was irreparable. Commentators such as Bashir Malik have challenged the Treaty's provisions, saying that it was Nehru who manipulated the Radcliffe Award to ensure that the headworks of Ferozepur remained in India.³ Malik grieves that the signing of the Standstill Agreement and the Delhi Agreement was a colossal error, which in the end cost Pakistan its rights over the eastern rivers, and goes on to say that India's negotiation tactics were superior to those of Pakistan.⁴ He also questions the World Bank's motive behind the 1954 plan, as it was well aware that the loss of the eastern rivers would be "a rude shock to bear with [for] Pakistan."⁵ Malik writes: "It would seem as a tactical strategy to assure her, though falsely, of availability of enough flow of waters of Western Rivers."⁶ He

adds that the Bank's proposal "incorporated the core elements of the Indian plan. In fact, she gained much more than she could ever imagine ... She got away with the total flow of 33 million acre-feet (MAF) virtually for a song."⁷

Current Situation

What is disputable today has nothing to do with water-sharing, which is settled under the Treaty, but whether the Indian projects on the western rivers, in particular Jhelum and Chenab, as Pakistan claims, conform to the technical stipulations.

Storages on rivers indeed create anxiety for lower riparian states and the IWT's provisions factor in the water supply concerns of Pakistan. It must be noted that there is not a single storage dam that India has built on the western rivers even though the IWT allows storage entitlement of up to 3.6 MAF (million acre feet). However, this is being corrected by the Modi government since 2016. Each project, in accordance with the IWT, requires India to provide specified information to Pakistan at least six months before the commencement of the works.

Clearly the question of India acquiring capacity to manipulate or withhold the flow of water is, under the IWT's provisions, not only untenable but can also be monitored. Pakistan's objections to the projects over several decades have been tactical and less technical. Its objective principally has been to stall any water development projects in Kashmir. A prosperous and developed Kashmir increasingly locked to mainstream India is an anathema to Pakistan's leadership.

Pakistan has cleverly used its lower riparian position to garner international sympathy and

domestic incapability. The country receives 67 per cent of international waters, making it a boxed-in lower riparian not only with India but also with Afghanistan vis-à-vis the Kabul River. The leadership articulates its vulnerability and victimhood by raising water as a “lifeline” issue, suggesting clearly that the sharing of the waters with India still remains unfinished business.

A section of Pakistan’s political-military leadership, given its feudal and industrial background, believes that the water issues not only help divert attention from Pakistan’s inefficient water management policies and inter-provincial water disputes between Punjab and Sindh but would also provide a “back door” for international involvement, once again, in the Jammu and Kashmir dispute.

The raison d’être of the IWT was precisely to de-link the water issue from territorial disputes and settle any differences within the mechanism of the Permanent Indus Commission (PIC), with one commissioner from each country to implement the treaty as well as settle differences and disputes by agreement, neutral expert, court of arbitration or any other manner as agreed. The commissioners have met at least once a year except in 2020, when the meeting was cancelled due to Covid-19. India’s leadership and water development planners in the 1970s lost much ground to Pakistan on the interpretation of IWT when it came to various projects on the western rivers (Indus, Jhelum and Chenab). India conceded to Pakistan’s objections, for example on the Salal Hydroelectricity Project and then later the Tulbul navigation. The adjustment on the height of the Salal resulted in huge siltation of the dam and the Tulbul waterway even till today remains shelved.

The fact, however, remains that the provisions of the treaty entitled for India on the western rivers remain

woefully unutilised both in terms of storage capacity and hydropower generation. After the effective abrogation of Article 370 of the Indian Constitution, the current NDA government, which realises water as a means to socioeconomic ends, has fast-tracked a number of multi-purpose river projects in Kashmir including a ₹5842 crore investment for the 850 MW Ratle project. The NHPC expects to install 3800 MW of projects with an investment worth ₹2,300 crore for J&K. It is estimated that hydropower on the Chenab will triple in the coming years. India has done well in recent times to communicate, in no uncertain terms, to the international community and even to the World Bank, as the third party to the treaty, that riparian sympathy towards Pakistan is misplaced.

In January 2023, India issued notice to Pakistan for its continued “intransigence” on implementing the Indus Waters Treaty (IWT), signed in 1960. India’s argument is that there cannot be “two separate processes” to resolve differences over the Kashmir-based Kishanganga and Ratle Hydroelectric Projects on the Jhelum and the Chenab and considers such actions as a ‘material breach’ of the Treaty. India’s notice to Pakistan, probably for the first time, called for negotiations on modification of IWT. India would like to relook certain annexures relating to dam designs as well as the dispute resolution mechanism, given its legitimate water development projects on the western rivers (Indus, Jhelum and Chenab). Article X of the IWT mentions “modification of the provisions”. Pakistan would not like to enter any renegotiations given that it extracted a more than favourable Treaty. Any mutually acceptable modifications would require both to abide by the letter and the spirit of the IWT.

One principal reason why the IWT has been robust is the in-built “difference and dispute resolution”. Article IX has a three-step graded mechanism. If the two sides cannot resolve a ‘question’ or ‘difference’ bilaterally, then it becomes a ‘dispute’ and is referred to either a Neutral Expert (NE) or the International Court of Arbitration (ICA)³. Technical differences are referred to an NE with a provision of court of arbitration. Clearly, Pakistan’s rather well-styled infringement is political and not technical and solely intended to stymie much-needed hydroelectric projects in Kashmir by taking the matter from the bilateral and technical ambit to ICA. Such positioning might seem foolhardy, but rationality does not come easy to the Pakistani establishment with issues concerning India being deeply politicised and securitised.

Interestingly, the framework for arbitration would not have come about had it not been for the intervention of Zulfikar Bhutto, the Oxford-educated lawyer who had joined Pakistan president Ayub Khan’s cabinet as the minister of water, power, communication and industry. Bhutto played an active role in the final phase of the Indus treaty negotiations but more significantly, his statement in the United Nations (UN) as a member of the Pakistan delegation, drew a crucial link to arbitration. A Soviet draft resolution on the question of defining aggression was put forward in the UN General Assembly in October 1957, and Bhutto said that “economic aggression or indirect aggression is perpetrated if lower riparian is deprived of natural rights in use of rivers which flow through two or more countries.”

What should India do?

There have been debates in India about: (a) the need to replace the Treaty with another improved one (Indus Water Treaty-II), (b) to abrogate it and (c) to utilise the provisions of the Treaty to inflict pain on Pakistan as a countermeasure.

Those advocating revision argue that the Treaty is outdated in the sense that it does not take into account new realities and grounds for cooperation (proper survey of the basins for better exploitation of water resources; reconsideration of the interests of Kashmiris whose interests were overlooked; and new technologies being used for dam-making, de-siltation and ecological issues, among others) and hence begs for revision.

On the other hand, the advocates of abrogation argue that the Treaty has unjustly signed away more waters to Pakistan than it rightfully deserved and has not ensured friendly behaviour from Pakistan. Moreover, it has taken undue advantage of the relevant clauses of the Treaty to stall and delay power and navigational projects in the state of Jammu and Kashmir which has hurt the interests of the people of Kashmir. Therefore, India should abrogate the Treaty unilaterally in response to irresponsible and hostile behaviour demonstrated by Pakistan ever since the Treaty was signed.

But there is a third perspective that centres around the optimal use of Treaty provisions. Those advocating this hold that India has been quite generous in not using the provisions of the Treaty to good effect (to store water granted by the Treaty to India) especially at a time when the problem of water scarcity has started haunting Pakistan.

In view of the third perspective, adequate attention must therefore be paid to harness maximum possible water from these rivers through multi-purpose projects. Under the NDA government (2014-2019) projects like the Ujh

(storage of 0.82 MAF) and Shahpurkandi Dam (0.012 MAF) and the 2nd Ravi Vyas Link Project, on the eastern rivers, which can harness water flowing across border to Pakistan (about 0.58 MAF in non-monsoon period), but which were hanging fire, have become a national priority. Shahpurkandi Project on the Ravi River seeks a total production capacity of 206 MW. Jammu and Kashmir will get 20 per cent of power generated from this Project.

On the western rivers, the “permissible storage capacity” as per the Treaty provisions has not been given serious attention in India. One of the projects identified for storage purposes is the Bursar Multipurpose Project on the Marusudar river (the main Tributary of Chenab) in Kishtwar district of Jammu and Kashmir. It will store about 1 MAF, produce 800 MW of electricity and irrigate about 100,000 hectares. The second multi-purpose project being planned is the Gyspa on Bhaga River (Chenab Main) in Lahul & Spiti District of Himachal Pradesh. It is supposed to store water (0.74 MAF), produce 300 MW of electricity and irrigate 50,000 hectares of land. The Tulbul Navigation Project, which remains stalled, must now be completed. Pakistan, as explained earlier, termed this navigation project a violation of the IWT.

It will be worthwhile for New Delhi to engage the local government with a view to building pressure from the Kashmiri people for the execution of projects on the western rivers which will boost the local economy. Due attention must be given to raise popular awareness over the issue and expose Pakistani resistance to such developmental projects in the state.

The World Bank also needs to ponder its role. A much valued ‘third-party’ in the treaty negotiations and functioning, it tends to lend itself to larger geopolitical dynamics. By simultaneously appointing an NE on India’s request and setting up the

court of arbitration, goaded by Pakistan, it has committed a gross procedural violation. The World Bank needs reminding that it is a facilitator and not an arbitrator on differences and disputes between India and Pakistan.

Conclusion

Modification may or may not happen. Will India then suspend the treaty? The best option for India is to fulfil the IWT’s provisions, particularly on the western rivers. The Treaty allows storage up to 3.6 MAF and 13.4 lakh acres of irrigation. Many projects now underway will achieve the “permissible capacity”. Any move to abrogate the IWT without first optimising the provisions of the Treaty is hardly pragmatic.

(Some of the views have been expressed earlier. The article has been modified for publication by NatStrat)

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