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## HYDRO-DIPLOMACY OVER TRANSBOUNDRY WATER COMMONS OF INDUS BASIN

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### Abstract

Prior to the split of the Indus River in 1947, the existence of farms, industries, and cities located along its banks, which traverse Pakistan and India, relied heavily on the river and its tributaries. In recent years, there has been an observed increase in water consumption among Pakistanis residing in the four Indus provinces and Indians residing in the five Indus states. This trend has resulted in a deterioration of water quality and a decrease in water availability. The Indus Water Treaty (IWT) has effectively prevented Pakistan and India from engaging in armed conflict over the water resources of the Indus River for a period exceeding four decades. In May 2005, an impartial arbiter was appointed to resolve a disagreement between the two nations on India's intentions to construct a hydroelectric dam on the Chenab River, which is a tributary of the Indus River. Despite the past adherence of both nations to the requirements of the IWT, the inclusion of a third party, which is a novel development in the treaty's history, suggests the potential for heightened water needs to exert pressure on this hitherto peaceful cooperation. Both parties have the potential to identify flexibility within the IWT postulates in order to address growing demands. Given the historical and economic significance of the Indus River, it is imperative to address these difficulties in order to yield mutual benefits for both nations and mitigate the risk of violence.

Key Words: Indus Water Treaty (IWT), India, Pakistan, Chenab River.

### Background

Despite the passage of several years since their separation in 1947, India and Pakistan continue to grapple with ongoing disputes over the Indus River. Between 1947 and 1960, multiple temporary agreements were considered to resolve the conflicts between the two parties on the distribution of Indus waters. After more than fourteen years of negotiations, backed by the World Bank, the two sides ultimately ratified the Indus Water Treaty (IWT) in 1960 (Indus Water Treaty, 1960). The IWT

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has been commended as an exemplary cross-border water arrangement due to its ability to withstand three conflicts between Pakistan and India and its establishment of a framework for integrated basin management (Oregon State University, 2006).

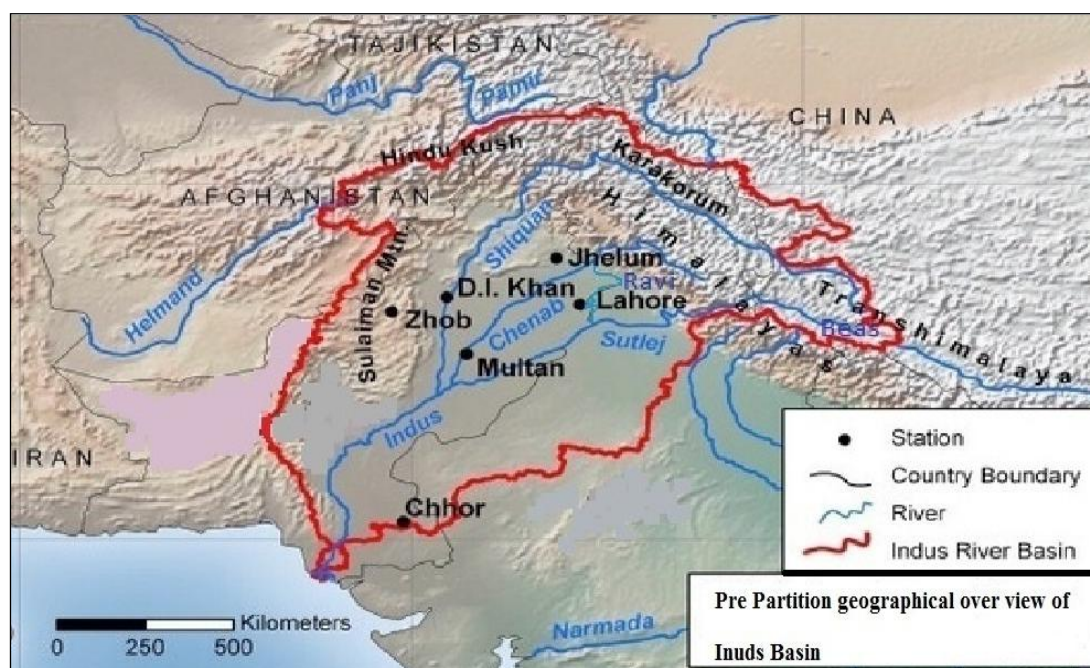


Figure 1. Pre-partition Geographical Over View of Indus Basin.

Source: -<https://www.google.com/search?q=pre+partition+india+map> retrieved on 5 December 2018.

This treaty partitions the tributaries and primary course of the Indus River as it traverses from China to Pakistan and India in a westward direction. India is granted control over the Sutlej, Beas, and Ravi rivers on the eastern side of the Indus watershed, while Pakistan is granted jurisdiction over the Indus, Jhelum, and Chenab rivers on the western side, as per the Indus Water Treaty (IWT). India remunerated Pakistan for the transfer of infrastructure as a component of the trade, encompassing the distribution of rivers. The agreement additionally established a system for exchanging data between the two nations and created a bilateral water institution to facilitate future cooperation. India proposed to build hydroelectric dams on rivers in Pakistan's western provinces, subject to Pakistan's approval. (Bashir, 2005)

Under the Indus Water Treaty, India allocated 62 million GBP to Pakistan for the purpose of developing water infrastructure. The funds were then transferred to the World Bank over a span of 10 years. (The New York Times, 1960) As a reciprocal arrangement, India was provided with the opportunity to utilize the irrigation canals that relied on water from rivers in the eastern region. India made the final payment in 1970, which was the last of three payments, as stipulated by the Indus Water Treaty.

The treaty does not provide any provision for additional compensation between the parties; it solely stipulates a single payment. (Dawn, September 1960)

The Permanent Indus Commission (PIC) was established which comprised of representatives from each nation, as mandated by the Indus Water Treaty. Its primary objective was to assist the implementation of the treaty and promote collaborative efforts in the development of the Indus River and its tributaries. Annually, the commissioners convene to exchange information regarding development efforts and deliberate on the management of the Indus water.

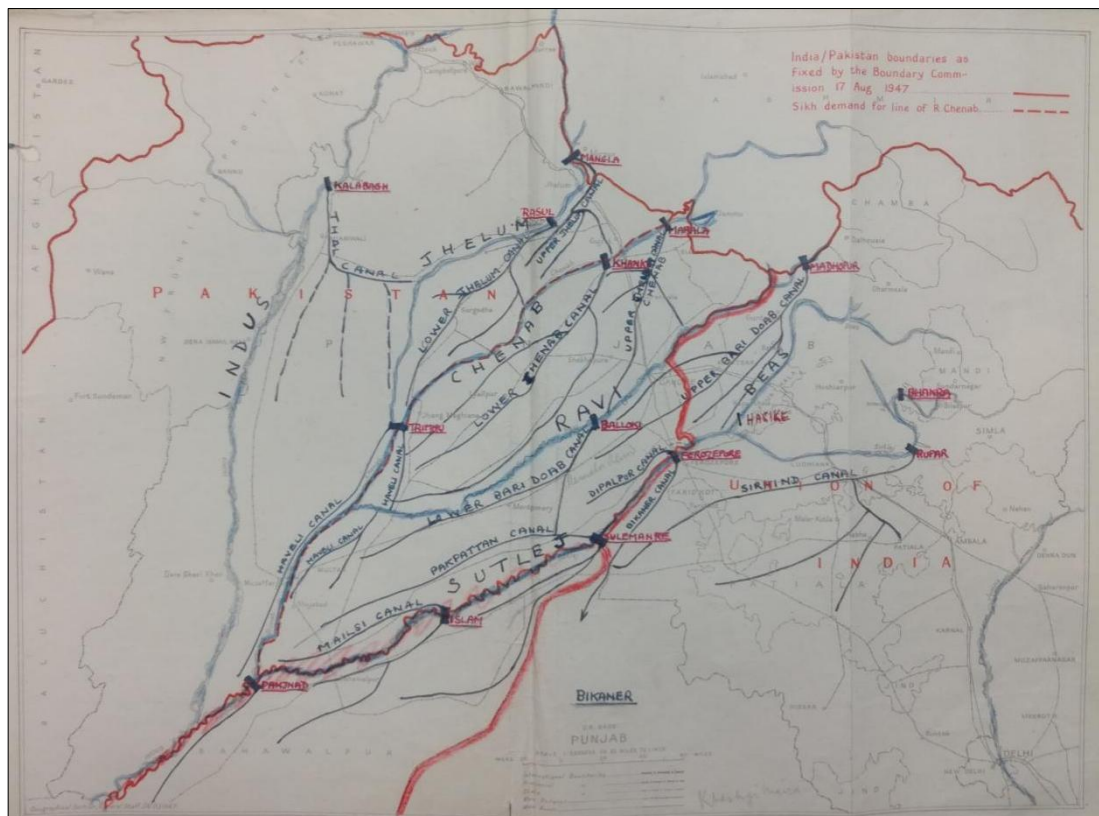


Figure 2. Indus irrigation system, 1947.

Source:- Punjab Canal Dispute, Supplementary note and Summary, DO 142/231, TNA, UK, 1948-1950, pp. 4.

The PIC disseminates daily updates regarding the water flowing in canal and reservoir withdrawals. The PIC plays a crucial role in resolving disputes related to share water issues by facilitating communication and mediating amongst the parties involved. If the commissioners are unable to establish a consensus, they will refer the subject to an impartial expert. In the event that the impartial expert's proposal

proves ineffective in resolving the dispute, the IWT asserts that the governments of the nations involved will be informed. Subsequently, the issue can be presented to an arbitration court, whose ruling is conclusive and obligatory subject to Indus Water Treaty. (Indus Basin Treaty, File No T 236/6258, 1961) & (Nadeem Shafiq, 2015)

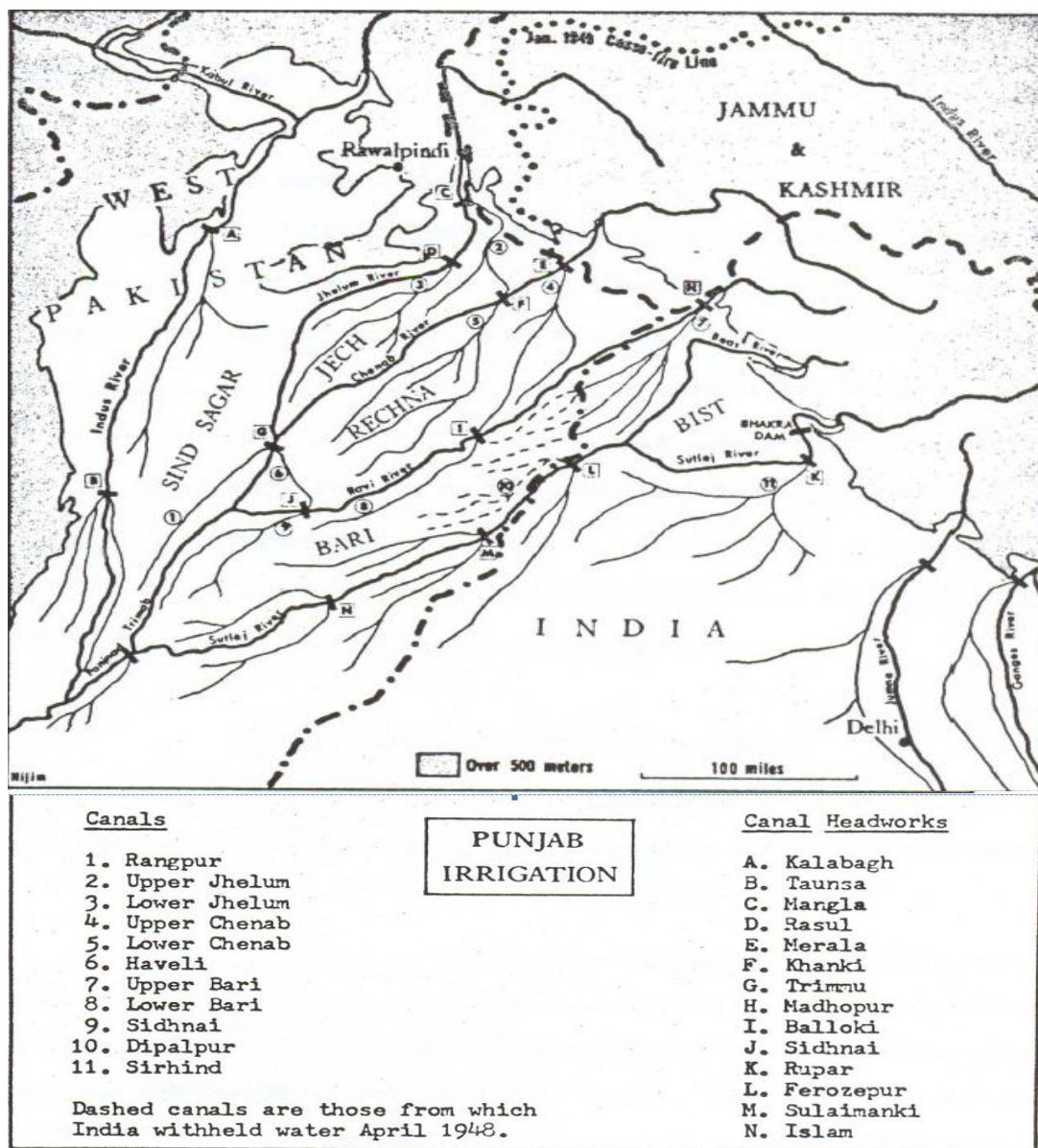


Figure 3 Canal Network in Punjab at the Time of Partition, 1947

Source:- File No. PREM 8/1004, Pakistan disapproved of decision to support India's candidature for Security Council, in view of the disputes over Kashmir and the Punjab Canal Waters, TNA, UK, 1949, pp. 1

In 2003, Pakistan expressed their objection of the Baglihar Hydroelectric Project (BHP), prompting India to cease its progress. Pakistan asserts that the project

violates the treaty by surpassing India's authorized storage capacity on the western rivers under the IWT (Sinha, 2006). Pakistan has expressed apprehensions, asserting that India withheld access to the BHP from the Pakistani commissioner until after significant construction had already been completed. Pakistan perceives a potential geopolitical risk in this project, as it may result in India gaining greater authority over the Chenab River. (Indus Water Treaty Draft, File No. DO 35/8595, 1959-1960).

The BHP has posed a significant impediment to the resolution of the bilateral conflict between India and Pakistan. The opportunity costs incurred by both sides extend beyond compromises made with large-scale infrastructure projects. To adhere to the stipulations outlined in the treaty, both nations relinquish some advantages that could potentially be derived by utilizing the water resources situated along their respective borders. The Indus River Basin is experiencing increased pressure among the commons of Indus Basin due to the rapid growth of population and the emergence of high scale industrialization. The costs borne by both parties as a result of failing to comply with the rules of the IWT increased due to ineffective canal systems, growing energy requirements, and deteriorating water quality. (Chandio etl, 1999)

Between 1960 and 2003, there was no arbitration or referral of any Indus problem to an impartial expert. However, due to the complex diplomatic relationships of Pakistan and India they remained unable to resolve the issue on India's BHP construction; a neutral third party was introduced into the conflict (Lautenback, 2005). Like previous Indus conflicts related to storage capacity and the national security of Pakistan and India, the BHP became a top priority debated matter. However, there are Pakistanis who believe that India should compensate Pakistan for its losses in the financial settlement of the IWT under Article V, under the condition that it is able to construct the BHP (Sadiq, 2005). India argues that Article V is invalid because all previous contributions to the World Bank were made in 1970.(Gulhati, 1973) In 2003, the Pakistani Commissioner of the Permanent Indus

Commission (PIC) conducted an examination of BHP and determined that the company had contravened the IWT.

Despite three days of bilateral negotiations in Islamabad in January 2005, the matter remained unresolved. The resolution of the BHP controversy was achieved with the appointment of Professor Raymond Lafitte, a civil engineer from Switzerland, as an impartial consultant in May 2005. The utilization of an unbiased third party for dispute resolution may not be the optimal strategy for two sovereign states.

Consequently, even if third party arbitration is employed to address the BHP matter, it is plausible that India and Pakistan may encounter challenges in fostering future collaboration. Considering that the BHP disagreement centers on the interpretation of a cooperation wording within the treaty, it is plausible that forthcoming challenges pertaining to the Indus water may exhibit a higher degree of complexity. The water connection between India and Pakistan is expected to become increasingly strained due to the rising water demands resulting from population expansion, deteriorating water quality, and inefficient water utilization. The absence of institutional mechanisms within the IWT hinders the resolution of issues that are not explicitly addressed in the treaty.

### **Prospects for Collaboration and Indus Water Treaty**

The collaboration between Pakistan and India on the Indus River is a worldwide issue that has ramifications beyond the borders of these two nations. The unsolved bilateral tensions between nuclear-armed Pakistan and India do not contribute to the stability of the subcontinent. In contrast to alternative international water-sharing agreements, the IWT does not utilize quantitative allocation or operational regulations for water management. (Wolf, 1998)

Rather, it relies on the geographical characteristics of individual tributaries to determine allocation. Although the IWT provides information on the countries that rely on specific tributaries, it does not address issues such as groundwater utilization, water quality, or fluctuations in flow that were not initially addressed. Examine the inadequacy of tributary-based rights allocation in accounting for variables such as

varying precipitation or changing population dynamics. Both parties would derive advantages from engaging in joint development or undertaking projects that address the evolving dynamics of ground and surface water, since disregarding these issues would result in missed opportunities. The justification for investments or actions undertaken by both parties within the original treaty framework may be based on the identification of shared interests or objectives. (Akhter, 2015)

The four challenges that jeopardize the collaborative water connection between India and Pakistan could be effectively addressed through the fundamental framework of the treaty. In order to facilitate negotiation on sensitive subjects such as groundwater and water-use efficiency, it may be imperative to reinterpret some aspects of the language. It displays three items that might facilitate the achievement of this objective. The Indus Water Treaty is structured into three distinct articles: Article VII, which pertains to prospective collaboration, Article VIII, which pertains to the establishment of the Permanent Indus Commission, and Article XII, which pertains to financial requirements. (Biswas, 1992)

According to Article VII of the Indus Water Treaty, it is explicitly acknowledged that both parties share a mutual interest in the optimal development of the Rivers. Consequently, they express their intention to collaborate to the fullest extent through mutual agreement. This provision paves the way for potential future cooperation between Pakistan and India. When making decisions on investment, project construction, or selecting a mutually beneficial path, the concept of "optimal development" may be taken into consideration. According to Article VIII of the Indus Water Treaty, the establishment of the Permanent Indus Commission is stipulated. The purpose of the Indus Water Treaty is to create and sustain collaborative agreements for the execution of the Treaty, to foster cooperation between the Parties in the enhancement of the Rivers' water resources, and specifically to examine and provide reports to the two Governments on any issues pertaining to the development of the Rivers' water resources. Given the existing language used for "cooperative arrangements" and the aim to promote "water development," the PIC has the ability to expand upon the initial agreement, provided that both parties agree to it. According to paragraph 10 of the aforementioned article,

the Commission is empowered to establish its own processes, thereby facilitating collaboration among the Commissioners in addressing shared concerns. According to Article XII of the Indus Water Treaty, the provisions of this Treaty can be modified through a ratified treaty between the two governments (File No. T 236/6528, TNA, U.K, 1961). It is further stated that the provisions of any newly-ratified treaty will remain in effect until terminated by a ratified treaty between the two governments. Should the two nations be able to come to a consensus over the outcomes or actions, they possess the autonomy to interpret the treaty according to their own preferences. India and Pakistan possess the flexibility to modify the language of these three paragraphs in order to address issues that were not specifically covered at their signing of the IWT. (*Dawn*, 20 September 1960)

The examples shows illustrate instances of international accords in which both parties have derived advantages from a collaborative declaration of action. As an example, the United States and Mexico successfully included a "Minute" agreement in the 1944 Rio Grande/Rio Bravo Treaty, which allows for flexibility within the original treaty's boundaries. The bilateral agreement referred to as a minute encompasses both the interpretation language of the treaty and the capacity to engage in collective action. The United States and Mexico collaborated on the water quality of the Rio Grande/Rio Bravo at Laredo/Nuevo Laredo (IBWC) due to the provisions outlined in Minute 279 of the 1944 Treaty. (Swain, 2004)

The two nations have implemented Minute 297, a joint investment in an operations and maintenance program, to enhance water usage along the Rio Grande/Rio Bravo (IBWC), based on this precedence. Both parties have the autonomy to decide whether or not to allocate resources towards the development of the river's infrastructure, but doing so will enhance the overall water quality for all individuals. To improve water quality or water-use efficiency, India and Pakistan can draw lessons from the US-Mexico experience of establishing a "Minute" dedicated to water quality. While the 1944 treaty (IBWC) did not initially cover water quality, the United States and Mexico later passed Minute 279, which gave them the power to handle this issue. In Minute 297, all sides reached a mutual agreement to construct the Nuevo Laredo Water Treatment Plant and distribute the earnings (IBWC),



establishing a precedent that was set by Minute 279. India and Pakistan have the potential to address matters that are not addressed by the IWT through the utilization of the Minute mechanism. Once this standard is established, they will have the ability to implement measures if the parties concerned can reach a consensus on how to address any problems. There is no requirement for altering the underlying treaty agreement in order for a joint resolution to yield benefits. Additionally, this approach facilitates collaboration among parties involved, as opposed to protracted proceedings in international courts or third-party arbitration, which might span many years and impede effective communication between them. It also presents a compilation of additional global water quality monitoring precedents that could potentially offer valuable insights for Pakistan and India in addressing water quality challenges. The South African National Water Act of 1998 defines a "Reserve" as the quantity and quality of water required for ecologically responsible development and resource usage, highlighting the importance of maintaining aquatic ecosystems. (Schreiner, 2013)

Although the Indus Water Treaty (IWT) has previously addressed the issue of water quantity, the two countries may still adopt the concept of a water quality reserve by mutually agreeing to uphold a specific minimum standard in the Indus River Basin. One potential strategy that both nations may adopt in addressing water quality concerns involves the implementation of a Minute to recognize the importance of water quality and establish a predetermined threshold. India and Pakistan should explore the Treaty of Peace between the Hashemite Kingdom of Jordan and the State of Israel, agreed in 1994, as an alternative approach to water quality control. Regarding the conservation and integrity of water, Annex 2, Article 3 of this document provides the following: Added to the Peace Treaty between Israel and Jordan is the Second Annexe. (Zeevi, 2020)

Israel and Jordan will collaborate to monitor the water quality along their border with the aim of mitigating pollution, contamination, harm, and unauthorized withdrawals of their respective allocations.

The monitoring stations will be utilized in a collaborative manner and will be functioning under the supervision of the Joint Water Committee. Furthermore, both nations will enforce a ban on the release of urban and industrial effluent into the Jordan or Yarmouk Rivers unless it is treated to meet the necessary standards for unhindered agricultural utilization.(Mehyar, 2016)

The complete implementation of this restriction must be achieved within a period of three years following the Treaty's entrance into force. It is imperative that the water transported from one nation to another possesses equivalent quality to the water utilized by the supplier nation within the same geographical vicinity.

Israel and Jordan have mutually committed to protecting the Jordan and Yarmouk Rivers, as well as the Arava/Araba groundwater, against pollution, damage, or unauthorized removal of their designated portions. In order to accomplish this objective, the individuals involved will engage in the monitoring of water quality along their border through the utilization of monitoring stations that have been collaboratively created and will function under the supervision of the Joint Water Committee. Israel and Jordan will prohibit the discharge of urban and industrial wastewater into the Yarmouk or Jordan Rivers until it meets the necessary levels for unrestricted agricultural usage. The prohibition shall be rigorously implemented within a maximum of three years following the Treaty's implementation. (Giordano and Wolf 2003)

The quality of water provided from one country to another at a specific place must be consistent with the quality of water used by the receiving country from the same area. The 1994 agreement ensures that the upper riparian nation refrains from perpetuating pollution by establishing a connection between the water quality in the supplying country and the water quality in the receiving country. The downstream movement of contaminants has a significant impact on the lower riparian countries. The Jordan-Israel pact serves as an illustrative case of collaborative water quality management in the Indus River, addressing similar water quality issues encountered by Pakistan and India. (Mandel, 1992)

According to Article VIII, the Permanent Indus Commission possesses the jurisdiction to formulate its own protocols. To examine the water quality or groundwater utilization in the Indus Basin, the Commission could employ a Minute

to establish a committee. The findings of a joint report have the potential to convince both parties involved to improve water quality or develop a sustainable approach for utilizing groundwater in the basin, while also adhering to the (IWT) framework (Lautenback, 2005).

The definition of the term "benefits" is a subject of ongoing debate between India and Pakistan, with the (IWT) failing to offer a definitive definition for this concept. Giordano and Wolf (2003) put out a cooperative management framework for integrated basin management in light of the progress made at the 1992 International Conference on Water and the Environment in Dublin and the United Nations Conference on the Environment and Development in Rio de Janeiro. Giordano and Wolf argue that model international water agreements should consider both the physical characteristics of water and the benefits derived from it. One illustrative instance of a treaty that demonstrates the potential for water-generated benefits to foster collaboration among co-riparian entities is the 1961 Columbia River Treaty. This treaty specifically addressed the collaborative utilization of the river's water resources. Giordano and Wolf state that Article X required the United States to provide compensation to Canada for the advantages of flood management in return for the privilege to redirect water for hydropower. The pact between the United States and Canada exemplifies the mutual recognition of water's significance by both governments. The current deadlock between Pakistan and India about the BHP serves as a prime example of how the two nations' divergent interpretations of water advantages have played a role in their disagreement. If the two sides reassess the benefits of water, they may be able to reach a consensus without the need for a third party. (Wolf, etl, 2003)

If India were to employ the principle of compensation to redirect water for hydropower purposes, Pakistan may potentially receive compensation for the quantity of water that has been extracted from their territory. Based on the interpretations of the IWT by Pakistan and India, the implementation of monetary compensation has proven to be impractical. Article VIII can be interpreted in a manner that allows for the facilitation of trade with the aim of promoting the mutual development of Pakistan and India. The IWT's Article VII allows for the concept of

"optimal development," whilst Article VIII of the treaty allows for the establishment of "cooperative agreements" aimed at facilitating the advancement of water resources. These provisions have the potential to establish a basis for enhanced collaboration between Pakistan and India in the management of the Indus River. Furthermore, the original framework of the treaty might be modified through the process of ratifying an agreement as stipulated in Article XII. By including flexibility into the current framework, the Indus River Basin can be jointly utilized by Pakistan and India, even in cases where the initial treaty did not adequately address certain significant issues for both nations (Lautenback, 2005).

### **Conclusion**

Although India and Pakistan have collaborated along the Indus River since 1960, the stability of their partnership is at risk due to obstacles associated with economic expansion and progress. Their hydrological association is on the verge of transformation, and the BHP dispute serves as a forerunner to that. In the future, the complexity of water-sharing between the two nations may increase as a result of factors such as population expansion, energy consumption, water efficiency, and water quality, leading to higher demands on water resources. Therefore, it is imperative for Pakistan and India to explore strategies for addressing water-related issues within the existing institutional structure. In addition, they should contemplate implementing collaborative or unilateral measures to enhance the well-being of their respective communities.

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