

Sharing Water Across Borders: Assessing the Hydro-Diplomacy Process in the Resolution of Indus River Disputes

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Abstrak

Hidro-diplomasi atau diplomasi air adalah sebuah bentuk diplomasi yang fokus pada aspek politik dalam sistem air transnasional untuk mencegah, mengurangi, dan menyelesaikan perselisihan terkait pengairan melalui kerangka tata kelola air. Perselisihan India dan Pakistan atas Sungai Indus membuktikan bahwa diplomasi merupakan instrumen penting dalam kebijakan luar negeri beberapa negara. Dengan menggunakan metode kualitatif dan deskriptif-eksploratif, penelitian ini bertujuan untuk mengetahui dan menguraikan mekanisme penyelesaian sengketa Sungai Indus dalam kerangka konsep hidro-diplomasi. Penelitian ini menggunakan data sekunder berupa artikel jurnal, buku, dan dokumen resmi. Temuan dari penelitian ini adalah bahwa mekanisme penyelesaian sengketa Sungai Indus telah mencakup aspek-aspek hidro-diplomasi yaitu: 1) aspek politik melalui pertemuan bilateral dan perumusan Indus Water Treaty 2) aspek preventif berupa perumusan mekanisme penyelesaian sengketa; 3) aspek integratif dalam hal keterlibatan berbagai pemangku kepentingan dan pihak ketiga; 4) aspek kerja sama melalui perjanjian IWT; dan 5) aspek teknis berupa praktik berbagi data mengenai sistem air.

Kata Kunci: *hidro-diplomasi; diplomasi air; Indus Water Treaty; sengketa Sungai Indus; tata kelola air.*

Abstract

Hydro-diplomacy addresses the political aspects of transnational water systems that aims to prevent, lessen, and settle disputes over shared water systems through water governance frameworks. The Indo-Pakistan dispute over the Indus River proves the importance of diplomacy in addressing water related issues. Using a qualitative and descriptive-explorative method, this research aims to explore mechanisms of the Indus River dispute resolutions within the framework of the hydro-diplomacy concept. The paper uses secondary data consisting of journal articles, books, and official documents . This research finds that the Indus River dispute resolution mechanism encompasses the key aspects of hydro-diplomacy, which are: 1) the political means through bilateral meetings and the Indus Water Treaty formulation; 2) preventive means through dispute resolution mechanism in the treaty; 3) integrative means towards the involvement of numerous stakeholders; 4) cooperative aspect through IWT agreements; and 5) technical means through data-sharing practices.

Keywords: *hydro-diplomacy; Indus River dispute; Indus Water treaty; water diplomacy; water governance.*

Introduction

Water, an indispensable resource, can be both a divider and a unifier among states (Sehring, et al. 2022). This premise is evident in the context of transboundary waters systems, which is a relatively overlooked issue in global politics (Pohl, et al. 2014). UN Water 2021 reports stated that transboundary waters take approximately 60% of global freshwater flows. Furthermore, 153 states have territories crossed by a minimum of one of the 286 river and lake basins, as well as 592 aquifer systems that span multiple borders (UN Water 2021). This data signifies that nearly every country that has a land border shares water resources with its neighboring countries (Pohl, et al. 2014).

Water plays a vital role in almost every aspect of humans' lives (Makin 2014). However, contemporary challenges such as population growth and climate change have intensified the demand for water. This escalating need has given rise to water-related political tensions, and one notable manifestation of this is the conflict over river systems (Makin 2014). Water plays a major role in the international politics, setting or connecting boundaries and imparting unique character to the lands they cross. This influence both the landscape and the people who inhabit it (Gandhi 2014). That being said, rivers are not just mere streams of water, it shapes cultural identities, source of livelihoods, and is part of political identities (Gandhi 2014).

In the increasingly complex global landscape, rivers have become subject to geopolitical contestation, given their significance. Cogels (2014) stated that because most countries have rivers that flow across their borders, there is an increased potential for water related geopolitical conflicts, driven by the fact that water flow does not adhere to political boundaries. Addressing this issue presents a hydro-diplomatic problem, in which states must face mutual distrust among countries and concerns regarding national sovereignty. Furthermore, Gandhi (2014) asserted that rivers are more than mere water bodies – they are “flowing arguments, fluid acrimonies” – emphasizing that rivers are prone to become a source of conflicts among nations.

The Indo-Pakistan dispute over the Indus River in 1948 serves as an example of a geopolitical conflict arising from river-related issues. The disagreement between the neighboring countries originated when engineers in East Punjab cut the access of water supplies to an important canal in Pakistan. Pakistan, considering the Indus River integral to its national survival, accused India of “attempting to destroy their country” (Haines 2023). This situation rapidly escalated, eventually culminating to what Alam (2002) referred to as the Indo-Pakistani “water wars.” Over the years, the dispute expanded, highlighting the importance and the complexity of water systems, particularly river or basin systems and their potential to escalate into trans-border conflicts.

The vulnerability of transboundary water sources, particularly river systems, in geopolitics and foreign policy emphasizes the urgency for a new type of diplomacy to prevent conflict, foster cooperation over shared water sources, and solve water disputes (Keskinen, et al. 2021). Thus, water diplomacy (hereinafter referred to as hydro-diplomacy) emerges to further address the transnational cooperation vis-à-vis water systems (Keskinen, et al. 2021). Hydro-diplomacy, according to Pangare and Nishat (2014), is a dynamic process and works under the premise that benefits shared in water cooperation will result in mutual benefits for the riparian states.

In the context of the Indus River dispute, hydro-diplomacy emerges as an important process influencing the resolution of the conflict. This research is guided by the question: “what is the process of hydro-diplomacy and how can it contribute to the resolution of Indus River disputes?”. Thus, this research aims to find and elaborate upon the mechanisms of the Indus River dispute resolutions within the framework of hydro-diplomacy concept, which will be comprehensively addressed in the subsequent sections of this research paper.

Literature Review

Mallick’s (2020) article entitled “Hydro-Diplomacy in the Indus River Basin: A Neoliberal Perspective” focuses on the evolution of transboundary water sharing agreement over the Indus basin between India and Pakistan. By using the neoliberal institutionalism theory, the article examines the role of international institutions, namely World Bank, as the third party in the settlement of the dispute. In addition, this article also highlights the urgency for India and Pakistan to proactively address the issue, emphasizing the potential of the Indus basin in meeting the energy needs for people residing on either side of the borders.

In a Gandhi’s (2014) work titled “Hydro-Wisdom must back Hydro-Diplomacy,” he explores the profound significance that rivers hold to political entities and in geopolitics. When examining the context of the Indus River dispute, Gandhi scrutinizes the outcome of negotiations between India and Pakistan, manifested in the form of the Indus Water Treaty (IWT). In the realm of hydro-diplomacy, it becomes apparent the diplomatic approach is also shaped by various elements, namely hydro-intelligence, hydro-politics, and so on. Gandhi contends that hydro-diplomacy serves as actions aimed at mitigating water conflict and enhancing the negotiation processes among stakeholders with diverse interests.

“Sharing Water, Preventing War – Hydrodiplomacy in South Asia” by Kraska (2009) underlines the importance of transboundary water agreements and cooperation in preventing conflict among states – as exemplified in the case of Indo-Pakistani Indus River dispute. Kraska also

emphasizes the importance of IWT in times of geopolitical tension between the nations. This treaty serves as a blueprint for formulating similar agreements for other transboundary rivers. Moreover, he points out that the IWT showcases how water management systems can be developed without triggering conflicts and instead foster cooperation among neighboring states.

The literature mentioned above discussed the role of hydro-diplomacy in the Indus River dispute through various analytical focuses. However, these literatures have notable gaps that require attention. In Mallick's (2020) work, the focus was solely on the presence of the World Bank as an international institution in the dispute resolution process between India and Pakistan. The gap in this literature becomes evident as it does not explore how the World Bank, as a third party, can effectively employ hydro-diplomacy to address the dispute. On the other hand, literature written by Gandhi (2014) fails to highlight the specific aspects of hydro-diplomacy used in the negotiation process between the two nations. Moreover, Kraska (2009) fails to explain further about the elements of hydro-diplomacy that can be utilized for formulating transboundary water agreements to foster cooperation among states. Therefore, it can be concluded that these literatures do not sufficiently address the processes and instruments of hydro-diplomacy that contribute to resolving the Indus River dispute. In line with the research objective, this research aims to bridge these gaps by providing a comprehensive explanation of the hydro-diplomacy process and instruments in the context of the Indus River dispute.

Research Method

This research utilizes a qualitative and descriptive-explorative method to explain the hydro-diplomacy process involving relevant stakeholders to solve the Indus River dispute. To provide data for this research, the author uses literature study technique and other sources of secondary data from historical records, journal articles, books, and other official documents. The data collected is then used to support the analysis as well as answering the research objectives. Furthermore, in order to provide a comprehensive and structured explanation, this research will be divided into several sections, viz. (1) introduction, consisting of a literature review and research question; (2) research method; (3) conceptual framework; (4) results and discussion; and (6) conclusion.

Conceptual Framework

Hydro-Diplomacy

Overtime, a common trend of independent development and transformation has materialized, known as 'crisis curve.' Riparian nations often initiate water development projects within their borders unilaterally, typically without consulting their neighbors, to sidestep the political complexities associated with shared resources (UNESCO 2016). Eventually, these decisions may affect neighboring states. In the absence of conducive relations or institutions for conflict management, water projects impacting neighbors become a potential flashpoint, escalating tensions and regional instability, often taking years or decades to resolve.

The absence of water related conflict management instruments, quality and quantity of water degradation, economic development disparity, and lack of water infrastructure further complicates the management of international water resources (UNESCO 2016). Thus, exploring less confrontational approaches that bring competing interests and institutions together to find practical solutions is deemed as important. Hydro-diplomacy is considered one of the most proper approaches in this matter.

The term hydro-diplomacy is often not thoroughly defined, either in policy or academic literature. Despite the absence of an exact definition, hydro-diplomacy can be understood as a type of diplomacy which is focuses in addressing the political aspects of transboundary collaboration, establishing connections between water-related issues and wider regional cooperation, geopolitics, and foreign policy (Keskinen, et al. 2021). On the other hand, Sehring, et al. (2021) defined hydro-diplomacy as political procedures and methods aimed at preventing, lessening, and settling disputes over transboundary water which encompasses the establishment of collaborative water governance frameworks through the application of foreign policy within bi- and/or multilateral relations, extending beyond water sector and occurring at various levels and tracks.

As such, the objective of hydro-diplomacy is to leverage water as a tool for achieving peace-building goals, distinct from merely improving water management (Sehring, et al. 2022). The benefits of this hydro-diplomacy can be derived from cooperation in water governance to establish a conducive political environment for tackling more contentious matters and serve as a gateway for broader peace-building initiatives. Hydro-diplomacy can be implemented through a diverse array of political mechanisms, including confidence-building measures, negotiations, dispute resolutions, as well as technical instruments such as data and information sharing, research and monitoring activities, or joint infrastructure projects (Sehring, et al. 2022).

To summarize, hydro-diplomacy involves the practice of international relations with the goal of fostering positive relations, cooperation, peace, and prosperity through transboundary water governance. The desired outcome of hydro-diplomacy goes beyond water-related collaboration, but extend to broader objectives, such as enhanced regional security, stability, integration, improved trade relations, and sharing of resources (Keskinen, et al. 2014).

Key Aspects of Hydro-Diplomacy

Hydro-diplomacy plays a vital role in establishing effective water governance (Iza 2014). According to Keskinen, et al. (2021), there are five key aspects shaping hydro-diplomacy, which are: (1) political; (2) preventive; (3) integrative; (4) cooperative; and (5) technical. First, the political aspect is a process involving inherently political interactions among stakeholders with diverse and sometimes conflicting interests, positions, and agendas. This aspect is closely related to the dynamics of politics and power relations both among and within riparian states. The political aspect is considered a fundamental rationale for the existence of hydro-diplomacy. In this context, hydro-diplomacy is viewed as an important component of the broader political landscape, encompassing political objectives that go beyond the boundaries of river basins. Furthermore, the political aspect is closely linked to political tracks, to name a few: geopolitics, foreign policy, regional cooperation (Hocking, et al. 2012; Islam and Susskind 2018; Molnar, et al. 2017).

Second, the preventive aspect refers to strategies for mediating peace and preventing conflicts. This aspect encompasses efforts to prevent future conflicts and includes actions aimed at restoring and reducing existing tensions through reconciliation. In addition, the preventive aspect includes several methods, such as preventive diplomacy, peace mediation and peace building, as well as conflict resolution (Pohl 2014; Zyck and Muggah 2012).

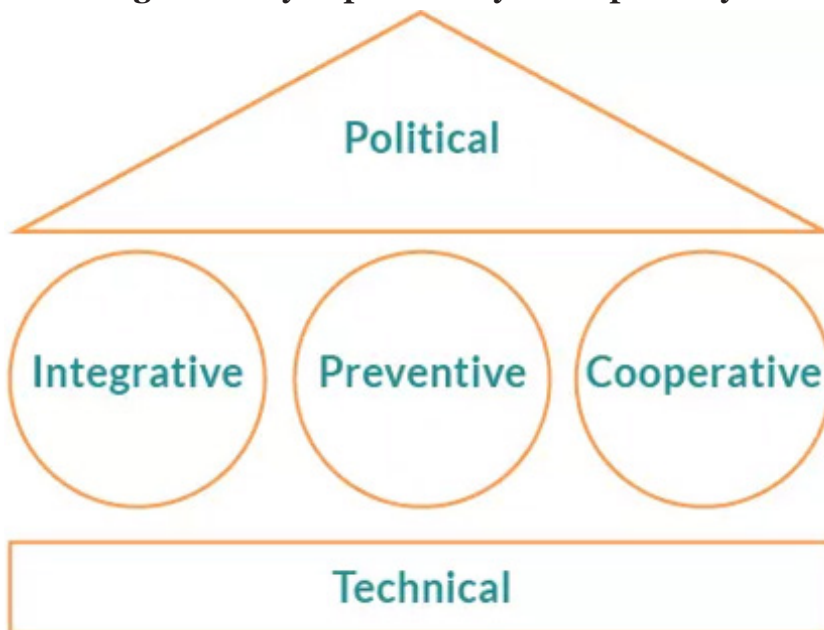
Third, the integrative aspect is based on the concept that hydro-diplomacy involves numerous stakeholders from various societal and thematic actors. Unlike traditional regional treaties and transboundary cooperation mechanisms between governments of riparian countries, water diplomacy extends to include other actors and themes in both formal and informal settings. Integrative aspect includes concepts such as Integrated Water Resources Management (IWRM), the water-energy-food security nexus, multi-track diplomacy, integrative diplomacy, and knowledge co-production (Grech-Madin, et al. 2018; Hocking, et al. 2012; Huntjens and de Man 2017).

Fourth, the cooperative aspect views hydro-diplomacy as a process that advocates and depends on mutual collaboration and the concept of shared benefits. This aspect incorporates concepts such as benefit-sharing,

the cooperation continuum, and overarching water governance frameworks. Ideally, the cooperative aspect acknowledges the value of cooperation, the willingness to collaborate, and communication among key actors as a means to encourage sustainable and socially fair use of shared waters. However, it is recognized that water cooperation may not always arise from mutual agreement but could also from coercion. This underlines that cooperation is not always a guarantee to prevent tensions but can sometimes sustain them, revealing the fundamental connection between cooperation and the political context (Molnar, et al. 2017; OECD 2015; Allouche 2020).

Lastly, the technical aspect acknowledges the existence of a technical track, which stands in contrast to the so-called political track in hydro-diplomacy. This technical track concentrates on water as a resource and a physical substance that is part of the hydrological cycle. Core elements of technical track encompasses water availability, allocation, use, and associated processes of monitoring, management, and knowledge production. Technical aspect is closely tied to knowledge production, encompassing knowledge products such as hydrological models and impact assessments. Despite its name, this aspect is still closely linked to the political aspect, and control over knowledge and its production can be utilized as ideational tactics in hydro-politics, linking the technical and political aspects of water diplomacy (Klimes and Yaari 2019; Allouche et al., 2015; Zeitoun and Mirumachi 2008).

Figure 1. Key Aspects of Hydro-Diplomacy



Source: IWRM Action Hub

Results and Discussion

Indus River Dispute: A Brief Overview

The water conflict between India and Pakistan (hereinafter referred to as Indo-Pakistani) is centered around their competition for the waters of Indus River (Kraska 2009). The name “Indus” is derived from the Sanskrit word *sindhu*, defined as “river” or “stream”. The Indus River encompasses four riparian countries: Pakistan, India, Afghanistan, and China.

In the Indus River Basin, despite the presence of four neighboring riparian states, India and Pakistan predominantly utilize the river’s resources. This basin holds significant importance for the citizens of both nations; being essential for fulfilling both household and industrial needs. Furthermore, agriculture, which plays a pivotal role in the economies of India and Pakistan, depends greatly on the water from the Indus River Basin (Bhat 2020; Mohammad 2011). With a vast drainage basin of approximately 450.000 square miles, the Indus River flows through areas inhabited by approximately 72% of Pakistan’s total population and 23% of Indians reside along its banks, constituting about 193 million people in total (Mohammad 2011; Kraska 2009).

Table 1. Riparian States in the Indus River Basin

Basin Name	Area (sq. km)	Countries	Area of Country in Basin (sq. km)	Country Percent Area
Indus River Basin	1.138.800	Pakistan	597.700	52.48
		India	381.600	33.51
		China	76.200	6.69
		Afghanistan	72.100	6.33
		Other countries (Chinese control, claimed by India; Indian Control, claimed by China; Nepal)	11.210	0.98

Source: Mohammad 2011

During British rule in the 1940s, the construction of the largest irrigation system in the world occurred in the Indus River. The division of the Punjab province, with East Punjab going to India and West Punjab to Pakistan, led to the separation of the irrigation system. However, after the independence of Pakistan and India in 1947, conflicts arose as most of the headwaters were situated in India, meanwhile the canals were downstream in Pakistan (Kraska 2009; Bhat 2020). Despite the potential for conflict, the Punjab Boundary Commission Award of 1947 did not specify how the waters of the Indus River system would be utilized by the newly formed nations, leaving

this decision to the governments of India and Pakistan (Afzal 2021).

To address the situation, temporary agreements were made between East and West Punjab for water supply to Pakistani canals. However, these agreements expired in March 1948. The bilateral issue erupted again in April, 1948 as water flow was halted by East Punjab, prompting the personal intervention of Indian Prime Minister Jawaharlal Nehru. To address this crisis, an Inter-Dominion Agreement was signed in May, 1948, which emphasizes the need for cooperation between two countries and the continuation of bilateral talks. Nevertheless, over the following three years, bilateral discussion ceased to resolve the conflict over river water. Whilst Pakistan demanded to refer the dispute to the International Court of Justice (ICJ), India declined to do so. Additionally, disagreement arose over the interpretation of the 1948 agreement, further complicating the situation (Bhat 2020; Kraska 2009; Mallick 2020).

In 1960, through the Indus Water Treaty (IWT) which was facilitated by the United States and the World Bank. Under this treaty, the water-sharing arrangement was simple: Pakistan was allocated the three western rivers (the Jhelum, the Chenab, and the Indus itself), whilst India was allocated the three eastern rivers (the Ravi, the Beas, and the Sutlej). India was restricted from constructing storage facilities on the rivers allocated to Pakistan, except to a very limited extent, and limitations were imposed on the expansion of irrigation development in India. Additionally, provisions were established for the exchange of data on project operation and the extent of irrigated agriculture, among other factors (Kraska 2009; Iyer 2005).

Furthermore, the IWT also mandated specific institutional arrangements, including the establishment of a Permanent Indus Commission (PIC) consisting of commissioners from both India and Pakistan. The treaty also established a conflict resolution system, requiring the Indian and Pakistani Water Commissioners to address crises. If these bodies failed, the dispute would be referred to an arbitrary court or a neutral expert, albeit such a referral has never occurred. Periodical meetings and exchanges of visits were planned and mechanisms for resolving potential differences were also incorporated. Moreover, the treaty included provisions for international financial assistance to Pakistan for the development of irrigation works to utilize the allocated waters. India, in accordance with the treaty, paid a sum of 62.06 million euros (Kraska 2009; Iyer 2005).

The 1960 Indus Water Treaty was established to allocate water from the Indus River between Pakistan and India, and has operated quite effectively over the decades. Throughout this period, both nations encountered several disputes, yet managed to resolve the conflict independently as the PIC implemented the IWT in both letter and spirit. Even during times of heightened tensions, such as in 2002 when the threat of war loomed, the annual Indus Water Commission bilateral meeting proceeded in a business-like manner, discussing routine issues despite the charged political

atmosphere. The functional relationship between India and Pakistan in the Commission has been a noteworthy element of their bilateral relations (Kraska 2009; Mohammad 2011).

Analysis of the Indus River Dispute Resolutions Effort Based on the Concept of Hydro-Diplomacy

The IWT stands out as one of the few areas of continuous (albeit limited) cooperation between India and Pakistan. This highlights that water can serve as one of the few avenues for dialogue in an otherwise contentious relationship (Pohl, et al. 2014). Based on the conceptual framework of hydro-diplomacy, it appears that the dispute resolution efforts have fulfilled the five key aspects of hydro-diplomacy. First, from the political aspect, the conflict unfolded as a geopolitical tussle involving two nations – India and Pakistan – each driven by distinct national interests concerning the transboundary river system, specifically the Indus River. The inherent divergence in their national interests was a key factor contributing to the dispute. Furthermore, the engagement of both nations in numerous bilateral meetings during the dispute underscored the overtly political nature of the conflict resolution attempts.

The subsequent development of the IWT marked a significant turning point in the dispute resolution process, especially in the involvement of foreign policy considerations. The formulation of the treaty was not merely a technical agreement; it represented a diplomatic effort aimed at fostering regional cooperation between the conflicting nations. This aspect emphasized the multifaceted layers of diplomacy woven into the dispute resolution process.

Second, the preventive aspect of this issue is exemplified by the dispute resolution mechanism of the IWT. In essence, Article IX of the treaty establishes a comprehensive multilayered dispute resolution framework designed to address water-related conflicts between India and Pakistan. This resolution mechanism involves the creation of PIC, tasked with the examination of any questions raised by either party regarding the IWT or potential future violations. During this stage, the PIC have a mandate to resolve the issues through mutual agreements (Qureshi 2018).

Furthermore, in the event that the PIC is unable to reach an agreement, a neutral expert will be appointed through a mutual agreement between the governments of India and Pakistan. In the event of a failure to agree on the appointment, the responsibility falls on the World Bank to make the selection. The third stage in this mechanism involves negotiation, primarily focusing on the agreements both parties are obligated to undertake. The final stage entails arbitration, a process invoked when disputes reach an impasse and cannot be resolved through mediation, negotiation, or other diplomatic means (Qureshi 2018).

The dispute resolution mechanism illustrates that hydro-diplomacy plays a major role in this issue, specifically in implementing preventive measures by establishing various means to ensure the effective handling of conflicts and prevent their potential escalation. Additionally, preventive measures are also evident in the equitable distribution of rivers, whereas Pakistan is allocated three western rivers (the Jhelum, the Chenab, and the Indus River), whilst India is entitled to three eastern rivers (the Ravi, the Beas, and the Sutlej). This indicates that multiple parties made efforts to ensure that these countries have a fair share of water resources, making a significant contribution to the prevention of further conflicts.

Third, the integrative aspect of conflict resolution efforts is evident in the involvement of multiple stakeholders. Initially, the United States and the World Bank were two key actors that initiated the creation of the IWT. Even after the formulation of the IWT, the continued presence of the World Bank in addressing this issue is apparent through their role in selecting a neutral expert if both countries fail to reach an agreement. Moreover, the participation of the PIC and the neutral expert highlights the third-party involvement in the dispute resolution mechanism, emphasizing the robust evidence of the integrative aspect of hydro-diplomacy in this case.

Fourth, the cooperative aspect of hydro-diplomacy in the Indo-Pakistani dispute is evident in the agreements surrounding the formulation of the IWT. Subsequent agreements, including the distribution of the river system and numerous accords related to the substances of the dispute, highlight the existence of bilateral agreements regarding shared water resources. These cooperative measures underscore the collaborative efforts between India and Pakistan in addressing the complexities of the dispute.

Fifth, the technical aspect of hydro-diplomacy germane to this issue is apparent in the data-sharing practices of the river system facilitated by the PIC. This aspect is regulated by the Article IX(1) of the IWT, which stipulates that “commissioners are responsible for exchanging relevant data, notices, and other duties assigned by their states.” Furthermore, the treaty enables the exchange of data on project operation and irrigated agriculture, highlighting the technical facet between India and Pakistan in managing shared water resources.

Conclusion

Water has a role to both divide and unified states. This is evident in the context of transboundary water systems, specifically in the river basin systems. The importance water holds in the lives of the mortals increases its possibility of being the source of geopolitics contestation. The Indus River dispute serves as an example of geopolitical conflict arising from shared water, specifically rivers. To simply put, the Indus River that flows across four countries, Pakistan, India, China, and Afghanistan, have triggered the conflict between India and Pakistan, acknowledging that these countries obtained the major percentage of the aforementioned river. There were agreements made to address the issue, which culminated in the formulation of the IWT facilitated by the United States and the World Bank. The treaty regulates several issues pertaining to the Indo-Pakistani river dispute, which encompasses the dispute resolution mechanism and equal distribution of rivers to both countries.

The resolution efforts of Indo-Pakistani disputes covered five key aspects of hydro-diplomacy, which are: 1) political; 2) preventive; 3) integrative; 4) cooperative; and 5) technical. Political aspect encompasses the national agreements of both countries, bilateral meetings, as well as the formulation of IWT as a part of foreign policy. The preventive aspect covers the dispute resolution mechanism and creation of the PIC and neutral expert to prevent the escalation of the conflict. Integrative aspect is evident in the involvement of numerous stakeholders and third-parties, namely the United States, World Bank, PIC, and neutral experts. Furthermore, the cooperative aspect is apparent in the agreements surrounding the formulation of IWT, as well as collaborative efforts between India and Pakistan to address the issue. Lastly, the technical aspect is evident in the data-sharing practices of the river system.

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