

Indo-Pak Water Disputes: Causes and Consequences

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ABSTRACT

Study Aim: The main objective of this research is to explore water conflicts between Pakistan and India and their effects on bilateral relations of both states. Indian concern to uphold hydro hegemony on the Western Rivers of Pakistan is also the main rationale of this research. The primary purpose of the study is to answer the research questions and explain the causes and consequences of water disputes between Pakistan and India.

Methodology: Secondary sources are used to collect data and the analyses are made under the paradigm of qualitative content analysis method. The Indo-Pakistan water disputes are hampering the peaceful situation of South Asian region and it may lead the region towards the massive conflict.

Findings: The South Asian region is counted as one of the most dangerous regions of the world due to persistent rivalry of Islamabad and New Delhi. The hostility between Pakistan and India is not novel but some issues are watering the plant of antagonism historically and it may be resulted into a war. There are many factors behind these adverse bilateral relations but Kashmir issue and water conflicts are more prominent and have potential to trigger any misadventure. Water security is gaining more significance as non-traditional security threats are becoming primary concern of every state. Initially, Indus Water Treaty (IWT) resolved the water issues between both states but in 21st century, it reemerged owing to the building of many hydropower projects on the Chenab, Jhelum and Indus rivers by India.

Conclusion: Due to growing needs of water and decreasing supply, further tensions are increasing between Islamabad and New Delhi, which, are needed to be resolved immediately. Regular talks at Indus Water Commissioners level should be conducted and all reservations should be addressed. Efforts to maintain hydro-hegemony should also be avoided by India. It is also highly needed and required that confidence-building measures should be adopted by both states to avoid any futuristic combat like situation over water issues.

Keywords: Hydro Hegemony, Indus Water Treaty, Pakistan-India Relations, Water Disputes, War.

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Introduction

The root cause of the bumpy relations between Pakistan and India is dated back since partition process of the British India. In atmosphere of animosity, partition was materialized (Mahmood 2018). Both, Kashmir issue and water disputes affected the bilateral relations adversely. India claimed a sovereign right over Indus waters, which flow from India towards Pakistan and planned to divert these ways of waters away from Pakistan (Angelakis, et al. 2021). On April 01, 1948, India clogged water towards Pakistan and serious issues started between both states. In May 1948, India restored some supply of water and later on IWT was signed (Fatima and Iftikhar 2015). The United Nations (UN) reported that forty percent global water deficit would be faced by the world by 2030 (The World Water Development Report 2021). Six hundred million people of India are facing extreme water stress and because of overpopulation, seventy percent sources of water are contaminated there. Pakistan will be the most water-stressed country in South Asia within next two decades and by 2025, the country will face acute water scarcity (Yusuf 2020). According to the first national policy on water of Pakistan, availability of water resources declined to the limit of 1000 cubic meters per capita annually in 2016 and by 2025 level of available of water resources will reach to the limit of 860 cubic meters and Pakistan will be a country of water scarcity (National Water Policy of Pakistan 2018). Due to increasing population, water is becoming a cause of future conflicts. “Indian and Pakistan were born to conflict” (Sinha 2016). Prime Minister of India, Narendra Modi said in 2016 “Blood and water cannot flow together”. These are direct threats and challenges for IWT and Pakistan (Sattar and Bhargava 2019).

Research Questions

- How do water conflicts affect adversely bilateral relations of Pakistan and India?
- Why has India concern to uphold hydro-hegemony on western rivers of Pakistan particularly during Narendra Modi era?

Research Methodology

The study is explanatory in nature and tries to explain the causes and consequences of water disputes between Pakistan and India. The study focuses to answer the above research questions in details under the domain of the research. As the domain of the study is water issues between Pakistan and India that is why primary focus is given to causes and consequences of water issues between both states. The data collection method is backbone of any research and it determines the validity of research. To answer the above questions secondary sources of data collection are used and preference is given to the neutral and justified literatures from different sources. Both national and international journals, books, newspapers, policy papers and other sources are utilized to collect the relevant data. Finally, the analysis made by following the qualitative content analysis method.

Results and Discussion

Historical Background of Pakistan and India Water Conflicts

In the world politics, water issue has become one of the core issues. Flow of water from one state to another is called trans-boundary water flow. Rapid increase in population, deforestation, urbanization and industrialization are becoming the major causes of water scarcity. The seed of conflicts was sewed between both countries since division of sub-continent. Not only Pakistan but also Bangladesh, Nepal and Bhutan are facing water issues with India (Khalid, Mukhtar and Ahmed 2014). This partition divided interdependent hydro system. Tensions increased between both states with concept of ‘water nationalism’. To understand existing water issues and to suggest valuable solutions and recommendations, history of these issues is very important to be focused.

Both nations are facing a series of problems historically (Nosheen and Begum 2012). Due to this factor, a prolonged chain of water conflicts started between both states. Hope to resolve water issues were

unfounded after some year. India mostly storage projects are constructing in Indian held Kashmir and Pakistan is considering these projects as a threat. Since the beginning of civilization, Indus basin system was remained in use for irrigation purpose. In the past, supply of water was more than demand in this territory. Its main reason was low population. These water issues converted as international water conflicts between both states after partition.

Standstill Agreement

In the autumn of 1947, due to monsoon flows, dispute arose between east and west Punjab. To resolve these issues engineers of both Punjab met. On December 18, 1947, the Standstill agreement was signed. On March 31, 1948 this agreement ended and there was no any other formal agreement on usage of water between India and Pakistan after it. On April 01, 1948, India stopped water of the rivers Ravi, Sutlej and Beas towards western Punjab. Due to this act relations of both states became antagonistic. India also claimed that mostly developmental work in irrigation system was took place in the area of Punjab, which became the part of Pakistan. However, India through Ferozpur headwork managed to control water flow to Dipalpur canal (Nosheen and Begum 2012). On May 04, 1948, interim agreement was signed. Through this agreement, both states agreed to respect needs of water of each other. However, this agreement did not succeed to resolve the water issues of both states.

Role of the World Bank for IWT

It is a fact that the World Bank (WB) played vital role regarding IWT. This treaty became possible only because of the WB and it was at an influential position in this regard. When through IWT waters of Indus basin divided at that time Pakistan roughly required about a billion dollars to finance the construction of its link canals. In this regard, without financial assistance, these constructions were not possible for Pakistan, which were arranged by the WB with assistance of other states (Ejaz 2017, Sinha 2016).

Indus Water Treaty and its Implications

IWT was signed on September 1960, which divided rivers of the Indus basin. For both parties, obligations and responsibilities have mentioned in the preamble of it. In the same way, 12 articles and 8 technical annexure are also defining these responsibilities for both states. No provision for joint management has given in this treaty. As explained in the articles II, III and IV certain responsibilities on India have fixed as upper riparian (UNESCO 2021). On the condition of exclusive usage of Indus, Pakistan agreed to give the rights to use the water of Sutlej, Beas and Ravi to India. Pakistan also allowed India to continue the use of water of existing projects from Indus, Chenab and Jhelum. Even Bhakra dam on Sutlej was also provided as a legal right to India under IWT. In Pakistan, engineering community recorded protest against IWT. To respond them, Ayub Khan, the President of Pakistan called on all the said community to the governor house to discuss the salient features of the said treaty (Ranjan 2016, Ali 2015).

The third element was included in IWT was to utilize hydroelectric potential of Western Rivers before entering these rivers into Pakistan. This element was prominent in talks before signing IWT. India desired to control this power of these western rivers before crossing line of control. Pakistan even showed reservations at that time that India would be able to construct heavy storage dams on these western rivers in the name of hydroelectricity generation, which might affect security of Pakistan. Then the fourth element was included in IWT that if this would happen then the option of Court of Arbitration or appointment of neutral experts would be utilized (Fatima and Iftikhar 2015). Under IWT, It was permitted to India to build hydropower projects on the western rivers. This permission was for hydropower generation-based projects only. Any simulated increasing of water level in the upstream pool above the full poundage level in design was not allowed. Therefore, it was clear that gated spillways were never allowed to India. These spillways help to store water and raise levels beyond the natural poundage level. India was also allowed to build storage capacity on the Jhelum and Chenab up to 1.6 MAF for power generation. The following specific usage of water on Western Rivers were allowed to India.

- i. Domestic uses; Municipal and drinking uses
- ii. Non-Consumptive uses; floating of timber, fishing, navigation etc.
- iii. Agricultural uses; India was permitted to irrigate 1.3 million acres of agricultural land in Indian held Jammu and Kashmir (India has developed 0.7 million acres and is yet to develop 0.6 million acres (Ali 2015).

Before IWT, Pakistan claimed historical usage of water of Indus basin system. On the other hand, India claimed absolute usage of water of this basin as upper riparian. Solutions founded through IWT to resolve these water issues of both states. However, these principles were not mostly driven by legal framework. Tenets of water engineering and economics were followed while signing this treaty. The principle of evenhanded utilization of water of international law association was invoked by India (Nosheen and Begum 2012).

Pakistan shall receive all the water of western rivers unrestricted and India is under compulsion to let flow of water as per article three of IWT. India shall not be permitted any interference except for domestic, non-consumptive, agricultural and generation of hydroelectric power usages. India is under commitment to let flow waters of the western rivers without any restriction towards Pakistan. In annexure-C details of uses for agricultural are mentioned while in annexure-D details of generation for hydro-electricity are also presented. Except these provisions, which, are mentioned in annexure-C and D, India shall not store water. In the same way, India will not construct any storage works on the western rivers as well Pakistan has to focus to construct with the best efforts to replace waters resources structure from eastern rivers to western rivers. Both parties also agreed to allow water for non-consumptive use. Details of exchange of data and future cooperation are mentioned in article six and seven of IWT. For optimum development of the rivers, cooperation and collaboration between both states and its terms and conditions were also quoted in details. The data regarding flow of water has also to be shared regularly by India. At all observation sites daily discharge data linking to flow of the rivers has also to be shared as per IWT.

Jawaharlal Nehru was Welcomed with Black Flags in India after Signing IWT

After signing IWT when Jawaharlal Nehru reached at Palam airport at New Delhi, he was welcomed with black flags by opposition. Twenty percent water of Indus water system was secured by India through IWT while they were using only ten percent. However, opposition wanted to get 42% of this Indus water system. Therefore, opposition claimed loss of 22%. On this behavior, Jawaharlal Nehru replied that “Do not show me black flags; your generations will remember me (in gratitude) for what I have secured for India”(Ranjan 2016). Obviously, they got twenty percent water only to settle dust. After it, India planned to do more (Mahmood 2018).

Debate in Lok Sabha and Reactions towards IWT

Prime Minister of India, Jawaharlal Nehru said in Lok Sabha that we purchased a settlement. He further said, “It is good for both countries”. Different political parties showed concerns over the loopholes of the IWT at that time. Iqbal Singh and H.C Mathur, Congress MPs from Punjab and Rajasthan considered this treaty as a disadvantage for India. Ashok Guha, another Congress MP lamented that to placate Pakistan’s interests, which India had sacrificed. Ashok Mehta, in Lok Sabha also considered this treaty as peculiar treaty (Ejaz 2017).

Pakistan-India Water Conflict during Prime Minister Narendra Modi Era

Narendra Modi’s government is working to develop infrastructure of all those hydro projects, which are linked with water issues of Pakistan. This government through ministry of water resources is monitoring work on all under process hydro projects for prompt working at various stages and levels. It was also claimed by India that by waters of the western rivers, she has the potential to generate 18,569 MW hydroelectricity while only 3500 MW is developed and India may utilize these waters to irrigate 13.4 lakh

acres but currently only 08 lakh acres are being irrigated. The said government has also formed task force on IWT and its basic objective is to ensure to get each drop of water due to India. It is also announced by Modi that every effort will be made to provide maximum water to farmers (Water which 'Belongs' to India cannot be Allowed to Flow into Pakistan 2016). India built all this pressure especially after blaming Pakistan for attacks on army base of India. Pakistan denied all the allegations, as India did not provide adequate evidences to support her claims.

Pakistan claimed that India is trying to hold back waters of those rivers, which are flowing from Indian held Kashmir towards Pakistan. Water scarcity is remained as a security issue for Pakistan. Survival of the state is at risk due to these water issues and Pakistan considered India responsible of it. The instrument, which is available to resolve these water issues, is IWT. If these water issues are not handled technically then there are chances of conflict between both states (Soofi 2010). Mutual agreed mechanism needs to be opted to resolve these water issues and these matters should be taken urgently by both states. Minister, Nitin Gadkari also said that India planned to stop even a single drop of water flowing from India towards Pakistan. Indian government is also under intense public pressure to retaliate against Pakistan over water issues (Slater 2019). Prime Minister of India Narendra Modi criticized the government under Ex-Prime Minister Manmohan Singh with logic that it showed soft stance to Pakistan in spite of attacks in Indian held Kashmir.

The following tables show the detail of the prominent projects constructed by India on the Western Rivers.

Table 1: *Showing details of Indian completed dams on the Chenab River*

Dam	River	Year of Completion	Height in Ft.	Reservoir (1000) ac Ft.	Area
Baglihar	Chenab	2009	469.0	164.0	Indian Held Kashmir (IHK)
Bursar	Chenab	Under Construction	N/A	N/A	IHK
Dul Haste	Chenab	2007	213.0	9.36	IHK
Kirthai	Chenab	U/C	N/A	N/A	IHK
PakalDul	Chenab	U/C	N/A	547.0	IHK
Ratle	Chenab	U/C	N/A	19.3	IHK
Sallal I	Chenab	1987	387.0	230.0	IHK
Sallal II	Chenab	1987	370.0	230.0	IHK
SawalKot	Chenab	U/C	N/A	N/A	IHK
Miyar	Chenab	U/C	N/A	N/A	IHK

Source: (Ranjan 2016)

Table 2: *Showing details of Indian completed dams on the Jhelum River*

Dam	River	Year of Completion	Height in Ft.	Reservoir (1000) ac Ft.	Area
Gujjar	Jhelum	1971	59.0	10.1	IHK
Uri	Jhelum	1997	93.4	.250	IHK
Kishanganga	Jhelum	U/C	106.0	N/A	IHK
Wullar	Jhelum	U/C	N/A	0.328	IHK

Sources: (Ranjan 2016)

Table 3: *Showing details of Indian completed dams on the Indus River*

Dam	River	Year of Completion	Height in Ft.	Reservoir (1000) ac Ft.	Area
Nimmo Bazgo	Indus	2011	N/A	41.61	IHK
Chutak	Indus	2011	95.0	4.77	IHK

Source: (Ranjan 2016)

Implications of Hydro Hegemony Framework

The element of domination of upper riparian over lower riparian or exercise of powers over water issues of one state over other is called hydro hegemony (Garrett W Brown 2018). Hydro-hegemony term used to describe behavior of any regional power towards smaller states and countries over the issues of sharing common rivers. Positive as well as negative hegemony are practiced in all over the world. Division between powerful and the weak in international system is increased due to negative and dominative hegemony. This situation also generates sense of inequity among the masses and public (John Baylis 2019). This structure of hydro hegemony is applied to understand the water disputes and disagreements between India and Pakistan. These water disputes and disagreements remained over agenda of talks of both countries. In this paper, logically theory of hydro-hegemony is considered significant to analyze water disputes between these two nuclear states.

Riparian Position and Implementation of Hydro Hegemony

Geographical position of Riparian is very significant regarding implementation of hydro hegemony. The Indus River is considered as an important factor in the economy growth of Pakistan. A small lake, the Mansarovar in Tibet yields this river initially. Many water reservoirs from the Himalayan glaciers also become the part of this large river before its entry in the Arabian Sea. This river enters from Gilgit and Balitistan region into Pakistan. It is also a fact that from east to west, this Indus River linked through various tributaries. From the west, the Tochi, Kabul, Ghizer, Gomai and Swat River are its main tributaries. In the same way, the Ravi, Jhelum, Sutlej and Chenab also join it from the east. The heads of the river Jhelum and Chenab are located in Kashmir. This territory is already disputed. However, this river is a trans-boundary river and crosses three countries China, India and Pakistan. Basin of this river is spread over 1.12 million km². It shares boundaries 8 percent with China, 39 percent with India and 6 percent with Afghanistan.

The Indian Approach to Abrogate the Treaty

Geographically, India is an upper riparian state, so water control is in its power and New Delhi is well aware about this advantage. Because of this factor, Indian state sometimes withholds and sometimes releases abundant water to create flood situation and uses it whenever wants without any hesitation. In the current situation, India is advancing from both sides. On the one hand, India is diverting water to ensure its interests. To strengthen this variable various hydroelectric project are continuing on rivers which are given to Pakistan. Due to this political weapon, concerns of Pakistan towards water threats are rapidly increasing day by day. On its stand, India says that it is using water according to the provisions of the Indus basin agreement while Pakistan on various technical grounds counters it in the annual meetings of the Indus Water Commissions and at various other forums. For this reason, it stands as a major obstacle in the way of India's nefarious motives (Iyer 2005). Therefore, keeping in view this conflict if India will try to terminate this agreement partially or completely it cannot be terminated because it is clearly written in article XII(4) of IWT that, to terminate the treaty, another treaty needs to be formulated.

Water Security as a Threat to Pakistan

Historically, India violated IWT as claimed by Pakistan and water security has become huge non-traditional threat for Pakistan. India has not only completed many hydropower projects on the western rivers but still is working on it. India is creating these threats only because of conspiracy over waters. As

per an editorial, which was published in a National Urdu newspaper ‘Ausaf’ in 2008, it was clearly mentioned that India planned to drop “water bomb” on Pakistan. It was further mentioned in this article that India wanted to cut economy lines of Pakistan through stoppage of water. Pakistan also showed concerns for various times that India had tried to twist the different clauses of IWT for its benefits and future planning (Khan 2019). Water conflicts are considered as complex issues and only with strong logical steps, these conflicts can be resolved. Commitments are required to solve existing water issues between Pakistan and India through diplomacy and backdoor channels.

Conclusion

IWT resolved historic water conflicts of Pakistan and India. It was considered as a permanent solution to these issues. This treaty survived even after wars between both states and provided opportunities for future collaboration as well. The situation became the worst when after only a decade India showed her intentions to construct many hydropower projects on the Western rivers. This stir by India is fetching a reason of trust deficit between both states as these projects are considered as violations of IWT by Pakistan. Water directly and indirectly links with agricultural, economy, defense and survival of the states. Pakistan also claims that flood and water scarcity in Pakistan through Indus basin system is being planned by India. Indus basin system is facing ecological threats as well. Majority of population in Pakistan is dependent on agriculture, which mainly depends on water of this basin system. It is also a fact that India is not sharing technical and engineering details of the projects as per requirements mentioned in IWT. Recently speedy developments over these hydroelectric power projects by India are also becoming a cause of concern for Pakistan and these moves have adverse effects over bilateral relationship of both states.

Many statements by Prime Minister of India, Narendra Modi and official of his government have given over water issues with reference to Pakistan. These statements do not only give the stance of India but also increase water stress between both states. India and Pakistan are nuclear states in South Asia and considered very significant regarding peace process in future. Due to growing needs of water and decreasing supply, further tensions are increasing between Islamabad and New Delhi, which, are needed to be resolved immediately. Regular talks at Indus Water Commissioners level should be conducted and all reservations should be addressed. Efforts to maintain hydro-hegemony should also be avoided by India. It is also highly needed and required that confidence-building measures should be adopted by both states to avoid any futuristic combat like situation over water issues. Positive approach and values should also be promoted through cultural and other tools to bridge better relations. It is historically proved, that water issues always proved very panic and harmful for the states of the world if these issues would not be resolved properly. Therefore, these water issues between both nuclear states of South Asia should be resolved immediately for which not only these both states but all other international organizations especially the World Bank should play a vital and positive role. For peace process in Asia and even in the world, these water issues need to address immediately. In this regard, role of Pakistan is very important but at the same time as upper riparian, role of India is furthermore significant. Trust deficit should be minimized and through PIWCs talks and diplomatic role should be played effectively.

Suggestions to Avoid Future Water Conflicts

As per the Helsinki Rules 1966, following principles will be helpful for both states to avoid any future water conflicts.

Multi Track Diplomacy and Confidence Building Measures

Due to Socio economic reasons, India and Pakistan are categorized in the list of third world countries. To end the clashes and normalize situation, confidence building measures and multi track diplomacy are the tools, which should be opted. Historically, at some stages, India and Pakistan also tried to utilize these instruments. Its example are matter of Salal dam and response by India over construction of Wullar barrage which was stopped by India in 1984 due to objections raised by Pakistan (Fatima and Iftikhar

2015). In the same way, over flowing misconceptions should also be ignored and should try to avoid repeating acts of hate. Pakistan is a lower riparian and facing water issues. To avoid any serious threat both states should resolve water issues amicably and through round of talks with spirit of harmony and cooperation.

Sovereignty and Common Interests

In view of the principle of sovereignty of states, one state is bound not to harm the interest of another state. Under this principle, a state is allowed to use water for it to the extent that the rights of other states are not affected (Lazerwitz 1993). In view of the principle of “common interests”, the water resources connected between the states should be recognized as one unit, managed and maintained with a common strategy and meet their respective interest effectively. It is also mentioned that the concerned states must utilize their water in such a way that there is no danger of necessarily harming the water resources of other states. The “Helsinki Rules 1966” describes in article five that states shall not only use water resources for their own purposes in an equitable manner, but shall also play their part in protecting and improving these resources. States should use these water resources in such reasonable way that other states should also use the same resources to fulfill their national needs. If states do not use and protect water resources fairly, conflicts will be inevitable as result. If the concerned country has to adopt any strategy that may have adverse effects on other countries then she has to inform and consult with the concerned country. For this objective, a notice of six months in advance should be sent to the concerned country by suspending all its activities. If the concerned state can really be affected, (with solid reasons) then another period of six months should be given for discussion and consultation. The affected state may notify the notifying state(s) under article 5 (violation of equitable utilization) or article seven (appreciable harm), whereby the parties shall resolve these issues through mutual negotiation and consultation.

Permanent Indus Water Commissions

Under article VIII, PIWCs were constituted as per the requirement of time in both India and Pakistan. For the implementation of IWT in a true sense is the main task and objective of these PIWCs. To create environment of cooperation in every development over water between both parties it is also a primary responsibility of these commissions. Although, both commissions played their supervisory role quite well, but with limited dimensions (Ranjan 2016). Need of the hour is to expand the role of PIWCs to resolve water issues between both nuclear states.

Recommendations

The following recommendations will be helpful to minimize water issues and trust deficit of both states contemporarily.

Feasible arrangements should be made by both states over water management at regional level to regulate water flow and to avoid shortage of water. Factor of diplomacy should be enhanced and strengthened. In the same way, irrigation capacity needs to be restructured and capacity of rational water usage should be further developed. Special attention should also be given to these water issues by head of governments of both states constantly. Farmers must be involved in water management and policymaking process. Groundwater should be preserved and proper laws are needed to formulate in this regard. Crops, which need less water requirements, should be preferred by both states. Agricultural relevant individuals should be well aware about the recent water issues and they should play their role properly for both states. Wastage of water at all level should be made useful and this water should be reutilized. In this way water, shortage may also be minimized. Both states should work on awareness over the significance of water and masses should be informed that water is very precious and this water should never be used aimlessly.

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