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**A HISTORICAL APPRAISAL OF THE WATER DISPUTE IN  
THE INDUS BASIN, 1947-1960**



**DOCTOR OF PHILOSOPHY  
UNIVERSITY UTARA MALAYSIA  
2020**



Awang Had Salleh  
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Universiti Utara Malaysia

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## Abstrak

Kajian ini membuktikan bahawa keperluan hidup manusia tidak dapat dipisahkan oleh faktor sejarah. Penilaian ini merupakan satu usaha untuk mengevaluasi kembali peristiwa Lembah Indus yang kompleks dan berlarutan dengan ditentukan pada faktor sejarah di tengah-tengah konflik geo-politik. Tesis ini meneliti mekanisme konflik dalam pembahagian wilayah yang timbul berikutan pembahagian India berkenaan pengagihan sumber air. Terdapat jurang yang luas di antara kedua buah negara berkaitan dengan cadangan perkongsian air di Lembah Indus. Eksplorasi ini berusaha untuk memahami jurang antara yang terlibat dengan perdebatan dan pihak yang menimbulkan perselisihan dengan menganalisa peranan Bank Dunia dalam kombinasi isu kewangan. Mengambil kira kepada dasar Amerika Syarikat terhadap pembendungan kepentingan komunisme di Asia Selatan, Bank Dunia turut terlibat untuk campur tangan melalui Perjanjian Lembah Indus. Kajian ini menggunakan pendekatan sejarah dengan kaedah kualitatif. Elemen utama yang digunakan ialah berasaskan kepada data primer dari *The British National Archives* dan *The British Library* di United Kingdom. Dokumen juga diperoleh dari *National Documentation Wing di Islamabad*, *National Institute of Historical and Cultural Research*, *Water Management Department* dan *Punjab Archives* di Lahore. Manakala kaedah temu bual separa berstruktur diadakan bersama informan yang terdiri dari pegawai tinggi dan pakar air di *Governmental Water Institute*. Dapatan utama menunjukkan bahawa *Permanent Indus Commission* dari kedua-dua negara iaitu Pakistan dan India harus diperkukuhkan untuk memperbaiki dalam membina keyakinan bagi mengelakkan perbezaan serta perselisihan di Lembah Indus. Ini secara jelas menggambarkan impak politik dan geografi berikutan konflik pertikaian air di Lembah Indus dengan kesan, cadangan serta kemajuan terkini di India dan Pakistan. Selain itu, penyelidikan ini turut merungkai mengenai percaturan isu air di Asia Selatan dengan membina ikatan ekonomi penyumbang di Lembah Indus menerusi perbincangan diplomasi. Kajian ini mencadangkan dimensi baharu mekanisme penyelesaian konflik melalui perspektif sejarah dalam perkara penyesuaian terhadap perubahan persekitaran dan pentadbiran air. Hal yang demikian juga sejajar dengan keperluan memperbaiki isu geopolitik negara yang bergantung kepada Lembah Indus.

**Kata kunci:** Lembah Indus, Pertikaian air, Perjanjian Air Indus, India, Pakistan.

## Abstract

This study proves that human needs are inseparable by historical factors. This appraisal is an effort to re-evaluate complex and perennial saga of Indus Basin by apportioning ‘-history at the heart of a geo-political conflict’. This thesis examines conflicting mechanism of territorial distribution that arose after partition of India on distribution of water resources. There was a wide gap between both countries regarding the suggestions on water sharing of Indus Basin. This exploration attempts to comprehend the gap between disputants and dispute by analyzing the role of World Bank in combination of financial issues. In reference to United States policy towards containment of communism laid interest in South Asia that engaged World Bank to intervene through achievement of Indus Water Treaty. This historical research uses qualitative approach, highly dependent on primary data collected from The British National Archives and The British Library, both in the United Kingdom, sources also gathered in Islamabad from National Documentation Wing, National Institute of Historical and Cultural Research, Water Management Departments and Punjab Archives, Lahore along with semi structured interviews conducted from high official of Governmental Water Institute and water experts. The finding shows that Permanent Indus Commission from both Pakistan and India should be strengthened to improve confidence building measures in order to avoid differences and disputes in Indus Basin. It significantly described the vast political and geographical impacts of water dispute in Indus Basin with impacts, recommendations and current advancements in India and Pakistan. Another outcome of this research comprehends water game of South Asia by developing economic ties among contributors of Indus Basin through diplomatic talks. This research also suggests new dimension to mechanism of dispute settlement through historical perspective in respect of adjustment towards environmental changes and water administration along with improving geopolitical interests of countries lying in Indus Basin.

**Keywords:** Indus Basin, Water dispute, Indus Water Treaty, India, Pakistan.

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## List of Abbreviations

AJK	Azad Jammu and Kashmir
AK	Azad Kashmir
BS	Beas Sutlej
CAMs	Conflict Avoidance Measures
CBDC	Central Bari Doab Canal
EIC	East India Company
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GWP	Global Water Partnership
IBIS	Indus Basin Irrigation System
IBAB	Indus Basin Advisory Board
IBRD	International Bank for Reconstruction and Development (World Bank)
IGBM	Indus Ganga Brahmaputra and Barak Meghna Basin
ICJ	International Court of Justice
ILA	International Law Association
ILC	International Law Commission
IRS	Indus River System
IRSA	Indus River System Authority
IWMI	International Water Management Institute
IWT	Indus Waters Treaty
J&K	Jammu and Kashmir
KKH	Karakorum Highway
KRB	Kabul River Basin
LBDC	Lower Bari Doab Canal

MAF	Million Acre Feet
SVP	Sutlej Valley Project
TCP	Triple Canals Project
TVA	Tennessee Valley Authority
UBDC	Upper Bari Doab Canal
UCC	Upper Chenab Canal
UJC	Upper Jhelum Canal
UNEP	United Nations Environment Programme
UNSC	United Nations Security Council
WAPDA	Water and Power Development Authority
WB	World Bank





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# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

Water has turned into an undeniably critical fixing in the improvement procedure of all nations. Not exclusively is sheltered drinking water fundamental for our prosperity, however water is likewise an essential imperative for facilitate farming, mechanical and vitality related improvements. The topic of research under discussion is a historical appraisal of water dispute arose due to partition of Indus Basin between two countries of Pakistan and India after British exile from South Asia. The Indus Basin comprises of 1,138,800 km<sup>2</sup> zones, 14% exist in Nepal, China and Afghanistan and 34% is in India rest 52% lies in Pakistan.<sup>1</sup> It is termed as appraisal because water remained a continuous bone of contention for India and Pakistan since partition till it was settled in 1960 as an agreement of settlement known as Indus Water Treaty (IWT) for Indus Basin. In light of existing examinations, four noteworthy water issues confronting the world today are distinguished. These are the arrangement of safe drinking water; water prerequisites for encouraging rural, hydroelectric and mechanical improvements manageability of water advancement undertakings and improvement of water assets shared by at least two states. Both the greatness and nature of the issue ranges are widely discussed. Initially, four noteworthy key contemplations provide a launching pad to outline research on Indus Basin. These keys are further incorporated in thesis to chalk out the patterns of dispute in Indus Basin. Drawing the multidimensionality of issue advancement of the

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<sup>1</sup> Wolf, Aaron T, *Atlas of International Freshwater Agreements*, Vol. 4. UNEP/Earth Print, 2002.

effective utilization of water support of better administration of water assets frameworks and use of research results to take care of genuine issues.<sup>2</sup>

Pakistan got her independence from British Empire on August 1947, bringing about the presence of these two autonomous sovereign nations Pakistan and India. After partition the irrigation system in Indus Basin that inundated somewhere in the range of thirty seven million sections of land was imagined initially as a bound together framework and considered a standout amongst the most broad and exceedingly created water system frameworks of the world. The Indus Water Basin comprises of the territories of Indian as well as Pakistani Punjab viz Eastern and Western Punjab initially marked by Radcliffe (the Indian boundary commission in charge appointed by British in 1947 for Indian territory division) was very vague there was no clearly mentioned head works acquisition neither it was mentioned that which rivers will irrigate which area.<sup>3</sup> It was located primarily among two nations without regard to water framework limits. Irrigation system of Pakistani Punjab was much more depended upon Indian Punjab. This distribution of canal headwork to India by Radcliffe award ultimately endangered the economy of newly born state of Pakistan.

In April 1948 this world wide water question arose, at that time India took benefit of being upper riparian state with full control over the headwork of Madhopur and Ferozpur overflowed its tributaries to ruin Pakistan. This act of injustice was one of

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<sup>2</sup> Biswas, Asit K. "Major Water Problems Facing the World," *International Journal of Water Resources Development*, 1983, pp. 13.

<sup>3</sup> The boundary line drawn by Cyril Radcliffe, cut across the Ravi River and the Sutlej it divided Upper Bari Doab Canal (UBDC) and Sutlej Valley Canal systems into parts, leaving their headwork at Madhopur and Ferozpur in East Punjab (India) and irrigated area largely in West Punjab (Pakistan). Kaur, Ravinder. *Since 1947: Partition Narratives among Punjabi Migrants of Delhi*. New Delhi: Oxford University Press, 2007, pp. 211.

the reasons behind the first Indo-Pak war keeping in view the urgency of dispute and Pakistani protest against Indian action. The process was hastened by the occupation of Kashmir by Indian troops from where the Indus is originated and Kashmir being the heart of the continent as all the water was coming down from the Tibet hills beside great Hima laya resided with Kashmir. For a couple of years following the war there was an absolute agony of anger between Pakistan and India. There was no issue settlement in upcoming years by any of the countries of the world, Pakistan appealed America and England for the disputed settlement but they paid no attention towards the appeal as Pakistan was a newly built nation having no political pressure internationally.<sup>4</sup>

In February, 1951 David Eli Lilienthal<sup>5</sup> visited Indian subcontinent. He noticed and presumed the political tussle between both countries. He suggested an immediate salvation of this issue. Thus World Bank offered its service being mediator to resolve this conflict. The World Bank offered its good offices for an exchange of idea in-order to resolve the water issue in South Asia. These broadened exchanges of more than ten years under the colossal work environments of the International Bank for Reconstruction and Development (IBRD), the leadership of India and Pakistan, avaricious of accomplishing the aggregate and classy consumption of the streams of Indus River System for water finally World Bank made arrangements to resolve the

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<sup>4</sup> Malik, Ramiz Ahmad, *Indus Waters Treaty Teen Darya Kaise Khoye (In Urdu)*, Lahore: Takhleeqat, 2005, pp. 17.

<sup>5</sup> David Eli Lilienthal (July 8, 1899 – January 15, 1981) was an American attorney best known for leading the Tennessee Valley Authority and later the Atomic Energy Commission (AEC). David Lilienthal wrote an article “Another ‘koria’ in the making” in the now extinct magazine Collier on August 3, 1951 in which he presented a viable solution of the India-Pakistan water dispute. Lilienthal, David Eli. *Change, Hope and the Bomb*. Princeton University Press, 2015, pp. 34-36.

water issues between Pakistan and India under the umbrella of Indus Waters Treaty 1960.

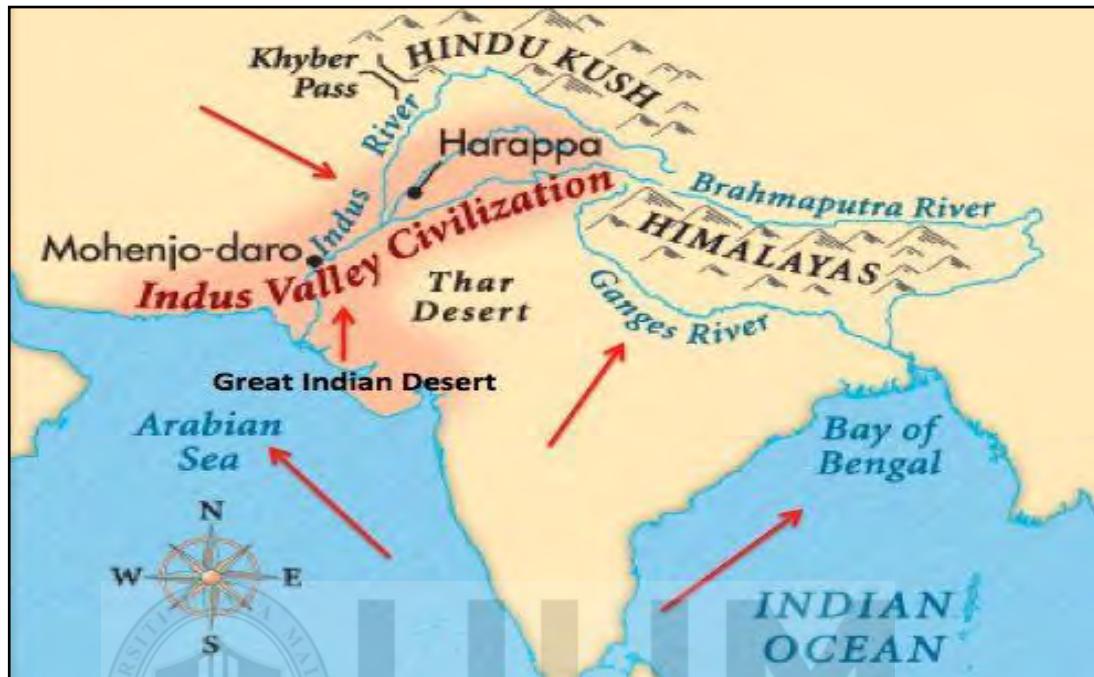


Figure 1.1. United Indian Irrigation System.<sup>6</sup>

Source: Fazal Akbar Committee Report Vol. I, Government of the Punjab, Irrigation Department, Lahore, 1947, pp. 5.

## 1.2 Background of the Study

The importance of water as a fundamental resource of nature is undeniable. The requirement of freshwater to meet domestic needs of a country normally and monetarily can never be denied. For instance, fisheries, agriculture, mining and amassing with conduits and these rivers provide 80% of the freshwater which have a basic needs of people. Two hundred and above rivers bowls on the planet that are starting at now shared by no less than two countries, circled across finished South

---

<sup>6</sup> The Blue Lines in this map shows Water passage of Indus and Brahmaputra Basin. Ancient India was a large united territory, some parts of Afghanistan and China were also included in the territory of India.

America, North America, Africa, Europe and Asia covering about forty seven percent of the earth's total landmass.<sup>7</sup>

Collaboration between states that offer worldwide water bowls is hard to accomplish particularly when power, regional respectability and security are in question. Besides, transactions and opening doors for the joint improvement of water assets are regularly obliged by irregular characteristics in financial, political, or military power among the nations included and unbalanced accessibility of data. In such cases, powerful administration arrangements may be achieved politically through settlements or assertions to determine instability about the esteem and usage of shared assets between contracting parties. Mostly, the dependency of these understandings relies upon monetary and political forces of the nations. Worldwide executing cost understandings and accords now and again advantage a few nations more than it does others.<sup>8</sup>

The animosity amongst both nations has its foundations for the development to pick up freedom from the British. The essential blame line kept running along religious that put Hindus at their extreme. The method adapted for partition in 1947 into autonomous Pakistan and India energized this ill will. Specifically, the Kashmir issue left by Cyril Radcliffe<sup>9</sup> has steadily disturbed these two countries relations. Partition

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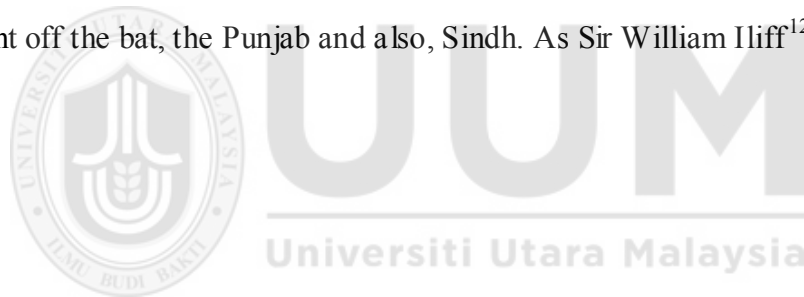
<sup>7</sup> Elhance, Arun P. *Hydro politics in the Third World: Conflict and Cooperation in International River Basins*, US Institute of Peace Press, 1999 see also Espey, Molly, and Basman Towfique. "International Bilateral Water Treaty Formation", *Water Resources Research*, 2004, pp. 2.

<sup>8</sup> Elhance, Arun P. *Hydro politics in the Third World: Conflict and Cooperation in International River Basins*, US Institute of Peace Press, 1999 see also Espey, Molly, and Basman Towfique. "International Bilateral Water Treaty Formation", *Water Resources Research*, 2004, pp. 2.

<sup>9</sup> Sir Cyril Radcliffe had been appointed as the chairman of the two boundary commissions, one for Punjab and other for Bengal. Radcliffe, K.B.E 1944; K.C 1935; one of the leader of English Bar was bom on March 30, 1899. He married in 1939 Antiona, daughter of the 1<sup>st</sup> Born Charnwood. He was

prompted various debates between the nations, for instance, finished evacuee property and cash trade rates. Pakistan even discussed a monetary war fuelled by the conviction that there is a substantial component that was not acknowledging the partition of subcontinent.<sup>10</sup> Another wellspring of Indian and Pakistan pressures was the Indus waters question.<sup>11</sup>

The topography of Pakistan is totally subordinate on the Indus Basin for its farming and metropolitan employments. Dissimilar to India which has various stream frameworks of Ganges-Jumna in the north and Cauvery River in the south and on the other hand Pakistan just has the Indus bowl. Besides, Pakistan's farming items that are its essential monetary salary are vigorously needy upon inundated agribusiness in, right off the bat, the Punjab and also, Sindh. As Sir William Iliff<sup>12</sup> called attention



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educated at Haileybury and new college oxford. He was a Fellow of all Souls College Oxford 1922-33; Eldon Law Scholar 1924; call to the Bar (Inner Temple) 1924; Bencher 1943; held various appointment at Ministry of Information 1939-41; Director General Minister of Information 1941-45. He was at present Vice-Chairman of the General Council of the Bar. Ilahi, Shereen. "The Radcliffe Boundary Commission and the Fate of Kashmir." *India Review* 2.1, 2003, pp. 77-102.

<sup>10</sup> Lilienthal, David Eli. *The Journals of David E. Lilienthal: Venturesome Years, 1950-1955*. Vol. 3. Harper & Row, 1964, pp. 5.

<sup>11</sup> A separate dispute over the Indus waters existed prior to partition between the provinces of Punjab and Sindh. They had separately extended their irrigation networks using the Sutlej and the Indus rivers, respectively. Sindh was concerned that the Punjab's planned works on the Sutlej River would diminish the inflow to the Indus River and therefore harm its existing and planned uses. To resolve the dispute, the Government of India set up two commissions - the 1935 Anderson Commission and the 1941 Indus Commission. However, partition interrupted the dispute's resolution by changing the political geography and parties involved. See also Alam, Undala Z, "Questioning the Water Wars Rationale: A Case Study of the Indus Waters Treaty," *The Geographical Journal*, 2002, pp. 341-353.

<sup>12</sup> Mr. Iliff was Director of Loan Department (1948-1951), Assistant to president (Vice President) World Bank (1951-1956), Vice President World Bank and International Development Association 1956-1962. Alacevich, Michele. *The Political Economy of The World Bank: The Early Years*. The World Bank, 2008, pp. 108.

to, Pakistan was denied of her trench water from the Indus framework the entire West Punjab would truly turn into an abandon.<sup>13</sup>

Partition of India left Pakistan vigorously subordinate upon channels which were fully controlled by the Indian. At first, transitory understandings were marked by West and East Punjab to guarantee proceeded with the supply of water to Pakistan's trenches. Be that as it may on 31 March 1948 the ascension terminated and also on 1 April 1948, India halted water streaming over worldwide fringe. For Pakistan the planning couldn't be more awful. In the Punjab Ranchers plant two products for every year. The water lack debilitated both the winter edit that was going to be collected and the late spring crop which would be sown quickly a short time later. Without water, the two seasons harvest would be lost. Also the partisan brutality in India and Pakistan that encompassed the progress to autonomy had prompted a social and monetary change. Removal of individuals getting away from this savagery additionally disturbed nourishment creation in the Punjab similarly as there were a huge number of displaced people to bolster.<sup>14</sup>

The Indus River System<sup>15</sup> had never been a long way from focal point of the Kashmir debate. Indeed, even before autonomy for both nations came in 1947, the

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<sup>13</sup> De Chazoumes, Laurence Boisson, Christina Leb, and Mara Tignino, eds. *International Law and Freshwater: The Multiple Challenges*. Edward Elgar Publishing, 2013, pp. 410. See also Interview transcript of Sir William Iliff by Robert Oliver, Brookings Institution, The World Bank Project transcribed by the Oral History Research Office of Columbia University. 1961, pp. 12-16 and Mason, Edward S., and Robert E. Asher. *The World Bank Since Bretton Woods*. Brookings Institution Press, 2010, pp. 241.

<sup>14</sup> Alam, Undala Z. "Questioning the Water Wars Rationale: A Case Study of the Indus Waters Treaty." *The Geographical Journal*, 2002, pp. 341-353.

<sup>15</sup> The Indus river system consists of seven major rivers: besides the Indus itself, these are the Jhelum, Chenab, Ravi, Sutlej, Beas, and (flowing from the west) the Kabul. Clift, Peter D., and Jerzy



trustworthiness of the British-built water system works in the Punjab area was high on the rundown of variables, aside from religious lion's share, considered by Radcliffe in making his assurance of suitable limits at the season of partition. On 1<sup>st</sup> of April 1948, the Indian government discretionarily halted the stream of dilute the Sutlej River to Pakistan's West Punjab. This came at a basic point in the horticultural date-book and amidst expanded battling in Kashmir amongst Indian and Pakistani powers, extraordinarily fueling the post partition emergency in India–Pakistan relations. On 4 May 1948 marking of the Inter-Dominion (Delhi) Agreement get preparation of occasions that drove in the long run to 1960 IWT.<sup>16</sup>



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Blusztajn. –Reorganization of The Western Himalayan River System After Five Million Years Ago.” *Nature*, 2005, pp. 101.

<sup>16</sup>Alam, –Questioning the Water...”, pp. 341-353.



Figure 1.2. Water Ways of Indus Irrigation System in India and Pakistan.<sup>17</sup>

Source: Fazal Akbar Committee Report Vol. I, Government of the Punjab, Irrigation Department, Lahore, 1970, pp. 6.

Having taken the better piece of 10 years to fashion into a worthy trade off, the 1960 IWT was from all records, a grand accomplishment. Its creators were carefully mindful to detail. In dividing the six-stream Indus framework shared by India and Pakistan three supposed "Eastern" waterways (the Sutlej, Ravi and Beas) flowing in India, the three "Western" waterways (the Chenab, Jhelum and Indus) flowing in

<sup>17</sup> Blue dots in the map shows all the proposed dams in India and Pakistan. The dotted line reflects the water ways of Indus Basin flowing through Pakistan, India, Afghanistan, Nepal and China that joins later the Ganges-Brahmaputra Magna passing through Bangladesh, India, China, Bhutan, Myanmar and Nepal.

Pakistan rather than battling vainly to locate an acceptable recipe for the sharing of its waters, they showed a handy authenticity without which there would likely have been no bargain by any means. Their craftsmanship empowered the IWT to get by for more than four decades even with rehashed serious strains in India–Pakistan relations. In any case, the arrangement couldn't make arrangement for all the stream important changes that what's to come were to convey to the area. There are a few motivations to accept truth be told that the IWT may not be up to the test that some of these progressions are posturing. A valid example is the current disagreement about the Indian-constructed Baglihar dam.<sup>18</sup>

The headwaters of every one of these rivers were lying in India and the results of these geographical position conceivable forceful expectations from India, soon posed a potential threat before Pakistan.<sup>19</sup> The then Prime Minister of Pakistan Liaquat Ali Khan, suggested a domain meeting to solve the debate.<sup>20</sup> Jawaharlal Nehru the then Prime Minister of India, expected to intercede before long to have the provincial Government of East Punjab (India) restore water to West Punjab's (Pakistan) conduits. Around the start of May, the two country leaders met in New Delhi to discuss the inquiry. On 4 May 1948 the Inter-Dominion (Delhi) Agreement was set apart, announcing the countries' understanding that each should had ought to be met for two sided talks. All through the accompanying three years, raised a broad conflict weights and positions ended up being more settled in corresponding try to decide the

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<sup>18</sup> Wirsing, Robert G, –The Kashmir Territorial Dispute: The Indus Runs through it,” *The Brown Journal of World Affairs*, 2008, pp. 225-240.

<sup>19</sup> Gulhati, Niranjan Das, *Indus Waters Treaty: An Exercise in International Mediation*, Bombay; New York: Allied Publishers, 1973, pp. 73.

<sup>20</sup> Shivananda S. Political and Legal Aspects of The Indus Water Dispute Between India And Pakistan Unpublished MA Thesis Department of Political Science, University of Washington, 1961, pp. 67.

failed question on Sultej River along with Pakistan's suggestion for show the level headed discussion to the International Court of Justice (ICJ) which India can't. Question of river's Sultej was inspired by Delhi Agreement, which was resultant to use the water allowed to Pakistan and India. While the India refused to present the case before ICJ began a slant that an essentially legitimate appraisal of the situation would bolster Pakistan think that India was not in the mood to test its uneven clarification of "Delhi Agreement" which it saw as empowering it to diminish flow of water towards Pakistan. The hugeness of the situation struck spectators as potentially catastrophic a powder barrel holding up to explode.<sup>21</sup> It is also said "American diplomats stationed in Pakistan and India stressed the importance of a final and binding settlement of water rights. In their view the control of Indus waters by India threatened to return the entire Punjab to a desert".<sup>22</sup>

In spite of signs despite what might be expected, both countries participated to eliminate the issue of Sultej River question and inevitably, which was signed a worldwide water settlement in 1960. Debate's determination was the intercession of the World Bank. After the Delhi Agreement in 1948, discussion between territory talks proceeded on the Sultej River question; Pakistan and India were likewise building up their assets of water. The two nations had connected to the World Bank for advancement credits. Notwithstanding the clear financial practicality of these undertakings, the bank needed to reject the advances as the tasks intended to utilize the questioned Sultej River.

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<sup>21</sup> Lilienthal, *The Journals of David ...*, pp. 222.

<sup>22</sup> Afroz S. US-Pakistan Relations 1947-1960. Unpublished PhD Thesis University of Kansas, 1983, pp. 112.

As pressures kept on rising, both countries aggressive advancement on the Sutlej River undermined to block financial improvement as well as turn into a probable flashpoint, on the other hand World Bank offered its 'great workplaces' in September 1951.<sup>23</sup> In spite of desires, the two India and Pakistan acknowledged the offer.<sup>24</sup> Pakistan called attention to that the bank's proposition would 'truly bargain the Pakistan position if the discussions fizzled'. The bank's offer depended on three standards. To start with, that the Indus bowl had enough water for the two nations. Furthermore, that in settling the Sutlej River question the bowl would be dealt with as a solitary unit inferring every one of the streams was to be talked about. At long last, that the transactions would set aside past grievances and hold a specialized as opposed to a political core interest.

In May 1952 the Indus negotiation started at Washington DC. After field trips in October 1953 for data collection,<sup>25</sup> the two countries assignments exhibited plans for the expansive change of the Indus bowl. The World Bank implemented his own planning in February 1954. In 1954 the World Bank proposed to partition the Indus bowl. India would get 20% Indus Water with River of Ravi, Sutlej and Beas and on the other hand Pakistan would get 80% of Indus Basin water with the Indus, Jhelum and the Chenab of the Western. The establishment anticipated that would segment the bowl would be paid by the social event benefitting under the beneficiary pays run the show. The 1954 plan gave insufficient water to Pakistan, claim by Pakistan.

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<sup>23</sup> Bindschedler, Rudolf L, "Good Offices," 1981, *Encyclopedia of Public International Law*, 1981, pp. 67-69.

<sup>24</sup> Lilienthal, *The Journals of...*, pp. 223.

<sup>25</sup> Wirsing, Robert G, "The Kashmir Territorial Dispute: The Indus Runs through it," *The Brown Journal of World Affairs*, 2008, pp. 225-240.

Pakistan couldn't bear, politically pressure, to give away nor did it have potential quickly build the storeroom, finally dismissed the 1954 Plan. A mix of geography, money related concerns getting its loss and political instability made Pakistan unbelievably careful in its game-plans. World Bank was affected by the Pakistan that it anticipated that storerooms would address its issues and having the 1954 Plan changed with the 1956 Aide-Memoire which imagined storage spaces on the western conductors for Pakistan. While India had perceived the 1954 Plan, it questioned the Aide-Memoire on the grounds that it was worried over acquiring extra monetary duties with respect to Pakistan.<sup>26</sup>

Promote transactions isolated exchanges on the specialized requirement for foundation from their subsidizing. Parallel to the principle transactions were exchanges to have important understandings under which for next six years Pakistan would be depended on water supplied by India. A progression of understandings was marked each was arranged independently beginning on 1 April 1955 and enduring until 31 March 1960. India and Pakistan were not able to concur on a given time frame specially appointed for understanding as 1 October 1957–30 September 1958. Due to overthrow in October 1958, Pakistan unequivocally acknowledged the 1954 Plan (the segregation of the bowl) and the 1956 Aide-Memoire (storerooms on Western Waterways) in December 1958. In spite of the fact that India had effectively acknowledged these archives, the settlements were drafted in two years. The IWT was marked on 19 September 1960 by India, Pakistan and the World Bank and approved by both nations India and Pakistan in January 1961. India got three Eastern

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<sup>26</sup> Lilienthal, *The Journals of...*, pp. 224.

streams (Ravi, Sutlej and Beas) or 20% of bowl's waters and Pakistan got staying 80% of three Western waterways (the Indus, Jhelum and Chenab).<sup>27</sup>

### 1.3 Problem Statement

The problem under discussion explores the Indus Basin water dispute that arose after partition of India on distribution of water resources. Keeping in view the geopolitical impacts of dispute in Indus Basin, World Bank played its role of mediation to resolve water dispute. This thesis identifies the hydro-politics of water assets before and after British Indian territorial dynamics. It also highlights the scope of World Bank intervention to resolve the Indus Basin conflict, in-order to comprehend the water game of South Asia by developing economic ties among the contributors of Indus Basin through diplomatic stance.<sup>28</sup> Officially water was not identified as a sole piece of dispute between the two countries rather it was a by-product of other territorial Indus Basin disputes.

Indus Basin remained center of interest for all the Indian rulers, developments and disputes remained the historical bindings of Indus Basin. At the time of partition there has been a spurt of statements that paint Pakistan as a grieved and deprived lower riparian state inflicted with mass migration, inadequate water management techniques and the lack age of water resources. Following a gridlock and with pressures at peak mounting between the two states the requirement for unbiased outsider intercession was clear. In reference to U.S policy towards containment of

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<sup>27</sup> Swain, Ashok. *Managing Water Conflict: Asia, Africa And The Middle East*. Routledge, 2004, PP. 46

<sup>28</sup> Fischhendler, Itay, and David Katz. "The Impact of Uncertainties on Cooperation over Trans-boundary Water: The Case of Israeli–Palestinian Negotiations." *Geoforum*, 2013, pp. 200-210.

communism laid its interest in South Asia that engaged World Bank to intervene. The resumption of talks and differences on the use of the river waters has undermined peace-making efforts. Its resolution could surely prevent an environmental catastrophe in South Asia, thus a geopolitical conflict could fuel the fires of discontent that may lead to a political imbalance that could be a cornerstone of World politics.

Water specialists predict future wars will be battled on water. History demonstrates the common waters cause either struggle or greater commitment. Thought of summoning human rights to water can give the UN a chance to meddle to moderate territorial limit water clashes. Water administration may center to accomplish value, productivity, versatility, security and maintainability.<sup>29</sup> Finally, World Bank settled Pakistan and India at long last conceded to the IWT. It was marked on 19 September 1960, compelling retroactively starting at 1 April 1960 and confirmed in January 1961. Economic aid and construction of infrastructure strengthen the staggering newly built state of Pakistan and India also enjoyed the fruits of IWT as exhibited in Rajasthan. Water administration is smart thought particularly for IWT between two unfriendly states. Hydro political monopoly leads to war by upper riparian to set up regional water authority that may heighten cold war into hot war.<sup>30</sup> It is also evident from the historical facts that once treaties are signed they are great at beginning yet turned into the bone of conflict later when more established terms and conditions

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<sup>29</sup> Akhter, Majed. "The Hydropolitical Cold War: The Indus Waters Treaty and State Formation in Pakistan." *Political Geography*, 2015, pp. 65-75.

<sup>30</sup> Barquet, Karina, Päivi Lujala, and Jan Ketil Rød. "Transboundary Conservation and Militarized Interstate Disputes." *Political Geography* 42 (2014), pp. 1-11. See also Fischhendler, Itay, and David Katz. "The Impact of Uncertainties on Cooperation over Trans-boundary Water: The Case of Israeli-Palestinian Negotiations." *Geoforum*, 2013, pp. 200-210.



don't satisfy rising water needs because of environmental change and populace development.<sup>31</sup>

#### **1.4 Research Questions**

The fundamental questions this research intends to provide answers are following.

1. What were the problems regarding water distribution that arose due to India Pakistan partition?
2. What was the role played by World Bank to resolve water conflict between India and Pakistan by formulation of Indus Water Treaty agreement?
3. How Indus Basin water dispute settled?

#### **1.5 Research Objectives**

1. To examine the problems regarding water distribution that arose due to India Pakistan partition.
2. To determine the role played by World Bank to resolve water conflict between India and Pakistan that led the formulation of Indus Water Treaty?
3. To justify water dispute settlement of Indus Basin.

#### **1.6 The Importance of Study**

In the lexicon of India–Pakistan ‘hydro-politics’ has becoming intensely political, divisive and crucially complex. This development in water issues remained instructive and unsettled with political frames. At the time of partition, there has been a spurt of statements that painted Pakistan as a grieved and deprived lower riparian state inflicted with mass migration, inadequate water management techniques and the lack age of water resources. Keeping into account the creation of Pakistan no one can ignore the unjustified land demarcation of boundaries ignoring naturally occurring

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<sup>31</sup> Kamran, M. A., A. Aijaz, and G. Shivakoti. "Institutions for Governance of Transboundary Water Commons: The Case of the Indus Basin." *Redefining Diversity & Dynamics of Natural Resources Management in Asia, Volume 2*. Elsevier, 2017, pp. 207-223.

physical features of land. A million of people displaced as well as they left their assets and land in lieu of partition. This study is not only highlighting the unjust demarcation of land but also the reasons behind these tragedies. Hopefully, this study reflects a new dimension in respect of distribution of geographical resources water resources and hydro-political change either pre or post partition which explore the new dimension of awakening for the researchers in respect of partition of India.

The study possesses great worth in respect of the background of water resources in Indus Basin. A bulk of material has been available related to the water resources in Indus Basin before partition of Pakistan either written by Indian, Pakistani or other intellectuals but the important aspect, the reasons behind the dispute arose in sharing water resources in Indus Basin after and before partition of India has not yet explored widely. Some accounts on water management that constitutes the geography of Indus Basin along with substantive water problems were addressed by various scholars. These variables help assess changes during the post-colonial transition (1947-60); Indus basin development (1960-75); and management and environmental movements (1975-2000). Taken together, these periods point toward a model of Articulated Adaptive Management, which stresses planning for economic, political and environmental crises; dynamic changes in governance; multiple scales of water management; regional diversity and innovation; and broader scientific experimentation and monitoring of water management alternatives.<sup>32</sup> Whereas the reasons and politics on water resources of Indus Basin is a key component of this historical research. As the current study is related to the settlement of Indus Water

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<sup>32</sup> Wescoat Jr, James L., Sarah J. Halvorson, and Daanish Mustafa. "Water Management in the Indus Basin of Pakistan: A Half-Century Perspective." *International Journal of Water Resources Development*, 2000, pp. 391-406.

dispute, it is important to know the geo-political importance of Indus basin with special reference to upper-lower riparian rights under international water regulations.

This study is very important in respect of changing geo-politics of Indian subcontinent that propel a diversified set of contentious upper-lower riparian dynamics. Officially water was not identified as a 'core' deadlock issue between the two countries rather it was a by-product of other territorial Indus Basin disputes. A gridlock with pressures at peak mounting between the two states required for unbiased outsider intervention. In reference to U.S policy towards containment of communism its interest lies in South Asia that ultimately engaged World Bank to intervene. The resumption of talks and differences on the use of the river waters contained peace-making efforts. This study is not only aim at highlighting the important historical aspects land and water distributions, but also discuss the gap between disputants and dispute. No doubt this study will be a masterpiece of work and this can apply to other states of World as an astounding example of regional co-operation.

Several books have been published with reference to the history of Indus Basin which are written in the bibliography. But the most important aspect about a brief history of Indus along with British rule is their role in the development of water frameworks changing politics of Indo-Pak subcontinent before and after partition of India and Pakistan which have yet not been explored collectively that is a noteworthy discrimination of this research. After partition a new nexus of resource distribution, land demarcation, arrival of refugees and freshwater flow lack age being lower riparian, entered into a new era so it was hard to make historical findings based purely on water resources. Moreover, Pakistan being an agricultural state depends

completely on water resources for its development. After partition it has faced a massive rivalry push from India in capturing resource rich geographically ideal territory like Kashmir. This political and human-based crisis is explored in detail to understand the key issues of South Asian politics. The World Bank tried rehashed endeavors to console the two disputants by keeping the river water on the political burner.

In this study, it is analysed that what were the factors behind World Bank involvement, what was the issue to emphasize, by what method can a go between help interchanges when the disputants are not imparting? Division is under development even today. Books on the history of Indus Basin like *Water Resource Management: Institutions and Irrigation Development in India*” by Vaidyanathan,<sup>33</sup> similarly *A History of India*” by Burton Stein,<sup>34</sup> and many other are available, but all such books have focused on the history of Indus Basin. Some fresh books like *Indus Divided: India, Pakistan and the River Basin Dispute*” by Daniel Haines<sup>35</sup> reveals Indus River System and its importance but it lacked an important element of post treaty impacts. The aspect of how hassle peaked with the passage of time after the practical application of IWT accompanied is a differentiating element of this research.

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<sup>33</sup> Vaidyanathan, A. *Water Resource Management: Institutions and Irrigation Development in India*. Oxford University Press, 1999, pp. 76.

<sup>34</sup> Stein, Burton. *A History of India*. Vol. 10. John Wiley & Sons, 2010, pp. 347.

<sup>35</sup> Haines, Daniel. *Indus Divided: India, Pakistan and The River Basin Dispute*. Random House India, 2018, pp. 12.

The general subject of this research rests with the idea of hydro-politics from the perspective of historical appraisal that has risen with an image of participation over shared water by universal on-screen characters. Accordingly, the recommendation of this thesis isn't that water wars between worldwide on-screen characters are inconceivable, however that these wars are not likely given the verifiable and present day proof being assembled. Question arose was that co-riparian's will coordinate in some way as opposed to battle about their common conduits, even in the circumstance of shortage. This research also highlights the IWT in respect of water administration and adjustment to environmental change is the main alternative to maintain the IWT. Effect of environmental change on trans-boundary stream bowls may change water streams. Special focus on water stream observing utilizing telemetry strategies for fulfillment of upper and lower riparian states are the point of focal for this research. Recommendations are given for water administration that can improve reciprocal relationship and cunning strategies lead to end of understandings and beginning of debates between water sharing nations with special reference to the clauses of IWT. Along these lines, the desire is of conflict resolution in future with an expectation of cooperation.

### **1.7 Limitation of Study**

The research is a historical appraisal of Indus Basin, thus it focus largely on pre and post partition of India, disputes of water in various regimes before partition, water agreements and construction of frameworks, the geo-political importance of Indus Basin, water conflict in India and Pakistan, resolution of conflict by International intervention and making of IWT with further impact of Treaty. There are many reasons to choose Indus Basin for studying:-

1. Firstly, Indus Basin and its conflict has been taken deeply into account ignoring rest of world having identical water disputes. Annual frequency of water conflicts is 36.62.<sup>36</sup> Notable water conflicts include Euphrates-Tigris dispute between Turkey, Syria and Iraq, Jordan River conflict between Israel, Lebanon, Jordan and Palestine, Nile River conflicts between Egypt, Ethiopia and Sudan, Aral Sea conflict between Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan and Kyrgyzstan and seven US states and Mexico.<sup>37</sup> The Nile River has had a major impact on the interstate politics of region through the years, as it is the only reliable source for renewable water supplies in the area. Cochabamba water war in Bolivia is the only conflict resulting in death of one person.<sup>38</sup> This war was ignited by privatization of water after other utilities.
2. Recommendations on Indus Basin are not drawn on developed countries as a model. There is no chance of water conflict in Europe, least risk in Americas and high risk in South Asia and Middle East. Water conflicts are signs of regional immaturity. The earlier we recognize each other's natural water needs the better it will be. River Danube passes through several European states who have never threatened one another of water wars.<sup>39</sup> River Danube Treaty is a good starting point to make new agreements.

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<sup>36</sup> Kalair, Ali Raza, et al. "Water, Energy and Food Nexus of Indus Water Treaty: Water Governance", *Water-Energy Nexus*, Volume 2, Issue 1, 2019, pp. 11.

<sup>37</sup> Siddiqi, Afreen, and Laura Diaz Anadon. "The Water-Energy Nexus in Middle East and North Africa." *Energy Policy*, 2011, pp. 4539.

<sup>38</sup> Olivera, Oscar, and Tom Lewis. *Cochabamba!: Water War in Bolivia*. South End Press, 2004, pp. 126.

<sup>39</sup> Woitke, P., et al. "Analysis and Assessment of Heavy Metal Pollution in Suspended Solids and Sediments of the River Danube." *Chemosphere* 51.8, 2003, pp. 633-642.

3. The scope of this thesis as the topic suggests is limited to just a historical appraisal but the latter half of this research unfold impacts and advancements in India and Pakistan.
4. Suggestions designed in this thesis are mere suggestions but a complete feasibility report of how to re-evaluate the Treaty with an economically deplorable and under developed country is missing. The new scheme to attract the key players of world for providing financial assistance is yet not proposed.
5. The hydro-political aspects of Indus Basin are fully addressed but the technical aspects to deal with the limitations of IWT are yet not explored. The mechanism to fulfill the freshwater deficiency with construction of new dams in accordance of IWT is not explained.
6. The relations between India and Pakistan have been complex and largely hostile due to a number of historical and political events. It is very difficult for researchers across the borders to visit each other for research. This research work also faced difficulty in data collection. However in order to take the Indian view and making my research unbiased, I have collected data from British Archives. Due to recent strain in India-Pakistan relations followed by “surgical strikes” conducted by India in response to the Uri attacks, in the disputed area inside Pakistan held Kashmir resulted in a complete air space closer visiting India became impossible which is also a limitation of my research work.

## 1.8 Theoretical Concept

There are various geographical factors that play a key role in the conflict generation over cross-boundary water resources. In order to formulate an explanatory model all identity and non-identity issues are required to be plotted in a theoretical perspective.<sup>40</sup> Geographical relative location, the nature of physical boundaries, surface features, the relative dependency of the lower riparian, water development patterns, water supply, population and external pressures or relations with other states. Since location is an elemental geographical reality and also a fundamental geo-political attribute it seems to be of prime importance. Moreover, the location factor is both basic and linked to all other factors, especially to the nature of boundaries. Thus, keeping the nature of the case in mind, the focus is on the geographical attributes of boundaries and the location of water sources as central causative factors.<sup>41</sup>

Some notified incidents in ancient and medieval nobility fought wars on territorial resource conflicts. The horrors of First World War<sup>42</sup> led the creation of Leagues of

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<sup>40</sup> Hans J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace*, revised ed. Boston, McGraw-Hill 1993, pp. 234 see also Clive Agnew and Ewan W. Anderson, *Water Resources in the Arid Realm*, Routledge: London, 1992, pp 339. See also John Agnew and Gearoid O. Tuathail, "Geopolitics and Discourse: Practical Geopolitical Reasoning in American Foreign Policy," *Political Geography*, Vol. 11, No. 2, March 1992, pp. 190-204 and Simon Dalby, "Critical Geopolitics: Discourse, Difference and Dissent," *Environment and Planning D: Society and Space*, 9, 1991, pp. 261-283.

<sup>41</sup> The idea of conflict factors and some of their characteristics in determining their relative role in conflict potential in an international river basin have been taken from a study by Basheer Khalil Nijim, for details see Nijim, *The Indus, Nile and Jordan: International Rivers and Factors in Conflict Potential* unpublished thesis, Indiana University, 1969. pp. 142.

<sup>42</sup> The First World War was a major global conflict that lasted four years, from 1914 to 1918. It began on 28 July 1914. The conflict, which became known as The Great War was fought between two groups: the Triple Alliance, made up of Germany, Austria-Hungary and Italy and the Triple Entente made up of Great Britain, France and Russia. The United States of America entered the war in 1917. The First World War ended on 11 November 1918 when the Allies and Germany signed a ceasefire. Sheffield, Gary D. *Forgotten Victory: The First World War: Myths And Realities*. Vol. 3. London: Headline, 2001, pp. 267.



Nations<sup>43</sup> as a renowned International organization to protect the rights of nations and maintain world peace founded in 1919.<sup>44</sup> The Second World War<sup>45</sup> further accelerated the development of International organizations with the formation of the United Nations and later such organizations as the ICJ and the United Nations Security Council and by multilateral agreements such as the Genocide Convention, Conference on Security and Cooperation in Europe, territorial integrity became a part of international resolutions. The Helsinki Final Act dealt with both the inviolability of frontiers and the territorial integrity of States.<sup>46</sup>

Few general standards of worldwide law that rose amid the most recent two centuries to manage the issues of trans-boundary water asset administration. Postulations principals have been fused and perceived by a few global understandings, arrangements and traditions of the cutting edge administrations. For example, the Helsinki Rules of ILA (International Law Association) and UN Watercourses Convention are to a great extent in view of these standards.<sup>47</sup>

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<sup>43</sup> Diehl, Paul Francis, and Brian Frederking, eds. *The Politics of Global Governance: International Organizations in an Interdependent World*. London: Lynne Rienner, 2001, pp. 378.

<sup>44</sup> Walters, Francis Paul. *A History of the League of Nations*. Vol. 2. London: Oxford University Press, 1952, pp. 124.

<sup>45</sup> World War II was the biggest and deadliest war in history, involving more than 30 countries. Sparked by the 1939 Nazi invasion of Poland, the war dragged on for six bloody years until the Allies defeated Nazi Germany and Japan in 1945. Taylor, Alan John Percivale. *Origin of the Second World War*. Simon and Schuster, 1996, pp. 455.

<sup>46</sup> Malanczuk, Peter. *Akehurst's Modern Introduction to International Law*. Routledge, 2002, pp. 220-260.

<sup>47</sup> Rahaman, M. M., "Principles of Transboundary Water Resources Management and Ganges Treaties: An Analysis," *Journal of Water Resources Development*, 2009, pp. 165 see also Giordano, M. A., & Wolf, T. A., "Sharing Waters: Post Rio International Water Management," *Natural Resources Forum*, 2003, pp. 165.

Some eminent standards are as per the following;

1. Obligation of Riparian States Not to Cause Significant Harm.
2. The Principle of Reasonable and Equitable Utilization.
3. Principles of earlier Notification, Negotiation and counsel.

Because of hypothetical system of the examination International speculations and laws must be concentrated to comprehend the main driver of contention over water amongst India and Pakistan. Earlier introduction to global law has begun exercises to address the employments of the worldwide waterways other than route. At that stage four changing and clashing precepts were in presence to address the commitment and privileges of all bowl states over the global waterways. These laws are to a great extent in view of the state practices and commitments of the researchers and specialists in the field.<sup>48</sup>

### **1.8.1 Absolute Territorial Sovereignty**

This is the most questionable precept. It totally allows a riparian country to use a worldwide conduit in any way inside its limits as it regards fit without concerning damage or unfavorable impact on other co-bowl states. It is assumed from the Harmon Doctrine which depends upon the lawful supposition of Mr. Judson Harmon, the Attorney General of the United States on the debate of water allotment of the stream Rio-Grande amongst USA and Mexico in 1895.<sup>49</sup> Its positive aspect can be measured by the fact that United States itself never applied this famous hypothesis in the dispute settlement of question with its neighboring states, Mexico and Canada. It

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<sup>48</sup> Salman, S. M., & Uperty, k, *Conflict and Cooperation on South Asia's International Rivers*, Washington, DC, The World Bank, 2002, pp. 14.

<sup>49</sup> McCaffrey, Stephen C. "The Harmon Doctrine One Hundred Years Later: Buried, Not Praised." *Nat. Resources J.* 36 (1996): 965, pp. 113.

is broadly trusted that this principle cannot be acknowledged as a piece of global law. Be that as it may, it has been connected and specified by a few states India interfered with stream of the waterways to Pakistan in 1948; China favored it amid the talks on the UN Convention on the International Watercourses at U.N General Assembly, Austria additionally made a similar reference of the guideline.<sup>50</sup> Same idea has been widely supported in some other parts of the world as many experts of International Law and studies are advocators of this law like Fenwick, Hyde, Berber, Mackay, Briggs, Oppenheim and Scott.<sup>51</sup>

### **1.8.2 Absolute Territorial Integrity**

It is the utmost questionable convention. It totally allows a riparian country to use a worldwide waterway in any way inside its limits as it regards fit without concerning damage or unfavorable impact on other co-bowl states. This theory is absolutely inverse to the principle of 'Absolute Territorial Sovereignty' and it is also termed as 'riparian rights'. The privilege of downstream countries to request the persistent and unhindered stream of waters of a stream into their regions from the upstream state or states advocated in the principle. It likewise sets up not to make any impediment in the characteristic stream of waterway to the lower riparian states as an obligation of the upper riparian states. This convention allows an upper riparian state for restricted

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<sup>50</sup> Upreti, D. T, *International Watercourses Law And Its Application In South Asia*, Kathmandu: Pairavi Prakasha Publishers & Distributors, 2006, pp. 24.

<sup>51</sup> R. A. Mackay, "The International Joint Commission between the United States and Canada," *American Journal of International Law*, Vol. 22, No. 2, 1928, pp. 292-318. See also Hyde, *International Law Chiefly as Interpreted and Applied by the United States*, Boston: Little, Brown and Company, 1945, pp. 565, F. J. Berber, *Rivers in International Law*, New York: Oceania Publications, Inc, 1959, pp. 221, Fenwick, *International Law*, New York, Appleton-Century Crofts, 1948, pp. 391, H.W. Briggs, *The Law of Nations*, New York: Appleton-Century Crofts, 1952, pp. 7274, L. Oppenheim, *International Law: A Treatise*, 8th ed., New York: Longmans, Green & Company, 1955, Vol. I, pp. 465 and R. D. Scott, "Kansas V. Colorado Revisited," *American Journal of International Law*, Vol. 52, No. 3, 1958, pp. 42.

usage of waters of a global waterway. It has all the qualities as were in "precedent-based law precept of riparian rights".<sup>52</sup>

The downstream countries advocates for the most part of this doctrine against their upstream states, for example, Bangladesh, Egypt, Argentina, Iraq , Syria and Spain.<sup>53</sup>

In context to Indo-Nepalese water dispute, India gave a few complaints against Nepal's hydropower extends on the ground that they would disregard the rule of regional respectability.<sup>54</sup> Then again India took absolutely inverse stance while it was consulting on Ganges water debate with Bangladesh and disagreed with Pakistan on the Indus River water sharing amid 1948.<sup>55</sup> By and by this hypothesis supports the created countries on the grounds that as a rule created countries have finished their foundations sooner than the weaker states. This hypothesis depends on the reasonable establishments, along these lines, it was additionally dismissed by the specialists of global law and it couldn't turn into the piece of worldwide water law.<sup>56</sup>

### **1.8.3 Limited Territorial Sovereignty and Integrity**

This hypothesis is the mix of initial two teachings. It advocates the privilege of each riparian country to use a global water course going through its limits such that its uses don't hurt the interests of other riparian states. More or less, this teaching

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<sup>52</sup> Salman, *Conflict and Cooperation...*, pp. 16.

<sup>53</sup> Upreti, *International Watercourses Law...*, pp. 25.

<sup>54</sup> Verghese, B. G, *Waters of Hope*, New Delhi: Oxford University Press, 1990, PP. 342.

<sup>55</sup> Ibid.

<sup>56</sup> Zeitoun, Mark. "The Relevance of Intemational Water Law to Later-Developing Upstream States." *Water International*, 2015, pp. 949-968. See also Upreti, D. T, *International Watercourses Law and Its Application in South Asia*, Kathmandu: Pairavi Prakasha Publishers & Distributors, 2006, pp. 25.

ensures privileges of every last riparian country on a typical conduit portray it as the hypothesis of sovereign balance and regional honesty'.<sup>57</sup> It depends on the rule of *sic utere tuo ut alienum non laedus*, or it can be suggested that every single riparian state have to regard the privileges of each other to share the water of a typical waterways. This hypothesis is connected to numerous bargains, announcements and traditions. Just this hypothesis has been acknowledged and increased in value by the researchers of International Law, universal group and ICJ. It is considered as an establishment of present day global law on water.

#### **1.8.4 Community of Interests**

The fourth principle 'Community of interests' appreciates the stream bowl as a financial unit. This is otherwise called the group of co-riparian countries. Under the umbrella of this hypothesis is the commitments on the trans-boundary waterways in the joint body of the all bowl states are vested or perhaps their water is allotted among the bowl states by an arrangement or an assertion or as indicated by the proportionality.<sup>58</sup> As such this hypothesis puts more significance to group of interests set up due to the characteristic and physical solidarity of a waterway. This principle overlooks political limits to accomplish the greatest level of improvement of the whole bowl and it fortifies the hypothesis of restricted regional sway particularly its part of fair use that suggests an abnormal state of cooperation in joint administration of the whole bowl and considers whole stream framework as solidarity shared by

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<sup>57</sup> Rahaman, M. M., –Principles of Transboundary Water Resources Management and Ganges Treaties: An Analysis,” *Journal of Water Resources Development*, 2009, pp. 165.

<sup>58</sup> Salman, *Conflict and Cooperation* . . . , pp. 15.

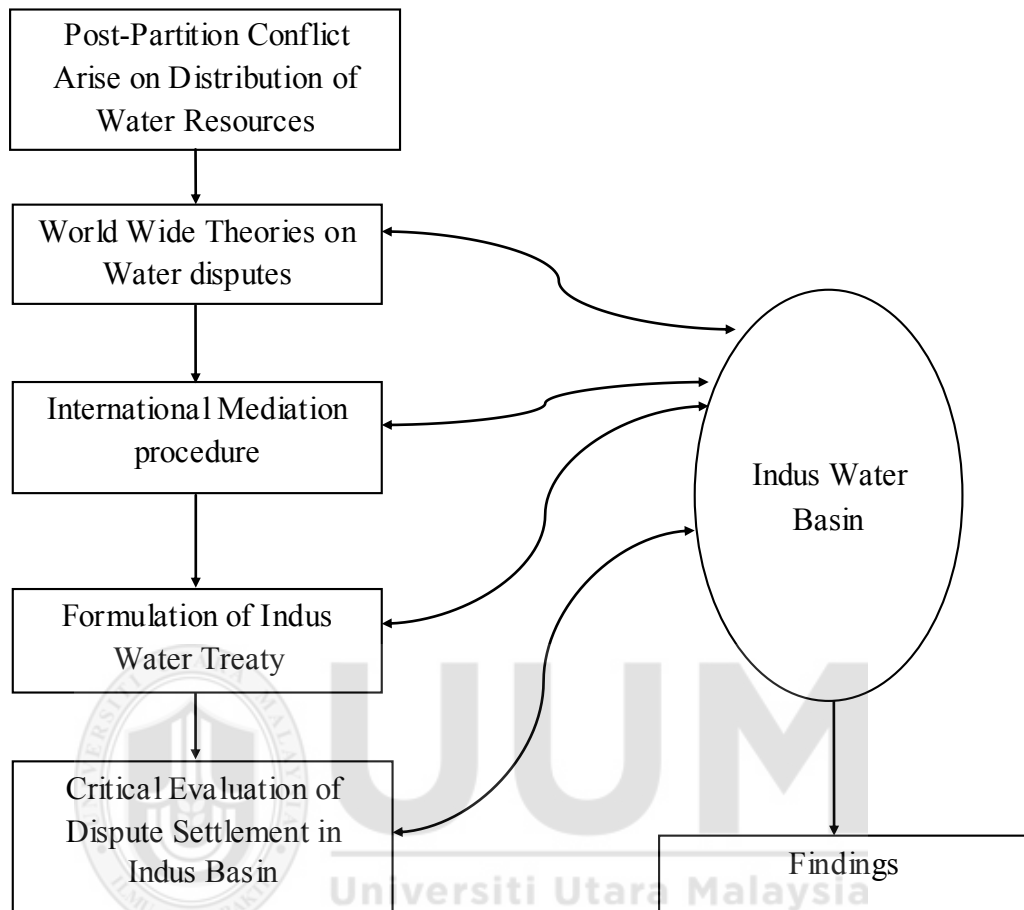
every riparian country.<sup>59</sup> This hypothesis isn't broadly acknowledged on the grounds that it overlooks political and physical limits requires abnormal state of participation in like manner administration and requests geographic and monetary solidarity of the whole stream bowl which are difficult to accomplish especially between and among the countries which have slants of ill will.



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<sup>59</sup>McCaffrey, S, "The Harmon Doctrine One Hundred Years Later: Buried, Not Praised," *Natural Resources Journal* , 1996, pp. 550.

## 1.9 Theoretical Framework



## 1.10 Chapters

This thesis consists of seven chapters, the details are mentioned below:-

The first chapter is the “**Introduction**” of the thesis. It consists of the main theme, problem statement, research questions, research objectives, the importance of the study, limitation of the study, literature review, research methodology and new findings are also discussed.

The second chapter has been exploring “**Historical Background on Water Resources of Indus Basin**”. South Asia is an area of both plenty and shortage of water. It is nourished by the Hindu Kush and Himalayan mountain framework which is one of the biggest storage facilities of new water on the planet. The Indus depletes the regions of India and Pakistan so the circulation of water is a major issue over the subcontinent. Arguments about control and utilization of trans-boundary water sent swells over the nations in the locale. The segment of the Punjab scratched a hard fringe amongst Indian and Pakistan and cut the Indus waterway framework and disturbed its very much oversaw incorporated water system trench arrange. A large number of the waterways were served from their headwork's fell in India, while the land being flooded by their water fell in Pakistan, which prompted question instantly after segment of 1947.

The third chapter has focused on “**Post Partition Conflict Arise from Indus Water Resources**”. After partition of India and Pakistan, the division and sharing rights over flowing water between newly created nations engendered conflicts at political level. The after effects of unwise land distribution arose a conflict over sharing of water being India at upper riparian and Pakistan at lower riparian. subcontinent,



politics have also influenced every phase started from a water war on Indus Basin in 1948 it led to the establishment of negotiations to the implementation of agreements of efforts to resolve the water dispute.

The fourth chapter highlights the “**World Bank, India and Pakistan**”. This chapter has discussed the factors that ignited the complexity of Indo-Pakistan relations which ultimately pulled in US contribution. Involvement of World bank initiated a series of negotiations and proposals from India and Pakistan for dispute settlement. A decade long focus on working plans fortunately culminated in the land mark agreement and memorandum of understating for peaceful solution such as the IWT.

The fifth chapter is “**World Bank and Indus Water Treaty 1960**”. After a massive team work of engineers and think tanks finally treaty was signed between Pakistan and India in 1960 on sharing of waters resources of six rivers originating in India and flowing to Pakistan and is, till today, considered to be the most successful bilateral treaty on resource sharing between two nations. Reactions on treaty were recorded from India Pakistan and rest of the World. A contextual analysis of this treaty has been taken into account widely in this segment to find out the loopholes of this Treaty. This critical analysis pinpoint with the basis of future conflict after the Treaty implemented practically.

The sixth chapter is “**Appraisal of Indus Basin Dispute Settlement**”. Indus River is the life line of Pakistan. After the new constructional framework on Indus Basin wide political, geographical and environmental changes like climate change, water scarcity caused a diversion in geopolitics of South Asia. The economies of India and

Pakistan had faced a shift, though both of them enjoyed the fruits of foreign funding in constructional designs but in the long run agricultural or industrial development suffered. As a large share of hydro electric energy of Pakistan is generated from different projects on Indus River, the violation of the treaty had made Pakistan energy deficient. Hence weaken our diplomatic ties with hostile neighbor India. A fresh look on Indus Water Treaty suggested some solutions to address these issues.

The Seventh chapter consists of **Conclusion**. The conclusion discusses all the aspects of the chapters. The conclusion of the thesis consists on the findings and evidence that accumulate the research. Hopefully, the findings of this thesis guide a new level of perception for the readers.

### **1.11 Literature Review**

The present work has managed the Indus Basin amongst Pakistan and India, with the primary target of understanding the issue through distributed, unpublished writing in regards to the examination theme under title, "A Historical Appraisal of the Water Dispute in the Indus Basin, 1947-1960". Although, there is a decent measure of research works distributed on universal waterway bowls and water clashes yet our exertion will audit the significant writing over the point, which contain the Text and reference books, research papers that published in national and international journals, newspapers and magazines, Doctoral thesis, speeches and public opinions on issue. Now we will classify above stated literature according to the events for example Water Conflict, Indus Water Basin and IWT.

### 1.11.1 Literature on Water Conflict of Pakistan and India

This research work contains entirely different approach from other researchers and historians like Aloy Arthur Micheal, Shlomi Dinar, Undala Alama along with the recent writings of Daniel Haines, Majed Akther, David Gilmartin and Daanish Mustafa. The key difference from Daniel Haines's "*Rivers Divided*" is that Haines lays out the troubled context of territory as a central problem for nation-building through water development.<sup>60</sup> For one, aligning people, history and territory as a national relationship at the very outset itself was cluttered by differing imaginations within their respective national movements. However this research work is a historical appraisal to Indus basin that revisits the Indus Basin from a historical perspective to make a better use of water under the political relations of South Asian states and it tends to highlight the fresh look on environmental aspects of Indus Basin which differentiate it from Hanes.

International Water Treaties Negotiation and Cooperation along Trans-Boundary Rivers By Shlomi Dinar this book has demonstrated, an understanding of property rights compromises by studying the agreements various states negotiate.<sup>61</sup> He applied the case study approach to demonstrate that despite the uniqueness of each water problem, patterns in international water treaties are discernable and that these patterns can be studied systematically. The research work has endeavored to show that the "willingness to pay" of a particular river riparian expressed in the side-payment and cost-sharing patterns exemplified in an agreement reflects on the

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<sup>60</sup> Haines, Daniel. *Indus Divided: India, Pakistan and the River Basin Dispute*. Random House India, 2018, pp. 56 see also The Pakistan Water and Power Development Authority Act, 1958, (xxxii of 1958), Indus Water Commission, Lahore, 1958.

<sup>61</sup> Dinar, Shlomi. *International Water Treaties: Negotiation and Cooperation Along Transboundary Rivers*. Routledge, 2007, pp. 118.

property rights solution and is explained by geography and economics. Whereas this research work explains how the thrust for territorial monopoly amplified acrimony and created an environment of mistrust between Pakistan and India even as they battled for decades to prove ownership of the waters of the Indus Basin River System. India claimed that water was an absolute asset that is inseparable from land and hence all rivers within Indian Territory contain an exclusive right of India as per the International Water Law, the notion of ~~absolute sovereignty~~. Pakistan argued on the principle of ~~territorial integrity~~” and ~~prior appropriation~~” which entitled use of Indus waters for Pakistani canal networks allowing them to maintain claims to flows even if the latter did not completely run through their boundary. Put differently, it is concluded that Pakistan needs to privilege history over geography.

Danish Mustafa worked on the literary perspectives on the climate change.<sup>62</sup> He focused on the biophysical human-environment, geography and cultural discourse. He jumbled the various concepts of American neorealist approach along with pragmatism and rationalism concepts. The concept of hydro-hazards cape was theme of his work. Whereas my research work is based on historical geo-politics rather than biophysical sphere. The primary focus is on the discourse of geopolitics of Indus Basin with political interests of South Asian States intersecting the natural geography of the region.

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<sup>62</sup> Wescoat Jr, James L., Sarah J. Halvorson, and Daanish Mustafa. "Water Management In The Indus Basin Of Pakistan: A Half-Century Perspective." *International Journal of Water Resources Development*, 2000, pp. 391-406.

In David Gilmartin's work, he gave momentous infrastructural modification of the Indus region, initiated by colonial rule of British in the nineteenth century.<sup>63</sup> His work is most definitive historical account prior to colonial rule. He detailed that Indus Basin region was peopled by nomadic, transhumant and pastoral tribes, who seasonally migrated between surrounding hills. Thus the historical standpoints taken to account prior to the partition which differentiate his work from my historical findings that prevailed the time period after partition of India with a close relationship of water laws drafted after the signing of Treaty in 1960.

As Majeed Akhter presented in his recent doctoral thesis and published articles the historical transformation on the Indus River to scrutinize the story of supreme physical shortage that underlies the security investigation of foundation disappointment.<sup>64</sup> One strand of geographic request that pursues from, yet somewhat survives, the custom of security investigation is the purported "water wars" or trans-limit stream the board writing. The prevailing string connecting these examinations is that state entertainers are fore grounded and the general research goal is to decide conditions that are helpful for universal collaboration. On account of water in Pakistan, the principle focal point of the water wars writing has been clarifying the momentous achievement of the IWT of 1960 in encouraging collaboration between the opponent Indian and Pakistani states. Majeed clearly draws the relationship between water authority and politics. His bureaucratic complexity in profound technical attire masks deeply the crucial authority of water supremacy in the region.

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<sup>63</sup> Gilmartin, David. *Blood and Water: the Indus River Basin in Modern History*. University of California Press, 2015, pp. 134.

<sup>64</sup> Akhter, Majeed. "Desiring the Data State in the Indus Basin." *Transactions of the Institute of British Geographers*, 2017, pp. 377-389.

In contrast this research work discriminate the historical bindings on the bureaucratic authorities to make a clear Indus Basin portrait. This research work is a genuine attempt to saturate the Indus Basin dispute with the intermingled South Asian politics, passive shift in the Western intervention in Indian subcontinent by highlighting the geography and environmental risks.

Undala Alam's doctoral thesis focuses typically on the World Bank facilities and the process of negotiations of 1952-60 it offers a detailed account of the relationship between the mediator and mediation and how the procedure tilt towards the settlement.<sup>65</sup> Alam presents the idea of "water reasonability" to clarify why the IWT has not fallen separated over the past half-decade of wars and bellicosity in South Asia security. Her work specifically outlined the role of World Bank and the adaptation of the strategy of mediation to cajole the Pakistani and Indian representatives towards compromise however neglecting the political dimensions of the treaty approval. This is the feature that differs her research work from this doctoral research, where the entire political dilemma is clearly drawn by the evidences of archival materials. This research work is based on all the steps involved in the formulation of treaty keeping in view the external factors that counted in the mechanism of negotiation along with the lines of post treaty response. Further harbinger the historical appraisal drawn on the pillars of politics and geography.

The history of Indus Basin dispute is well comprehended by Aloys Arthur Michel who narrated the authoritative study of the ~~I~~mpacts of Partition on the Indus Basin

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<sup>65</sup>Alam, Undala Zafar. *Water Rationality: Mediating The Indus Waters Treaty*. Dissertation. Durham University, 1998, pp. 57-100.

Rivers ”in 1967.<sup>66</sup> The biggest contribution of Michel was his interviews with the key actors of Indus Basin settlement plan, before the disclosure of confidential sources. Whereas the content of my research is based on extensive archival research Pakistan and India, as well as United Kingdom and United States. The originality of work lies in the unbiased sources from Archives reports and interviews to predict the history with a (re-assessment) of facts and figures so that the perennial story of water hegemony in Indus Basin water diplomacy.

The article “Pakistan-India Relations: Implementation of Indus-water Treaty A Pakistani Narrative” begins with verifiable foundation of India-Pakistan water question what's more, conditions that have prompted IWT. Hence, regarding IWT, he expounds on fulfillments and disappointments of both sides on arrangement. In addition, in this monograph, the author has concentrated on Pakistan's water advancement on western streams and claims that Pakistan has accomplished huge objectives in water improvement in the wake of marking the IWT. In the following area, he depicts the historical backdrop of water struggle between India-Nepal and India-Bangladesh and conditions which drove the nations to sign particular arrangements.<sup>67</sup>

The article “Designing River Commissions to Implement Treaties and Manage Water disputes: The Story of the Joint Water Committee and Permanent Indus Commission” argues with that the States have marked many settlements and

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<sup>66</sup> Michel, Aloys Arthur. *The Indus Rivers: A Study Of The Effects Of Partition*. New Haven: Yale University Press, 1967, pp. 234.

<sup>67</sup> Tariq, Sardar Muhammad, “Pakistan-India Relations: Implementation of Indus-Water Treaty—A Pakistani Narrative,” *The Pakistan Institute of Legislative Development and Transparency (PILDAT), Office 7*, 2010, pp. 9.

conventions over their mutual streams. A large number of these understandings set up commissions to execute the accords and look after collaboration. The article contends that the Joint Water Commission has been just fairly powerful. To represent the wellspring of viability it is important to consider the capacities vested in commissions. Officials can satisfy their assignments when they impart specifically, hold general gatherings, screen the stream's advancement and have struggle determination component.<sup>68</sup>

The book –River Water Sharing Problem between India and Pakistan; case study of Indus Water Treaty” deals with the waterway water sharing issue amongst India and Pakistan. It depicts the starting point of the issue and the slow improvement of the issue. It additionally perceives how this issue was later present by Pakistan and India with World Bank intercession and compactly looks into the water system framework developed after the bargain with the water sharing issue which emerged after the marking of the arrangement. Despite the fact that it manages the point yet it needs required points of interest and investigation of the realities. Besides, it neither spreads the global water law and question determination system nor the flow issue on water proportion amongst India and Pakistan.<sup>69</sup>

The author described in the article –Inter-state Water Disputes in India: Institutions and Policies” that Indian water debate settlement instruments are questionable and

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<sup>68</sup> Zawahri, Neda A, –Designing River Commissions to Implement Treaties and Manage Water Disputes: The Story of the Joint Water Committee and Permanent Indus Commission,” *Water International*, 2008, pp. 464-47 see also <http://cwc.gov.in/> retrieved on 10 January 2019.

<sup>69</sup> Shaista Tabassum, *River Water Sharing Problem between India and Pakistan; A Case Study of Indus Water Treaty*, Colombo: Regional Centre for Strategic Studies, 2004, pp. 114.



hazy. The author recognize logically between circumstances where co-operation is conceivable and circumstances of unadulterated conflict, where the underlying allotment of rights is in question. In the last case, a scan for an arranged arrangement may be vain and snappy development to assertion or settling might be more efficient. In any case in India the procedure is moderate and successfully restricting intervention does not exist. The author argue on water conflict with these effects can be diminished by a more efficient outline of components for arranging between state water debate: a portion of the conceivable outcomes incorporate a national water commission free of day by day political weights, a unified structure consolidating river basin experts and water client affiliations and fixed time for smooth negotiation.<sup>70</sup>

The article –Boundary Water Conflict between India and Pakistan” examines the institutional systems set up by the settlement which are used by the India and Pakistan in managing water and related asset administration issues. First discussing with the independence of the Indo-Pak in August 1947, the Indus Basin Irrigation System that inundated somewhere in the range of thirty seven million sections of land was imagined initially as a bound together framework and considered a standout amongst the most broad and profoundly created water system frameworks of the world which was isolated amongst India and Pakistan without respect to water system limits. This brought about formation of the worldwide water question in April 1948, when India removes the stream of water in waterways that crossed the Indo-Pakistan limit. After extended arrangements of over ten years under the great

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<sup>70</sup> Richards, Alan, and Nirvikar Singh, –Inter-State Water Disputes in India: Institutions and Policies." *International Journal of Water Resources Development*, 2002, pp. 611-625.

workplaces of the International Bank for Reconstruction and Development, both the Government of Pakistan what's more, Government of India, covetous of achieving the most total and palatable usage of the waters of the Indus System of Rivers at long last made plans to finish up the IWT 1960 setting out for sharing the waters of the Indus System amongst India and Pakistan.<sup>71</sup>

In the article –Major water problems facing the world” argue on the need of water with that the water has turned into an undeniably critical fixing in the improvement procedure of all nations. Not exclusively is sheltered drinking water basic for our prosperity, yet water is likewise an essential imperative for further horticultural, mechanical and vitality related advancements. In light of existing reviews, four noteworthy water issues confronting the world today are recognized. These are the arrangement of safe drinking water necessities for further farming, hydroelectric and Industrial improvements; maintainability of water advancement undertakings; and improvement of water assets shared by at least two states. Both the extent and nature of the issue zones are examined. Four noteworthy key contemplations, as they identify with the need territories recognized are illustrated. These incorporate thought of the multidimensionality of the issue; advancement of the effective utilization of water; support of better administration of water assets frameworks; and use of research results to comprehend certifiable issues.<sup>72</sup>

In the article –Further Water Disputes between India and Pakistan” the author first discuss the Indo-Pak water dispute which was settle by World Bank in 1960. Be that

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<sup>71</sup>Khan, M. Yunus, –Boundary Water Conflict between India and Pakistan,” *Water International*, 1990, pp. 195-199.

<sup>72</sup>Biswas, –Major Water Problems...,” pp. 14.

as it may, in 1965 after the war between India and Pakistan India ceased River flow to Pakistan, with impressive harms to the products, going to be gathered in August and September 1965. After the Tashkent meeting in January 1966, the three eastern tributaries were discharged again to the Indus Basin. In other words the author argued that a war between India and Pakistan is still continued over the water resource.<sup>73</sup>

### **1.11.2 Literature on Indus Water Basin**

The article "Human Securitization of Water? A Case Study of the Indus Waters Basin" argues with the extensive and developing writing on hydro politics, instability created on the issue of water sharing. Struggle is for the most part decreased on the topic of who need water, which has water and along these lines what cost, in monetary, on military or political terms is suitable to access on water. This article contends such investigations successfully graph that focal asset key relations required in the geopolitics of water, they in any case ignore the more profound natural and social, religious and ethnic noteworthiness of water in any water struggle. Such investigations, it cases are too firmly connected to the customary (instead of human) security talk and along these lines risk misdiagnosing the intricacy of the water asset challenge. To react to this test the article will build up a human security "measurements" for investigating water-based clashes in human security terms. It will then think about an examination of the Indus Waters Treaty based upon the human security approach with an investigation in light of a "conventional" security evaluation of the bargain so as to survey the reasonability of the two methodologies.

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<sup>73</sup> Külz, Helmut R. "Further Water Disputes between India and Pakistan," *International and Comparative Law Quarterly*, 1969, pp. 718-738.

At long last, the article will interface the similar appraisals back to the water wars writing, drawing decisions about its qualities and shortcomings and the likelihood of a combination of conventional and human security in the examination of water strife.<sup>74</sup>

The paper "Water management in the Indus Basin of Pakistan: a half-century perspective" overviews the past half-century of water administration tests what's more, involvement in Indus Basin in Pakistan as an approach for recognizing standards for water arranging. The review concentrates on three factors: spatial sizes of water administration, geographic locales of water administration and substantive water issues. These factors help evaluate changes amid the post-provincial move 1947 to 1960 then Indus Basin advancement 1960 to 1975 and administration as well as natural developments 1975 to 2000. If we take together, these periods indicate a model of Articulated Versatile of Management, stresses making arrangements for monetary, political and natural emergencies; dynamic changes in administration; various sizes of water administration; provincial differences and development; and more extensive scientific experimentation and checking of water administration choices.<sup>75</sup>

### **1.11.3 Literature on Indus Water Treaty**

This article "Revisiting the 1960 Indus Waters Treaty" in the light of United Nation Watercourses Convention investigates the qualities and shortcomings of the Indus

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<sup>74</sup>Burgess, J. Peter, Taylor Owen, and Uttam Kumar Sinha. "Human Securitization of Water? A Case Study of the Indus Waters Basin," *Cambridge Review of International Affairs*, 2016, pp. 382-407.

<sup>75</sup>Wescoat Jr, James L., Sarah J. Halvorson, and Daanish Mustafa, "Water Management in the Indus Basin of Pakistan: A Half-Century Perspective," *International Journal of Water Resources Development*, 2000, pp. 391-406.

Waters Treaty. The IWT is to an expansive degree still pertinent yet must join contemporary natural measures and the social substances that are affecting water assets. The author further argue with the proposition for enhancing the IWT incorporate the joining of arrangements identified with joint research activities, ideal utilization of accessible assets through commonly arranged exchange offs, a joint environmental change adjustment system, thought of natural stream needs and joint water improvement and vitality era.<sup>76</sup>

The paper “Will the Indus Water Treaty Survive” delves into an authentic record of how the settlement of IWT between India and Pakistan happened, the remarkable components of the arrangement and looks at whether 'water reasonability' will keep on governing the riparian relationship or whether 'water sharing' will open up another front of hostile governmental issues. The article reasons that regardless of the tremendous capability of sharing the advantages, it is impossible that the two nations will consent to adjust the IWT and change over it from a water dividing settlement into a water asset advancement arrangement.<sup>77</sup>

The article “India and Pakistan: Introspecting the Indus Treaty” argue with that it is an urgent need in this manner to "de-securitize" the issue and unmistakably move it far from the enemy develop to encourage arrangements for a rebuilt arrangement. Explain the conflict between Pakistan and India over water the author in detail described the issue from the both side. The author further argue that a steady water

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<sup>76</sup> Sarfraz, Hamid, “Revisiting the 1960 Indus Waters Treaty,” *Water International*, 2013, pp. 204-216.

<sup>77</sup> Sinha, Uttam Kumar, Arvind Gupta, and Ashok Behuria, “Will the Indus Water Treaty Survive?,” *Strategic Analysis*, 2012, pp. 735-752.

supply of steady quality will likewise require compelling hydro-strategy that is far reaching, agreeable environmental sound and finally described that we should see whether the 1960 IWT still stays practically.<sup>78</sup>

The book *Indus Waters Treaty in Retrospect*<sup>79</sup> deals with the land settings, atmosphere, water stream water system dissemination and trench framework. In its early era the creator lauds the Pakistani Punjab Water System Framework as most prominent as well as special as well. The creator notwithstanding mourns the impacts of segment and the effect of IWT. The Indus water framework, which accordingly came up endured by feeble administration thus bothered the issues of the general population concerned. Consequently he calls it a wiped out framework. The author raises his finger against partition of Punjab and Bengal Provinces as not some portion of the first arrangement and furthermore on the way in which partition was so hastily done in insignificant 73 days.<sup>79</sup>

In the article *Indus Treaty: A different View*<sup>79</sup> the author begins from the historical backdrop of water struggle amongst India and Pakistan which brought about the IWT. The author says if in 1960, there had not been the bargain between the two nations they would have been secured a water war. In this way, he guarantees that the bargain was a decent accomplishment to keep both nations from war. Additionally both the nations' adherence to the arrangement demonstrated it an effective methods for co-operation. Ramaswamy Iyer has expressed that according to the developing interest of water and vast scale water advancement inside India and Pakistan there is

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<sup>78</sup> Kumar Sinha, Uttam, *India and Pakistan: Introspecting the Indus Treaty*, *Strategic Analysis*, 2008, pp. 961-967.

<sup>79</sup> Malik, Bashir A, *Indus Waters Treaty in Retrospect*, Lahore: Brite Books, 2005, pp. 128.

a great deal of disappointment with the bargain. Discussing the details of the settlement, he says that the arrangement is profoundly specialized and it is troublesome to comprehend it notwithstanding for Indus Water Commissioners.<sup>80</sup>

The article "Indus Water Treaty: the Negotiating Process" gives a verifiable diagram on Indus water question and transaction prepare that brought about the Indus water bargain amongst India and Pakistan. In the early on some portion of his paper the creator begins from the beginning of water clashes amongst nations and delineates that the shortage of water is a reason for water clashes. Before talking on Indus water debate he gives a recorded layout of the significance, advancement and requirements of Indus water; he additionally examines the event of water debate before segment of British India.<sup>81</sup>

The book under reference "Indus Waters Treaty: An Exercise in International Mediation", arguments about share of water in pre partition settlement of debate through outsider intervention fulfillment and disappointment of two nations water laws and territorial legislative issues over water. The author highlights the significance and advancement of Indus Basin through orderly thought. Chatting on the partition and water debate amongst both countries, he asserts Radcliffe limit line has left numerous yet uncompromised question between the two new conceived states of these water is one of the argumentative question. He additionally gives detail records of the Indus Basin negotiations portraying how India and Pakistani

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<sup>80</sup> Iyer, Ramaswamy R, "Indus Treaty: A Different View," *Economic and Political Weekly*, 2005, pp. 3140-3144 see also <http://cwc.gov.in/> retrieved on 10 January 2019.

<sup>81</sup> Biswas, Asit K, "Indus Water Treaty: The Negotiating Process," *Water International*, 1992, pp. 201-209.

designers with World Bank facilitator built up a massively complex arrangement for parallel vitality creation foundations N.D Gulhati representative of India in his decision acknowledges the capacities of the gatherings to outline the issue as a specialized issue which empowered the individuals who "speak the language of the joint management of the rivers" to gain ground where legislators proved unable.<sup>82</sup>

## 1.12 Research Methodology

Methodology constitutes a vital piece of any exploration as it gives an arrangement to continue towards the planned goals of the review. An outlined procedure gives an unequivocal course to the analyst for the arrangement of the issue under scrutiny. The present part is basically committed to the examination outline, the testing system and the procedures utilized for the information investigation. Methodology is as a state of mind about and concentrates social marvels.<sup>83</sup>

Once the technique is picked, it characterizes how this approach concentrates any uniqueness.<sup>84</sup> Looking for an examination approach, it advises us that the strategy picked is affected by the hypothetical position received by the scientist.<sup>85</sup> The qualitative research worldview in its broadest sense alludes to research that inspires member record of significance experience or recognitions. It produces illustrative information in the member's own particular composed or talked words. A qualitative review is worried with non-factual techniques and little purposively chose tests.

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<sup>82</sup> Gulhati, *Indus Waters Treaty...*, pp. 233.

<sup>83</sup> Corbin, J., & Strauss, A., *Basic of Qualitative Research: Technique and Procedures for Developing Grounded Theory* (3rd ed.). London: Sage Publications, 2008, pp. 43.

<sup>84</sup> Silverman, D. (Ed.), *Qualitative Research: Theory, Method and Practice* (2<sup>nd</sup> edition ed.), London: Sage Publications, 2004, pp. 67.

<sup>85</sup> Gray, D. E., *Doing Research in the Real World*, London: Sage Publications, 2004, pp. 21.



The present study will base on qualitative data and research strategies and devices for the study. Qualitative research comprises of strategies and procedures which can't be evaluated; absence of measurement might be because of the little example or remarkable events. It will be more identified with the wonder in context. Qualitative research has to a great extent been acknowledged by various researchers and regarded as and considered the best to inspect close by. It has many sorts of techniques, for example, perceptions and meeting and substance examination which I have attempted to receive in my proposal. The review looked at the IWT amongst India and Pakistan. To accomplish the destinations of the review, information and data have been gathered from both essential and auxiliary sources. However being a researcher I have tried to use “hermeneutical approach” to understand historical advancements in hydro-politics of Indus Basin making it prone to war International dispute. Hermeneutic analysis is a name for various methods of analysis, which are based on interpreting. Understanding is produced through systematic interpretation processes. It is a blend of field and document research analysis in order to compensate the findings gathered in field all necessary documents were cited from respective sources. To have better understanding of sources available for this research various archives, offices, libraries with in Pakistan and United Kingdom were visited, where much of my source material had been produced. Various water experts who have written books on Indus and officials are also interviewed in order to make a systematic interpretation towards a concise finding of this research.

The approach applied in this thesis towards the source material is a “Document Analysis”. Both primary and secondary sources are deeply analyzed. There are many significant works which provide a wide knowledge on the subject. To conduct the

research I have started from studying the secondary sources, i.e. books, journals, websites and thesis of master, master of philosophy and doctoral students. But, this study is mainly depended on the primary sources which has been available at the United Kingdom and Pakistan and institutes in Sargodha and other cities. For this purpose, the water management departments in Pakistan has the related source which dealt with problems related to the water resources at the time of partition and after it. A wide range of record for water dispute also resides with Indus Water Commission Lahore like, The Pakistan Water and Power Development Authority Act, 1958, (xxxix of 1958), Indus Water Commission, Lahore, 1958.

The most relevant source of information used in this research is the official correspondence between Pakistan, India and their official communications with the mediator. Further the minutes of meetings either bi-party or tripartite among the representatives served the main source of information. The historical and geographical literature is an eminent source of in making historical findings. The availability of some sources acted as both primary as well as secondary sources, particularly about visualizing the text of Indus Waters Treaty and in making its analysis over interpretation which has emerged in relation to post-Treaty water scenarios.

The primary sources of the research has included the following resources: The regular official correspondence between the states either before after and during the mediation process, has been collected from The British National Archives, United Kingdom, The British Library, United Kingdom, The National Documentation Wing (NDW), Islamabad; National Archives, Islamabad; Federal Bureau of

Statistics, *Statistics Division Islamabad; National Institute of Historical and Cultural Research, Islamabad*; Office of Punjab Secretariat Archives, Lahore.

Twenty one semi-structured interview questions have been conducted by the officials of Governmental Water Institutes and Water Experts of Indus Basin. These interviews are to be of prime importance to evaluate the dispute and subsequent resolution. In addition, various newspapers such as *Civil & Military Gazette*, July 1947- September 1960, *Daily Sindh Observer*, September 1949, *Daily Times*, April 1953, *Dawn*, December 1947 - March 1953, September 1960 - October 2015, *Economist*, 18 April 1955, *India News*, April 1953 etc. have also been consulted to get the required information.

### **1.13 Initial Study**

This research work is initiated by reading the literature in respective field. There is a bulk of material related to my studies which were written both the intellectuals from India and Pakistan. The present work will manages the IWT amongst India and Pakistan, with the primary target of understanding the issue through distributed, unpublished writing in regards to the examination theme under title, "A Historical Appraisal of the Water Dispute in the Indus Basin, 1947-1960" Although, there is a decent measure of research works distributed on universal Indus water and water clashes yet our exertion will involve to audit the significant writing over the point, which contain the Text and reference books, Research papers that published in National and International journals, Newspapers and Magazines, Doctoral thesis, Speeches and public opinions on issue.

#### 1.14 Interviews

A strategy for examining Qualitative interviews information is laid out as a phase by-stage prepares. A portion of the issues related with the strategy are distinguished. The scientist in the field of qualitative work is asked to be methodical and open to the troubles of the assignment of understanding other individuals' discernments. Qualitative research strategies are being utilized progressively to investigate different aspects in history. Regularly, such techniques include the utilization of unstructured or semi-structure interviews as a guideline procedure.<sup>86</sup>

Twenty one semi-structured and structured interview respondents have inquired for interview. The respondents selected for seeking information seemed to be unconventional, I have ensured if their backgrounds, basic professions and affiliations are surely conventional to this research. The aim of this cross-section is, not merely to produce an outcome, reflective of demographic issues, cultural mixes, ethnic diversities, religious affiliations, political influences, or professional factors, rather the criteria are designed to create an interview group, which reflected a high level of perception, more wider knowledge of the theme of this research work and those who thought about the issues which I sought to examine. These respondents are officials of Governmental Water Institutes and Water Experts of Indus Basin. A detailed Interview session held with Sara Ansari, Royal Holloway, University of London, United Kingdom, She is a specialist in the recent history of South Asia and particularly Pakistan and the partition of India Interview held on 10 July 2018.<sup>87</sup>

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<sup>86</sup> Burnard, Philip. "A Method of Analysing Interview Transcripts in Qualitative Research," *Nurse Education Today*, 1991, pp. 461.

<sup>87</sup> Sarah Frances Deborah Ansari is a British professor of history at Royal Holloway, University of London. Ansari's first book was *Sufi Saints and State Power: the Pirs of Sind, 1843-1947* (Cambridge, 1992), In 2002 she edited and contributed to a volume of essays relating to *Women, Religion and*

Interview with Daniel Hanes, who is a renowned scholar and revealed geographical importance of the Indus Basin river system, the validity of Indian and Pakistani claims to sovereignty after Indian partition in 1947. Interview conducted at The British Library, United Kingdom, 5 July 2018.<sup>88</sup> Interview with Mehmood Hasssan Siddique, who is a Pakistani Government official and have key contemplations on the Indus. Interview, conducted at Punjab Irrigation Department Lahore, 3 August 2017.<sup>89</sup> Interview with Dr. Muhammad Abid, he conducted research on climate change impacts, vulnerability and adaptation in the agricultural sector of Pakistan with eighteen years' experience on Water management system of Pakistan. Interview conducted at COMSAT University, Islamabad, 08 June 2016.<sup>90</sup>

These interviews are of prime importance to evaluate the dispute and subsequent resolution. Most oral history specialists have been utilized and will keep on being utilized to assemble data: information about the occasions of the past. However, they can likewise be utilized to finds unfurling cognizance, to archives the assortments of belief system, the production of the significance and the more qualitative parts of authentic encounters. A decent interview permits the memoirist enough space to

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*Culture in Iran* (Routledge, London) with Vanessa Martin. *Ansari's Life after Partition* (Oxford, 2005), dealt with the effects of the partition of India on the province of Sindh and in Karachi, In 2014 she was the joint editor of *From Subjects to Citizens: Society and the Everyday State in India and Pakistan, 1947–1970*, (Cambridge University Press, Delhi) based on a research collaboration between Royal Holloway and the University of Leeds.

<sup>88</sup> Daniel Haines is Lecturer in Environmental History at the University of Bristol. He has previously taught at Royal Holloway, University of London and Quaid-i-Azam University, Islamabad. He is the author of *Indus Divided. Building the Empire, Building the Nation: Development, Legitimacy and Hydro-Politics in Sindh, 1919-1969*.

<sup>89</sup> He was Assistant Director at Punjab Irrigation Department, Lahore. He has also contributed in different meeting with Indian delegation on water related issues with India.

<sup>90</sup> Dr. Muhammad Abid is an Assistant Professor at Centre for Climate Research and Development, COMSATS Institute of Information Technology, Islamabad.

build a story to express his or her emotions about a reviewed occasion; it is a meeting that permits the individual being talked with awesome range in choosing the plan.<sup>91</sup>

The first-hand account in this study is a prime factor. In the field area, there are different types of respondents, who are much important for the current study. In this regard historians, geographers, economists, political scientists and water resource experts working on Indus Basin issue will highly preferable. The interviews with the experts who are working or especially employed by the government of Pakistan for this issue will be surely remarkable.

### **1.15 Documents**

In most of the research ventures primary information gathering is an imperative one. If appropriate system is utilized properly it guarantees subjective information is collected in a logical and predictable manner. Improving information accumulation methods will upgrade the exactness, legitimacy and dependability of research discoveries. Eventually, utilizing these strategies will accomplish the objective of completing top notch investigate with believable discoveries.<sup>92</sup>

Primary information is collected from the different Government offices i-e National Documentation Wing, Islamabad, Punjab Irrigation Department, Lahore, Water & Power Development Authority (WAPDA) etc and also discussion with various Political Scientist, historians, economist, geographers and water resource experts.

Secondary sources of information collected from published and unpublished research

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<sup>91</sup> Grele, Ronald J, -On Using Oral History Collections: An Introduction," *The Journal of American History*, 1987, pp. 570.

<sup>92</sup> Harrell, Margaret C and Melissa A. Bradley, *Data Collection Methods. Semi-Structured Interviews and Focus Groups*, Rand National Defense Research Institute, 2009, pp. 3.

paper, books, research reports, articles, journals and leading both international and national newspapers. Moreover, the data collected from website of water research cell of India such as “Department of Water Resources”, <http://mowr.gov.in/> and “Center Water Commission”, <http://cwc.gov.in/>. Most of the secondary information collected from various libraries such as University of the Punjab (Lahore), Quaid-i-Azam University Library (Islamabad), Punjab Public Library (Lahore), Department of Kashmir Studies Library (University of the Punjab) and International Water Management Institute Library (Lahore). The data and information collected from the different sources analyzed and present in a logical and systematic manner. This research work wrote in a very simple and lucid style and will presume to make the study comprehensive and understandable.

A few examples of such files are CO 537/3395: India-Hyderabad Dispute, 1948. CAB 21/3375: Relations between India and Pakistan: proposed Commonwealth Conference at Colombo, 1952. DO 142/364: Report by Lord Mountbatten on his Viceroyalty of India, 1947-1949. DO 196/425: Earl Mountbatten views on Kashmir, 1964. DO 196.140: India/Pakistan political relations: the Kashmir dispute and Indus water treaty, 1962-1963. DO 142/232: West Punjab canals: proposals by Pakistan for lifting water from the River Ravi, 1947. FO 371/63533: Preparation for Transfer of Power, 1947. PREM 8/559: Admiral Mountbatten by India Office on political situation in Provinces and Central India, 1947. PREM 8/551: Arrangements for broadcasts by the Prime Minister and the Viceroy announcing the Transfer of Power. These files not only provide evidence of the circumstances of partition rather these documents also fulfills the gap of Indian stance on the research topic. As the researcher (being Pakistani citizen) have security concerns regarding the data

collection of a controversial matter of grave intensity among the two rival countries i.e. India and Pakistan.

British Library being a researcher's heaven has also supported the topic of research for example these files OIR 354.54: Indian Independence 1947, Shelfmark: India before Partition, 1947. IOR: L/PJ/7/12500: Letter from Viceroy to Secretary of State of India, 1947. IOR: L/PO/6/122: Indian Independence Act, 1947, 1947. IOR: L/I/1/770: Partition of Bengal and the Punjab: appointment of Boundary Commission, 1947. L/PJ/10/79: Extract of Clement Attlee's Minute to the Secretary of State for India on 18 March 1947, 1947. L/I/1/768: Plan for Transfer of Power in India Announcement in Parliament, 1947. R/1/3/137: Note of conversation between H.E and Pandit Kat, Prime Minister of Kashmir, 1947 proved intensively useful in historical references in distribution of land marking and their related issues.

### **1.16 Conclusion**

The water was procedure for deduction would prescribe that due to the waters of Indus bowl India and Pakistan have gone to war. For an instance if we neglect water needs, Pakistan's total dependency on the Indus bowl and a wider request including the Kashmir issue, the two nations fueled. By the help of the huge workplaces of World Bank, Pakistan as well as India has organized the IWT in a long span of nine years, stamping the treaty in September 1960. The primary enlightenment for this facilitated Indo-Pak exertion depends on the records that the Treaty passed on, in the Indus Basin Development Fund.



Notwithstanding, the monitory illustration is insufficient, as it is still unclear why the two nations cooperated almost a decade to settle down on an arrangement that is still vague. Nor it has clear up the re-enforced courses of action that offered water to Pakistan amidst the more prominent trades for an expansive assertion. A conclusion brightening is that India and Pakistan both nations were water savvy. As it were joint exertion was depended upon to safe-screen the nations' entire arrangement access to shared resources of water. This proposes the issues of lackages of water focused utilize and a deeper clash not for the most part incite war as war can't ensure a state's water supply in the entire arrangement.

Regardless, the structure of the Indo-Pakistan contribution was shaped as an expansive tension and strains between the two countries. Along these lines, it has heated the dispute over water for different areas of question, for example, Kashmir; the approaches were tense with the assignments exhibiting their reluctance to shift from their prior positions. Though arms were not taking up between India and Pakistan over the Indus waters, paying little personality to their prime game plan for a water political war, invokes a contention of the water dispute leading to war. The reason depends basically on three prevalent building pieces: water insufficiency, a wide clash and opposing articulations. Two pieces are water inadequacy and an expansive clash which have been brought into question else-where. The last building square utilization might be open presentations by pioneers to predict a war over water is an additional discovery.

As the Indus bowl incorporation, withdrawal between political think tanks and activism by government is featured. Pakistan and India have amidst trades in the

1950s; the beginning increasingly after signing Water Treaty showed their sentiment commitment regarding taking an enthusiasm over the Indus bowl dismissing open affirmations settled on by senior pioneers in government.



## CHAPTER TWO

### HISTORICAL BACKGROUND ON WATER RESOURCES OF INDUS BASIN

#### 2.1 Introduction

Indus River Basin (IRB) provides the life line to Pakistan, as seventy two percent of one hundred and ninety three million IRB population resides in Pakistan, Indian population shares twenty three percent (Including Indian held Jammu & Kashmir) Afghanistan shares only five percent population in IRB and as per rough topography of China it reflects a very niminal part of Basin. British ruled Indo-Pak subcontinent for about a century. The long-lasting struggle for freedom and independence from the shackles of the British Empire had finally come to an end and two new states emerged on the world map, India and Pakistan. The partition initiated the dispute that comprises of all the rivers of the Indus Basin: the Jhelum, the Ravi, the Chenab, the Beas, the Sutlej as well as the Indus itself. The outcome of partition as a new international border eventually divided the key location of IRB's northern mountainous region that was the hub of vast majority of water collection from the southern delta as a natural course.

This conflict of access to water resources exaggerated with the control over territory. Thus the symbol of sovereignty for both newly built nations as independent nation-state was triggered with the access of water resources. The poor treatment of the partition and the vicious mass relocation of individuals exacerbated the pressures between the two, prompting many years of contention. Moreover, the depicted limits set the phase for strains over water. The headwaters of the Indus were situated in Indian occupied Kashmir and the lower bowl was in

Pakistan. This set India at an undeniable favorable position, with the capacity to control the wellspring of water streaming into Pakistan.

Adding to the strain was the fact that there was no appropriate plan indicated by the British Government for sharing of water of the Indus Basin. The speed with which this choice was made turned into the point of convergence of this issue. At the end of the day, the core of the issue was the inclination that it took over two centuries to fabricate this realm and ten days to choose to part it. What's more Radcliffe's (appointed by the British Government as the chairman of the two boundary commissions set for portioning Indo-Pak subcontinent into India and Pakistan) rushed and messy production of the fringes drawn in view of religious populaces in just 72 days made the reason for resulting India-Pakistan pressures. The persevering competition between these two nations can in this way be followed back to three fundamental issues: the way in which the 1947 segment was led; the Kashmir question; and the division of advantages, which will be discussed in this chapter.

## 2.2 Historical Background

The early forms of irrigation in Indo-Pak subcontinent dates back approximately to 5500 BCE (Before Christ Era). Urbanization appeared for the first time in 3000 BCE afterwards there appeared the sings of settlements of farming in around 4000 BCE.<sup>1</sup>Indus Valley Civilization<sup>2</sup> for agricultural purposes in Indus Basin includes

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<sup>1</sup> "Indus Valley Civilization", [https://www.ancient.eu/Indus Valley Civilization](https://www.ancient.eu/Indus_Valley_Civilization) retrieved on 5 December 2018. See also McIntosh, Jane. *The Ancient Indus Valley: New Perspectives*. Abc-Clio, 2008, pp. 55.

<sup>2</sup> The Indus Valley Civilization was an antiquated human advancement situated in what is Pakistan and northwest India today, on the ripe flood plain of the Indus River and its region. Proof of religious

wells, canals, flood and later perennial canal networks. Rivers, streams, rainfall and groundwater are the main sources of water.<sup>3</sup> According to the claims of Niranjan Das Gulhati<sup>4</sup> roughly about 4.73 million acres of land were being irrigated annually by wells. With the advent of time the modern methods like tube wells with mechanical or electrical prime movers in the field of agriculture have changed the conventional method vigorously. Other sources include sailab that irrigate about 300,000 acres of land in kacha lands beside Indus line in Sindh.<sup>5</sup>

The most primitive (Indus Valley Civilization) form of irrigation in IRB have been the open wells but only a small area close to human habitat is irrigated by it. Other important classes of canal irrigation are perennial,<sup>6</sup> non-perennial<sup>7</sup> and

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practices around there go back roughly to 5500 BCE, Jarrige, Jean-Francois, and Richard H. Meadow, "The Antecedents of Civilization in the Indus Valley," *Scientific American*, 1980, pp. 130.

<sup>3</sup> Khan, F. K, *Pakistan: Geography, Economy and People*. Karachi: Oxford University Press, 2004, pp. 193.

<sup>4</sup> Niranjan Das Gulhati was an Indian civil engineer, water resources consultant and writer, known for his mediation in the Indus Waters Treaty of 1960 between India and Pakistan. His contributions were reported in the formation of the International Commission on Irrigation and Drainage (ICID), a non-governmental organization which promotes transfer of water sharing technologies between countries. He was the author of two books, *Indus Waters Treaty: An Exercise in International Mediation* and *Data Of High Dams In India*. The Government of India awarded him the third highest civilian honour of the Padma Bhushan, in 1961, for his contributions to society. Gulhati, Niranjan Das. *Indus Waters Treaty: An Exercise in International Mediation*. Bombay; New York: Allied Publishers, 1973, pp. 15.

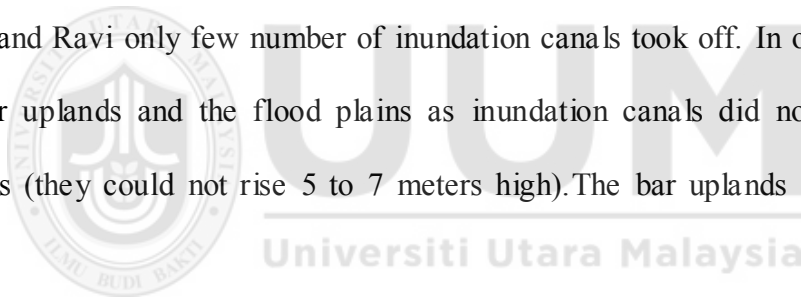
<sup>5</sup> Malik, B. A, *Indus Water Treaty in Retrospect*. Lahore: Brite Books, 2005, pp. 73.

<sup>6</sup> Perennial canals are linked to barrages and dams, and they have water throughout the year. These canals are a good choice for irrigating large areas, Bhutta, M.N. & Vander Velde, E.J, *Equity Of Water Distribution Along Secondary Canals In Punjab Pakistan*, 1992. pp. 12.

<sup>7</sup> Non-Perennial Canals are fed only in particular seasons especially in monsoons. <https://www.quora.com/What-are-the-differences-between-inundation-canal-and-perennial-canal> retrieved on 9 January 2019. See also Inayatullah, C. (1996) *Water & Community. An Assessment of the On-farm Water Management Programme* (Islamabad, Sustainable Development Policy Institute). India, Vaidyanathan, P. H. *Central Board of Irrigation and Power: A brief historical Review*. Central Board of Irrigation and Power, New Delhi, 1962, pp. 32.

inundation.<sup>8</sup> Large areas closer to rivers termed as inundation, well operated in summers due to high level of rivers, thus leaving canals either absolute dry or over flow, heavy slits also needs to be cleaned regularly.<sup>9</sup> Non-perennial canals operate once a year in summer where as perennial canals receive permanent water supply from reservoirs or barrages throughout the year irrigating a wide area uninterrupted.<sup>10</sup>

Taking into account the history of Indus Basin disclose a widespread system of canals. For progressive agricultural shift inundation canals were introduced in the mid of 14<sup>th</sup> century. In Sindh and southern Punjab the network of inundation canals irrigated the land benefited Rabi crop<sup>11</sup> to excel. From Jhelum, Upper Indus, Chenab, Sutlej and Ravi only few number of inundation canals took off. In order to separate the bar uplands and the flood plains as inundation canals did not serve the bar uplands (they could not rise 5 to 7 meters high). The bar uplands being isoaltedly



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<sup>8</sup> Immersion channels are normally long and start from enormous streams. They typically get their water when the source stream is in full spate or when there is a flood. <https://www.quora.com/What-are-the-differences-between-inundation-canal-and-perennial-canal> retrieved on 9 January 2019. See also Sawchuk, Alexander A., et al. "From Remote Media Immersion To Distributed Immersive Performance." *Proceedings of the 2003 ACM SIGMM workshop on Experiential telepresence*. ACM, 2003, pp. 11.

<sup>9</sup> Malik, *Indus Water Treaty*..., pp. 73.

<sup>10</sup> Civil Engineering Terms. Classification of Canals based on the nature of Source of Supply & Inundation Canal from Civil Engineering Terms: Kahlown, Muhammad Akram, and Joel R. Hamilton. "Status and Prospects of Karez Irrigation 1." *Jawra Journal of the American Water Resources Association*, 1994, pp. 125-134.

<sup>11</sup> Rabi Crop is agricultural harvests that are sown in winter and reaped in the spring in South Asia. The term is gotten from the Arabic word for "spring", which is utilized in the Indian subcontinent, where it is the spring harvest (otherwise called the "winter crop"). Wescoat Jr, James L., Sarah J. Halvorson, and Daanish Mustafa. "Water Management In The Indus Basin of Pakistan: A Half-Century Perspective," *International Journal of Water Resources Development*, 2000, pp. 391-406.

colonized were heavily irrigated by the introduction of perennial canals to the region.<sup>12</sup>

As mentioned earlier Indus Valley Civilizations of Mohenjodaro and Harappa (the World's most ancient civilizations) were based on water for their main source of livelihood and economic growth, they were totally dependent upon waters of Indus System around 5000 years ago.<sup>13</sup> Cholas, Bhoj, Pandyas, Shakas and Pallavas<sup>14</sup> were the following rulers after the collapse of Indus Valley civilization, they contributed a lot to the development of Indus Basin. A new infrastructure by enlargement of lakes, early water deposits and reservoirs gave a progressive blow to enrich irrigation system for agriculture. Further innovations in relation to waterworks were introduced in Indo-Pak subcontinent with the advent of Muslim rule during 8<sup>th</sup> century. Historical developments in the subcontinent should be taken into account to explore the water resources and geopolitical importance of the region.

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<sup>12</sup> Khan, *Pakistan: Geography, Economy...*, pp. 196.

<sup>13</sup> Wright, R. P. *The Ancient Indus: Urbanism, Economy and Society*. New York: Cambridge University Press, 2010, pp. 92.

<sup>14</sup> The Pallava administration was a South Indian tradition that existed from 275 CE to 897 CE, managing a bit of southern India. They picked up conspicuousness after the shroud of the Satavahana line, whom the Pallavas filled in as feudatories. Siddiqui, Iqtidar Husain, "Water Works and Irrigation System in India during Pre-Mughal Times," *Journal of the Economic and Social History of the Orient/Journal*, 1986, pp. 52-77.



Figure 2.1. Pre-partition Geographical Over View of Indus Basin.

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

### 2.3 Irrigation Development during Muslim Period

Arabs were the founders of Muslim Rule in subcontinent during early 8<sup>th</sup> century.<sup>15</sup> Initially they followed the traditions of their former rulers in maintaining the water infrastructure. Later they visualized the agricultural needs and developed a widespread system of canal utilizing the Indus water dynamically.<sup>16</sup> Due to wide expansion of empire in Delhi sultanate<sup>17</sup> water management was taken seriously to

<sup>15</sup> Muslim triumphs in the Indian subcontinent principally occurred from the twelve to the sixteenth hundreds of years, however, prior Muslim victories made constrained advances into present-day Afghanistan and Pakistan as right on time as the season of the Rajput kingdoms in the eighth century. With the foundation of the Delhi Sultanate, Islam spread crosswise over huge pieces of the subcontinent. In 1204 A.D, Bakhtiyar Khalji drove the Muslim success of Bengal, denoting the eastern-most extension of Islam at the time. Anjum, Tanvir, "The Emergence of Muslim Rule in India: Some Historical Disconnects and Missing Links," *Islamic Studies*, 2007, pp. 230.

<sup>16</sup> Fairley, Jean. *The Lion River: The Indus*. Allen Lane, 1975, pp. 175.

<sup>17</sup> The Delhi Sultanate was a Muslim sultanate based for the most part in Delhi that extended over vast pieces of the Indian subcontinent for a long time (1206-1526). Five traditions controlled over the Delhi Sultanate consecutively: the Mamluk line (1206-90), the Khalji administration (1290-1320), the Tughlaq line (1320– 1414), the Sayyid line (1414-1451), and the Lodi line (1451-1526). The sultanate is noted for being one of only a handful couple of states to repulse an assault by the Mongols (from



fulfil the needs of growing population by improving agriculture, food and water. artificial water sources were required to irrigate the arid lands during hot and dry seasons. These artificial sources of water created during Muslim era were water storages and lakes in order to irrigate plain areas. Sultans (the king of Delhi Sultanat here we refer to Sultan Alauddin Khilji)<sup>18</sup> domestic policies revolved around a progressive shift in agriculture. Hence they focused on construction of water storages and reservoirs for both irrigation as well as drinking purposes.<sup>19</sup>

First multi-purpose lake containing clean water for drinking and irrigation was developed by Sultan Iltutmish in 12<sup>th</sup> century.<sup>20</sup> This development was followed by the construction of Western Yamuna Canal by Feroz Shah Tughlaq<sup>21</sup> in 1335 A.D to irrigate cultivable land called Hisar<sup>22</sup> in Haryana nowadays.<sup>23</sup> Another famous dynasty

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the Chagatai Khanate). Jackson, Peter. *The Delhi Sultanate: a Political and Military History*. Cambridge University Press, 2003, pp. 10-12.

<sup>18</sup> Sultan Alauddin Khilji (1296-1316) was the second and the most dominant leader of the Khalji administration that controlled the Delhi Sultanate in the Indian subcontinent. Niazi, Ghulam Sarwar Khan, *The Life and Works of Sultan Alauddin Khalji*, Atlantic Publishers & Dist, 1992, pp. 25-30.

<sup>19</sup> Michel, A. A., *The Indus Rivers: A Study of the Effects of Partition*. New Haven and London: Yale University Press, 1967, pp. 49-50.

<sup>20</sup> Shamas ud-Din Iltutmish (1211-1236) was the third leader of the Mamluk line of Delhi of Turkic cause. He was a captive of Qutub-ud-din Aibak and later turned into his child in-law and close lieutenant. He was the Governor of Badaun when he removed Qutub-ud-Din's successor Aram Shah and agreed to the position of authority of the Delhi Sultanate in 1211. He moved the capital from Lahore to Delhi, remained the ruler until his demise on 1 May 1236. Digby, Simon, "Iltutmish A Reconsideration of the Name of the Delhi Sultan," *Iran*, 1970, pp. 57.

<sup>21</sup> Western Yamuna Canal from Yamuna, is the Prithviraj Chauhan period or potentially prior previous waterway that was uncovered and revamped in 1335 CE by Feroz Shah Tughlaq, exorbitant silting made it quit streaming in 1750 CE, the British Raj attempted a three-year remodel in 1817 by Captain GR Blane or Bengal Engineer Group, in 1832-33. Vaidyanathan, A. *Water Resource Management: Institutions and Irrigation Development in India*. Oxford University Press, 1999, pp. 221.

<sup>22</sup> Hisar is the authoritative home office of Hisar area of Hisar division in the territory of Haryana in northwestern India. It is found 164 km toward the west of New Delhi, India's capital, and has been distinguished as a counter-magnet city for the National Capital Region to create as an elective focus of development to Delhi. <https://hisar.gov.in/> retrieved on 9 January 2019 see also Rosin, R. Thomas. "The Tradition Of Groundwater Irrigation In Northwestern India." *Human Ecology*, 1993, pp. 51-86

of India Mughals<sup>24</sup> did extension to this canal as well.<sup>25</sup> Mughal dynasty was laid by Zahir uddin Babar<sup>26</sup> who defeated Ibrahim Lodhi,<sup>27</sup> the last ruler of Delhi Sultanate in 1526 and Mughal empire was laid by Babar in India.<sup>28</sup>

Mughals best reputed for the constructions in India vigorously contributed in the development and improvement of a well organised irrigation system. A renovative upgradation to Western Yamuna was done by Emperor Muhammad Akbar in 1568.<sup>29</sup> The construction of a perennial canal in order to supply water to the garden on

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<sup>23</sup> Gill, S. A, Indus River And The Irrigation System In Pakistan. *Journal of south Asian Studies*, 2005, pp. 7.

<sup>24</sup> The Mughal Empire also called Mogul Empire was domain in the Indian subcontinent, established in 1526. It was built up and governed by the Timurid line, with Turco-Mongol Chagatai roots from Central Asia, guaranteeing direct drop from both Genghis Khan (through his child Chagatai Khan) and Timur, and with critical Indian Rajput and Persian parentage through marriage collusions: the initial two Mughal heads had the two guardians from Central Asian family line. The administration was Indo-Persian in culture, joining Persianate culture with nearby Indian social impacts obvious in its characteristics and traditions. Subrahmanyam, Sanjay, *Mughals and Franks*. Oxford University Press, 2005, pp. 110-115.

<sup>25</sup> Saddiqui, I. H, *Authority And Kinship Under Sultans Of Delhi: Thirteenth-Fourteenth Centuries*. New Delhi: Manohar Publishers, 2006, pp. 260.

<sup>26</sup> Zahir-ud-din Muhammad Babar, originator of the Mughal tradition in India was an amazing general and a savvy ruler. He was conceived on fourteenth February 1483 and was a Chughtai Turk, relative of lord Taimur on his dad's side and Chengiz Khan on his mom's side. Therefore victory and proficient organization was in his blood. <https://www.mapsofindia.com/who-is-who/history/babar.html> retrieved on 10 January 2019 see also Randhawa, Mohinder Singh. *History of Agriculture In India. Volume. II: Eight to Eighteenth Century*. Indian Council of Agricultural Research, New Delhi, 1982, pp. 51.

<sup>27</sup> Ibrahim Khan Lodi turned into the Sultan of Delhi in 1517 after the demise of his dad Sikandar Lodi. He was the last leader of the Lodi tradition, ruling for a long time between 1517 until being vanquished and killed at the clash of Panipat by Babur's attacking armed force in 1526, offering path to the rise of the Mughal Empire in India. Douglas E, *The Formation of the Mughal Empire*, Vol. 28. Delhi: Oxford University Press, 1989, pp. 120.

<sup>28</sup> Fairley, *The Lion River...*, pp. 206.

<sup>29</sup> Abu'l-Fath Jalal-ud-din Muhammad Akbar (1542-1605), prevalently referred to as Akbar likewise as Akbar the Great was the third Mughal head, who ruled from 1556 to 1605. Akbar succeeded his dad, Humayun, under an official, Bairam Khan, who helped the youthful ruler grow and merge Mughal spaces in India. Khan, Ahsan Raza, *Chieftains In The Mughal Empire During The Reign Of Akbar*, Indian Institute of Advanced Study, 1977, pp. 115.

the western bank of River Ravi adjacent to Lahore was done by Emperor Jahangir<sup>30</sup> in 17<sup>th</sup> century. Emperor Shah Jahan,<sup>31</sup> also built a canal from river Ravi for the purpose of irrigating Shalimar Garden<sup>32</sup> in 1693 which was supervised by Ali Mardan Khan.<sup>33</sup> Later extension to this canal to Amritsar was done in Sikh regime<sup>34</sup> in order to fill Golden Temple<sup>35</sup> Tanks.<sup>36</sup> "The Golden age of Indus River Development" was the era of Emperor Aurangzeb Alamgir (1657-1707),<sup>37</sup> the

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<sup>30</sup> Mirza Nur-ud-din Baig Muhammad Khan Salim known by his magnificent name Jahangir (1569-1627) was the fourth Mughal Emperor who ruled from 1605 until his demise in 1627. Srivastava, Sanjeev Prasad. *Jahangir: A Connoisseur of Mughal Art*, Abhinav Publications, 2001, pp. 121-125.

<sup>31</sup> Mirza Shahab-ud-din Baig Muhammad Khan Khurram (1592-1666), better known by his regional name Shah Jahan "Lord of the World" was the fifth Mughal ruler, who ruled from 1628 to 1658. Wayne Edison, and Z. A. Desai, eds. *The Shah Jahan Nama of Inayat Khan: An Abridged History of the Mughal Emperor Shah Jahan, Compiled by His Royal Librarian: the Nineteenth-century Manuscript Translation of AR Fuller* (British Library, Add 30, 777), Oxford University Press, 1990, pp. 115.

<sup>32</sup> The Shalimar Gardens at times spelt Shalamar Gardens, is a Mughal garden complex situated in Lahore, capital of the Pakistani area of Punjab. The greenhouses date from the period when the Mughal Empire was at its masterful and stylish pinnacle and are presently a standout amongst Pakistan's most well known vacationer goals. Shafi, Muhammad, "The Shalimar Gardens of Lahore," *Islamic Culture-The Hyderabad Quarterly Review*, 1927, pp. 64-65.

<sup>33</sup> Ali Mardan Khan (Died April 1657) was a Kurdish military pioneer and manager, serving under the Safavid rulers Shah Abbas I and Shah Safi, and later the Mughal ruler Shah Jahan. He was the child of Ganj Ali Khan. Edwards, Stephen Meredyth, and Herbert Leonard Offley Garrett. *Mughal Rule in India*, Atlantic Publishers & Dist, 1995, pp. 77.

<sup>34</sup> The Sikh Empire (famous as Sikh Khalsa Raj, Sarkar-I Khalsa or Panjab (Punjab) Empire) was a noteworthy power starting in the Indian subcontinent, framed under the administration of Maharaja Ranjit Singh, who set up a mainstream domain situated in the Punjab. The domain existed from 1799, when Ranjit Singh caught Lahore, to 1849 and was fashioned on the establishments of the Khalsa from an accumulation of self-ruling Sikh misls. It was the last significant locale of the Indian subcontinent to be added by the British. Datta, Piara Singh. *The Sikh Empire: (1708-1849 AD)*. National Book Shop, 1986, pp. 255.

<sup>35</sup> The Golden Temple, also called Darbar Sahib or Sri Harmandir Sahib ("house God"), "magnified sacred court", is a Gurdwara situated in the city of Amritsar, Punjab, India. It is the holiest Gurdwara and the most vital journey site of Sikhism. The sanctuary is worked around a man-made pool (sarovar) that was finished by Guru Ram Das in 1577. Kaur, Madanjit. *The Golden Temple: Past and Present*, Department of Guru Nanak Studies, Guru Nanak Dev University Press, 1983, pp. 112.

<sup>36</sup> Fairley, *The Lion River...*, pp. 207. See also Khan, *Pakistan: Geography, Economy...*, pp. 198.

<sup>37</sup> Muhi-ud-Din Muhammad (1618-1707) ordinarily known by the takhallus Aurangzeb "Trimming of the Throne" or by his regional title Alamgir "Champion of the World" was the 6th Mughal head. Broadly considered the last successful Mughal ruler, his rule went on for a long time from 1658 until his demise in 1707. Truschke, Audrey. *Aurangzeb: The Life and Legacy of India's Most Controversial King*. Stanford University Press, 2017, pp. 112.

irrigation system was tremendously upgraded. Construction of widespread tanks, canals and lakes for the promotion of agriculture was an outcome of the personal interest of Aurangzeb Alamgir. Another projection of his works were the construction of Hali Canal, Shah Nahr Canal, renovation of Western Yumuna and a wide range of non-perennial canals. Other reforming notable water extensions were done by Dynasties of Kalhora (1701-1783)<sup>38</sup> and Talpur (1783-1843)<sup>39</sup> in the Sindh province.<sup>40</sup>

In 1757 the battle of Plassey<sup>41</sup> was fought between Siraj-ud-Dola (Nawab of Bengal)<sup>42</sup> and British East India Company.<sup>43</sup> Nawab Siraj-ud-Dola was terribly

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<sup>38</sup> The Kalhora line or Kalhoru line was a Sunni Muslim Sindh administration of Sindhis clan beginning which controlled the Sindh and different pieces of present-day Pakistan from 1701 to 1783. The family line is established in the Kalhora faction. They were appointed to hold expert by the Mughal Grand Vizier Mirza Ghazi Beg and later framed their own tradition, however they were known as the Kalhora Nawabs by the Mughal Emperors. Memon, Siddique G. *The Tombs of the Kalhora Chiefs in Hyderabad*, Oxford University Press, 1994, pp. 210.

<sup>39</sup> The Talpur administration was a line of the Talpur clan that vanquished and led Sindh, and different pieces of present-day Pakistan, from 1783 to 1843. The Talpur armed force vanquished the Kalhora Dynasty in the Battle of Halani in 1783 to end up leaders of Sindh. The Talpur tradition was vanquished by the British intruders in 1843 at the Battle of Miani. Allen, Calvin H. "The Indian Merchant Community of Masqat," *Bulletin of the School of Oriental and African Studies*, 1981, pp. 40.

<sup>40</sup> Punjab Irrigation Department, *Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan: A case Study of the Punjab*. Punjab Irrigation Department. Lahore: Punjab Irrigation Department, 1998, pp. 74.

<sup>41</sup> The Battle of Plassey was a definitive triumph of the British East India Company over the Nawab of Bengal and his French partners on 23 June 1757, under the authority of Robert Clive. The fight united the Company's quality in Bengal, which later extended to cover quite a bit of India throughout the following hundred years, Reid, Stuart. Reid, Stuart. *The Battle of Plassey 1757: The Victory That Won an Empire*. Frontline Books, 2017, pp. 15.

<sup>42</sup> Mirza Muhammad Siraj ud-Daulah (1733-1757) generally known as Siraj ud-Daulah was the last free Nawab of Bengal. The finish of his rule denoted the beginning of British East India Company rule over Bengal and later practically the majority of the Indian subcontinent. Erikson, Emily. *Between Monopoly and Free Trade: The English East India Company, 1600–1757*. Vol. 1. Princeton University Press, 2014, pp. 121.

<sup>43</sup> The East India Company (EIC), otherwise called the Honorable East India Company (HEIC) or the British East India Company and casually as John Company, Company Bahadur or essentially The Company was an English and later British business entity. It was framed to exchange the Indian Ocean area, at first with Mughal India and the East Indies (Maritime Southeast Asia), and later with Qing

defeated by British East India Company. After dethroning Nawab of Bengal, it was considered that the rule of British East India Company (EIC) started in Indian subcontinent. Later on the company made expeditions especially after the war of Buxar (which was fought in 1765)<sup>44</sup> to extend its control over Bihar, Bengal and Orissa. The South India came under direct or indirect control of EIC after the death of Ruler of Masore, Tippu Sultan in 1799. Right after 1818 when third Anglo-Maratha war was fought with Maratha Empire<sup>45</sup> except the provinces of Sindh, Punjab and some Princely states, EIC took over the control of almost entire Indian subcontinent. The final verdict was blown by EIC in 1849 when they defeated Sikhs in Anglo-Sikhs war.<sup>46</sup> Finally EIC after the fall of Punjab occupied the whole Indian subcontinent either directly or indirectly except for some princely States.<sup>47</sup> British rule in subcontinent is most hotly debated topic in the history, besides being very controversial this aspect of British Empire unveils administrative, legal and

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China. The organization wound up seizing power over huge pieces of the Indian subcontinent, colonized pieces of Southeast Asia, and colonized Hong Kong after a war with Qing China. Finn, Margot, and Kate Smith, eds. *East India Company at Home, 1757-1857*. UCL Press, 2018, pp. 10.

<sup>44</sup> The Battle of Buxar was battled on 22 October 1764 between the powers under the direction of the British East India Company, driven by Hector Munro, and the joined multitudes of Mir Oasim, Nawab of Bengal till 1763; the Nawab of Awadh; and the Mughal Emperor Shah Alam II. The fight was battled at Buxar, a "little braced town" inside the domain of Bihar, situated on the banks of the Ganges. Verma, Dinesh Chandra. *Plassey to Buxar: A Military Study*. New Delhi: KB Publications, 1976, pp. 175.

<sup>45</sup> The Maratha Empire or the Maratha Confederacy was an Indian power that overwhelmed a great part of the Indian subcontinent in the seventeenth and eighteenth century. The domain formally existed from 1674 with the crowning celebration of Chhatrapati Shivaji and finished in 1818 with the thrashing of Peshwa Bajirao II. The Marathas are credited to an expansive degree for completion Mughal rule in India. Vaidya, S. G. *Peshwa Bajirao II and the Downfall of the Maratha Power*. Nagpur: Pragati Prakashan, 1976, pp. 274.

<sup>46</sup> The Second Anglo-Sikh War was a military clash between the Sikh Empire and the British East India Company that occurred in 1848 and 1849. It brought about the fall of the Sikh Empire, and the extension of the Punjab and what therefore turned into the North-West Frontier Province, by the East India Company. Khushwant. *A History of the Sikhs: 1839-2004*. Vol. 2. Oxford University Press, 2004, pp. 215.

<sup>47</sup> Michel, Aloys Arthur. *The Indus Rivers: A study of the Effects of Partition*. New Haven: Yale University Press, 1967, pp. 57.

economic developments in India. The complexity of arguments is hidden in the fact that territories of British Empire were very different from territorial bounds of India. India was blessed with rich geographical resources with huge population and it was almost as developed as Britain was in eighteenth century, when British invaded India. The territorial influx of India under Great Britain rightly put it under limelight and hence India became the center of world politics.

#### **2.4 Territorial Hydrologic in British India**

Subcontinent's long-running water-sharing disputes and agreements need a distinctive account of how new states emerged in India under British. Rather than viewing state-building as purely ideological or constitutional it is necessary to explore how everything from peasants' concerns to identity development realities and shaped ideas of subcontinent sovereignty. Right after the War of Independence (1857) the British Parliament in 1858 passed the Government of India Act.<sup>48</sup> Hence the Indian territories in 1858 came under the direct control of British Crown, as India mainly focus on agriculture for the revenue generation so in order to improve the agricultural output a series of program were initiated to improve Gross Domestic Product (GDP).<sup>49</sup> As a result of the new colonial policy of British, wide series of irrigational projects were launched mainly across its linking canals and tributaries. Initially the focal area of the British policy revolved around large tracts of barren lands to transform them into fertile lands and to convert unoccupied wastelands into large

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<sup>48</sup> The Government of India Act 1858 was an Act of the Parliament of the United Kingdom passed on 2 August 1858. Its arrangements required the liquidation of the British East India Company (who had as yet been decision British India under the protection of Parliament) and the transference of its capacities to the British Crown. Lawson, Philip. *East India Company, The: A History*. Routledge, 2014, pp. 74.

<sup>49</sup> Khan, H, *Constitutional and Political History of Pakistan*. Karachi: Oxford University Press, 2009, pp. 109.

productive area. In order to make Indus Basin Irrigation system the world's largest contiguous irrigation system the British Government invested a huge sum of money in Indus Basin. The new annual irrigation capacity turned to about 12 million hectares and it had commanded area of about 20 million hectares.<sup>50</sup>

Among the high lands that resided between the five rivers of Indus various irrigational projects were launched during the middle of Nineteenth Century. The British engineers introduced a new concept to irrigate Indus Basin by the help of rotational<sup>51</sup> and perennial canals. During the latter half of 19<sup>th</sup> century Punjab was revolutionized by the introduction of perennial canals and weirs.<sup>52</sup> Local Indians and early engineers lacked the knowledge and experience to built and manage weirs and perennial canals of these kind so they took more time and money for the empowerment of these projects. Inefficiency of technicians resulted in many damages. Madhupur weir was constructed on the head of a famous canal, Bari Doab Canal which faced serious damages that caused it to shutdown within one year after its application. Due to filling of heavy sediment that deposited in the first mile of Bari Doab Canal head it was closed within a couple of days after its opening.<sup>53</sup>

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<sup>50</sup> Swain, A, Environmental Cooperation in South Asia. In K. Conca, & G. D, *Environmental Cooperation in South Asia*. Washington D. C, Woodrow Wilson Press, 2002, pp. 66.

<sup>51</sup> Rotational water circulation has been presented in a portion of the frameworks to deal with the lack of water. In a large portion of the water system frameworks, the framework administrator who readies the water system plan depends predominantly on his experience or general guidelines. Ko, Jov, and Walter Strauss, "Large-Amplitude Steady Rotational Water Waves," *European Journal of Mechanics-B/Fluids*, 2008, pp. 99.

<sup>52</sup> The head work is shaped by breaking the bank of a waterway and permitting flood water to enter the channel. The act of water system by immersion waterways was followed in Punjab and Sind territories as the streams are enduring and are in flood for eight months. Tullis. Blake P., J. Chandler Young, and M. A. Chandler. "Head-Discharge Relationships for Submerged Labyrinth Weirs." *Journal of Hydraulic Engineering* 133.3, 2007, pp. 250.

<sup>53</sup> Bengali, K, *The Politics of Managing Water*. Karachi: Oxford University Press, 2005, pp. 195.

Punjab Irrigation Research Institute and later Central Design Office were established to solve the problems of perennial canals. Punjab Irrigation Department played an important role to solve the problems. Punjab canals are designed to operate according to a knife-edge criterion of non-silting and non-scouring. Water velocity in channel is maintained neither too slow to encourage silt deposit nor too fast to cause scour of the bed and erosion of the banks. It required effective sediment control canal head. It is achieved through appropriate rules and channel design.<sup>54</sup>

Concerning the water supply framework in the Indus bowl, the British rulers, not long after subsequent to colonizing the subcontinent in 1857 began an investigation of the potential outcomes to inundate dry place that is known for the Indus Plains through the Indus Rivers.<sup>55</sup> They directed a point by point overview to investigate the conceivable outcomes for the development of dams, blasts, weirs, interface trenches, perpetual and non-lasting channels, over the waterways, with a specific end goal to occupy water towards parched terrains of Punjab –British Punjab”. The main British trench on the Indus Rivers the Upper Bari Doab Canal (UBDC),<sup>56</sup> began water system in 1861. The UBDC turned out to be a decent activity to show the intrigue and capacity of new rulers to complete a great deal for the welfare of the Punjabis.

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<sup>54</sup> Malik, *Indus Water Treaty...*, pp. 73.

<sup>55</sup> The expression "Indus Rivers," represents all the contributory waterways to the Indus Basin and the Indus River itself. The other contributory waterways to the Indus Basin are, –The Jhelum”, –The Chenab”, –The Ravi”, –The Beas”, and, –The Sutlej”. Martin, N. R., S. F. A. Siddiqui, and B. H. King, –A Geological Reconnaissance of the Region between the Lower Swat and Indus Rivers of Pakistan,” *Geol. Bull. Punjab University* 1962, pp. 11.

<sup>56</sup> In pre-autonomy period, the usage of water for water system was created on keep running off the stream premise. Ropar Headworks was built in the year 1874-82 for using water of stream Sutlej in the old Sirhind Canal framework. Upper Bari Doab Canal (UBDC), one of the most established channels in India was first worked by Emperor Shah Jehan in the year 1693, for conveying the water of River Ravi from Madhopur to Lahore. Enhancements in the waterways were made by Maharaja Ranjit Singh in the nineteenth century. Hoyland, J.S, *The Empire of the great Mogal, Delhi*, Idarah-i-Adabiyat, 1975, pp. 321.



The British were going for, to “help out water system” to enhance the agrarian esteem and hence the income creating limit of the grounds. They additionally went for demonstrating the perfection of European science above everything done before. However, neither of these thought processes seems to have been the conclusive impact upon the advancement of water system framework, rather, there were two different intentions that outweighed everything else: “One of these was the dread of starvation.”

The monetary rationale was to pre-empt starvation like that of 1837-38 which constrained the British to enhance the Western Jumna Canal and its memory was crisp in the Punjab even after ten years.<sup>57</sup> The political rationale, “No question conclusive one was to offer work to the Sikh armed force Veterans”. This noticeable verification of the welfare of the Sikhs by the British, alongside the relative simplicity of military developments along the new waterway banks, without a doubt added to the quiet of the Punjab, particularly of Sikhs amid the war of autonomy 1857.<sup>58</sup> The Western Jumna Canal was delivering serious water-logging<sup>59</sup> and saltiness.<sup>60</sup> On the other, the UBDC was disintegrating its bed, so an appropriate

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<sup>57</sup> Michel, Aloys Arthur, *The Indus Rivers: A Study of The Effects Of Partition*. New Haven: Yale University Press, 1967, pp. 66.

<sup>58</sup> *Ibid.*, pp. 91.

<sup>59</sup> Water logging alludes to the immersion of soil with water. Soil might be viewed as waterlogged when it is almost soaked with water a significant part of the time to such an extent that its air stage is limited and anaerobic conditions win. In extraordinary instances of delayed waterlogging, anaerobiosis happens, the underlying foundations of mesophytes endure, and the subsurface diminishing environment prompts such procedures as de-nitrification, methanogenesis, and the decrease of iron and manganese oxides. Ahmad, N, Water Logging and Salinity in The Indus Plain: Comment, *Pakistan Development Review*, 1965, pp. 71-77.

<sup>60</sup> The act of water system results in wasteful employment of water through evaporation, deserting salts packed in a little volume of water. In inundated rural land, water logging is regularly joined by soil saltiness as waterlogged soils avert filtering of the salts imported by the water system water. Salts are a noteworthy water quality factor in picking transfer alternatives for subsurface waste in dry

conveyance framework ended up inescapable. To take care of these issues Sirhind Canal was built and opened in 1882. Meanwhile coming about because of the changes in living conditions, normal rate of development in populace of the Punjab region had gone to 8.2 percent.<sup>61</sup> Under these conditions it expanded the peril of starvation with each passing year, unless the farming creation could be expanded in any event as quickly as developing rate of populace.

Therefore the British needed to build up the water system arrangement of the ripe territory of Punjab on need premise to pre-empt any antagonistic peace circumstance. They introduced Upper Sutlej Canal (USC),<sup>62</sup> including Lower Sohag and Para Canals; Lower Chenab Canal (LCC); Sidhnai Canal and Lower Jhelum Canal (LJC)<sup>63</sup> as principal productive irrigation works to the finish of March 1903.<sup>64</sup> Along these lines, the British had accomplished all the political, monetary and the designing leaps forward. The Mangla head works involved bargaining any thought of finish British control in light of the fact that the admission and initial 24 km of the channel

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inundated territories. Dorfman, R., Reville, R. & Thomas, H.A. Jr. Water Logging and Salinity in the Indus Plain: Some Basic Considerations, *Pakistan Development Review*, 1965, pp. 31-37.

<sup>61</sup> Biswas, Asit K, "Indus Water Treaty: The Negotiating Process," *Water International*, 1992, pp. 110.

<sup>62</sup> An Imperial arrangement of four immersion waterways in Punjab, known as the Katora, Khanwah, Upper Sohag, and Lower Sohag (or Lower Sohag and Para) Canals. They take off from the correct bank of the Sutlej stream and water the low-lying land limited on the north by the old dry bed of the Beas, which isolates it from the tracts told by the Bari Doab Canal. [http://indpaedia.com/ind/index.php/Sutlej Canals](http://indpaedia.com/ind/index.php/Sutlej_Canals), Upper retrieved on 18 January 2019. See also Saunders, Leslie S. *Report on the Revised Land Revenue Settlement of the Lahore District, in the Lahore Division of the Panjab*. Central Jail Press, 1873, pp. 214.

<sup>63</sup> The Lower Chenab Canal is a channel in Pakistan. It was delved in 1892 and begins from Khanki Headworks, which is arranged on the River Chenab in Gujranwala District and An enduring water system work in the Punjab currently moving toward fruition. Gilmartin, D, Scientific Empire And Imperial Science: Colonialism And Irrigation Technology In The Indus Basin, *Journal of Asian Studies*, 1994, pp. 1127–1149.

<sup>64</sup> Mehta, Jagat S, "The Indus Water Treaty: A Case Study in the Resolution of an Intemational River Basin Conflict," *Natural Resources Forum*. Vol. 12. No. 1. Oxford, UK: Blackwell Publishing Ltd, 1988, pp. 145.

must be set in a way to satisfy Jammu-Kashmir. Yet, the benefits of the Triple Canals Project<sup>65</sup> (Upper Jhelum Canal (UJC), Upper Chenab Canal (UCC) and LBDC) were great to the point that the issue of political control was disregarded. The Triple Canal Project (TCP) was endorsed in 1905 and the development of UJC, UCC and LBDC was proficient amid 1907-1914.<sup>66</sup>

After realizing that there began a controversy between provinces over distribution of water of Indus River System (IRS) the British Government of Indian subcontinent initiated water frameworks with full enthusiasm thus they started construction of new barrages, dams and canals to develop an advanced irrigation system. In order to defuse the water issue successfully among various provinces of India, Government of India appointed various committees. Following are the commissions and committees that were set up for apportionment of the waters of the IRS between provinces:

1. Tripartite Agreement (1921)
2. Indus Discharge Committee (1921)
3. Sutlej Valley Project Inquiry Committee (1932)
4. Anderson Committee (1937)
5. Rao Commission (1945)
6. Draft Sindh-Punjab Agreement (1945)

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<sup>65</sup> The 'Triple Canal Project' was an arrangement of connection waterways developed by the Punjab Public Works Department (PWD). The plan was authorized in 1905, and completely in administration in 1917; the channels being the Upper Jhelum, Upper Chenab, and Lower Bari Doab. Shakir, A. S., N. M. Khan, and M. M. Qureshi. "Canal water management: Case study of upper Chenab Canal in Pakistan." *Irrigation and Drainage: The journal of the International Commission on Irrigation and Drainage*, 2010, pp. 76-91.

<sup>66</sup> Milliman, J. D., G. S. Quraishie, and M. A. A. Beg, "Sediment Discharge from the Indus River to the Ocean: Past, Present and Future," *Marine Geology and Oceanography of Arabian Sea and Coastal Pakistan*, 1984, pp. 65-70.

### 2.4.1 The Tripartite Agreement (1921)

The very first agreement based on geographic locations for sharing water resources between Punjab province, Bikaner and Bahawalpur States was signed in 1921. Its application was for sharing waters of rivers Beas and Sutlej. A protest was recorded on behalf of Bahawalpur State against the allocation of water supplies on the ground that the existing water flow was insufficient to meet the needs of the two riparian's Punjab and Bahawalpur State to the non-riparian Bikaner State. The Government of India based on three widely recognized water-right principles persuaded the Punjab, Bikaner and Bahawalpur States to sign the tripartite agreement. These water-right principles are:

1. Priority of existing use
2. Recognition of claims of riparian owners
3. Equitable apportionment regardless of history of use or of geographical resources.

Meanwhile, numerous faculty of the Irrigation Branch were called to serve in wake of World War-I between the finish of Triple Canal Project and initiation of following coordinated undertaking in Indus Basin on Sutlej. Accordingly after the war a long discourse among the Government of India (the Punjab Government), the territory of Bikaner and Bahawalpur prompted an assertion at Delhi in 1919 for the most part known as "Tripartite Agreement".<sup>67</sup> The Sutlej Valley Project (SVP)<sup>68</sup> was endorsed

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<sup>67</sup> The agreement envisaged that 62.2 per cent of the States and 50.7 per cent of the British culture-able lands by perennial and 50 per cent for both by non-perennial canals would be irrigated <https://www.sheffield.ac.uk/news/nr/land-cover-atlas-uk-1.744440> retrieved on 18 January 2019.

<sup>68</sup> Sutlej valley venture was one of the best blessing by Nawab Sir Sadiq Muhammad Khan Abbassi to the State of Bahawalpur. In 1921 Secretary of the State proposed the Sutlej valley venture. As per this venture new trenches ought to radiate by making dams on three waterways and these channels should supply water to an immense territory of the State. These dams are called Head Sulemanki, Head Islam

under this understanding in 1921 which required the development of four blasts (head works) to be specific Ferozepur, Suleimanki, Islam and Panjnad alongside eleven channels.

#### 2.4.2 Indus Discharge Committee (1921)

Bombay government (Sindh was a piece of Bombay administration till 1935)<sup>69</sup> protested Punjab's proposition for new activities affecting extent of water system improvement in Sindh. Royal conditions of Bahawalpur and Bikaner additionally staked their cases for water system supplies. Individual cases of the opponent governments Vis: Punjab and Bombay were alluded to the Secretary of State for India. He authorized development of SVP and Sukkar Barrage with seven waterways of total limit of 47,700 cusecs. Choice about different undertakings was to be taken after increasingly dependable waterway stream information was accessible.<sup>70</sup>

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and Head Punjnad. <http://www.mybahawalpur.com/sutlej-river/> retrieved on 18 January 2019. See also Indus Basin Dispute-Historical Background Information-Correspondence 03, Report of a Committee of The Central Board of Irrigation on Distribution of the Waters of the Indus and Its Tributaries 1<sup>st</sup> to 8<sup>th</sup> March 1935- 17<sup>th</sup> to 20<sup>th</sup> June 1935, Folder ID. 1787860, The World Bank Group Archives, 1949-1953, pp. 8-9.

<sup>69</sup> Sindh was first settled by the Indus Valley Civilization and Mohenjo-daro, as right on time as 7000 BC. It had Greek impact amid its history after the extension of the Macedonian Empire, and created exchange with encompassing areas. A few Sunni Muslim and Rajput kingdoms were set up there, starting with the Rai Dynasty and completion with the Arghun line. The Mughal Empire vanquished Sindh under the standard of Akbar in 1509. Wescoat Jr, James L., Sarah J. Halvorson and Daanish Mustafa. "Water Management in the Indus Basin Of Pakistan: A Half-Century Perspective," *International Journal of Water Resources Development*, 2000, pp. 391-406.

<sup>70</sup> Letter from E.L. Protheree, Esq, I.S.E, Secretary to Government, Punjab, P.W. Dept, Irrigation Branch to The Secretary to the Government of Sindh, Finance Department, Apportionment of Waters of Indus and tributaries, IOR/I/E/9/372, The British Library, United Kingdom, 1945, pp. 2.

In response to appeals and counter claims by Sindh and Punjab, Government of India Legislature of India delegated "Indus Discharge Committee"<sup>71</sup> in 1921. An arrangement of day by day perception of stream and waterway releases at various locales on the Indus River System and channels were started. To improve the availability of hydrological data for these and other projects under consideration, the Government of India recommended to the provincial government a comprehensive network of gauge and discharge observation sites at all important sites along the Indus and its tributaries. Game plans were likewise made among Punjab and Sindh to participate in release perception and in techniques for keeping their record. Sindh additionally itemized inhabitant designs in the Punjab to screen stream releases and waterways withdrawals. The Committee in its report prescribed execution of Haveli Canal Project.<sup>72</sup> In any case, it brought up that future activities in the Punjab ought to be considered deliberately as for conceivable effect on Sindh water rights.<sup>73</sup> It additionally suggested investigation of Bhakra Dam on the Sutlej for capacity of surge waters and decrease of surge streams.

The committee recommended project of Haveli Canal and pointed out that future projects proposed by Punjab should be considered by taking into account the possible

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<sup>71</sup> The Committee concluded that the permanent diminution of the flow required for this project, would not be justifiable because it would decrease the allocated quantity to the Sukkur Barrage. Consequently the Committee advised the Punjab to wait for ten years. Jawed. Tufail, "The World Bank and the Indus Basin Dispute: Background-I," *Pakistan Horizon*, 1965, pp. 230.

<sup>72</sup> Indus Basin Dispute - Indus Basin Irrigation Water Problem- Correspondence 01, Folder ID. 1787772, The World Bank Group Archives, 1954 -1954, pp. 35 see also Gunderson, Lance H., Crawford S. Holling, and Stephen S. Light, "Barriers broken and bridges built: a synthesis." *Barriers and bridges to the renewal of ecosystems and institutions*. Columbia University Press, New York, 1995, pp. 489-532.

<sup>73</sup> Principles of Law Governing the Uses of International Rivers Contributions From the Indus Basin, Indus Basin Dispute- International Law- Correspondence 01, Folder ID. 1787921, The World Bank Group Archives, 1954-1958, pp. 3-4.

impact on Sindh water rights. A two member \_Nicholson Trench Committee<sup>74</sup> was appointed to study the feasibility of Bhakra dam. In 1930, the committee in its report cleared Bhakra for construction. It revealed in 1930 that there ought to be no protest to development of Bhakra Dam.<sup>75</sup>

### 2.4.3 Sutlej Valley Project Inquiry Committee (1932)

The practical working of SVP canals revealed that there occurred a serious shortage of river flow especially in early Kharif<sup>76</sup> requirements when there was storage of supplies. Thus a committee was framed to resolve the issue. Task of SVP trenches uncovered that there was lack of provisions in light of the fact that genuine waterway streams missed the mark concerning necessities particularly in early Kharif period. A board was designated in 1932 to investigate the issue of deficiencies. The panel prescribed rejection of a few territories in Bahawalpur development of new feeder trenches and modification in the order of specific waterways.<sup>77</sup>

The Sutlej Valley Project was the last tremendous building work done by the Government of India before partition of the Indian subcontinent. The years 1933-35

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<sup>74</sup> H.W.Nicholson(from Punjab) and W.L.C Trench(from Sindh) were two Engineers who were submitted the task resolve the contradictory arguments between Sindh and Punjab regarding the Bhakra dam in which Sindh claimed that the level of bed of Indus raised and silt or cut-off canals due to construction of Bhakra dam. Dharmadhikary, Shripad, and Swathi Sheshadri. *Unravelling Bhakra: Assessing the Temple Resurgent India*. Mumbi: Manthan Publications, 2005, pp. 23.

<sup>75</sup> Central Water-Power, Irrigation and Navigation Commission, IOR/V/24/4496, Quinquennial Report April 1945 To March 1950, The British Library, United Kingdom, 1947, pp. 238 see also Pande, Kanchan, et al., –The Indus River System (India-Pakistan): Major-Ion Chemistry, Uranium And Strontium Isotopes,” *Chemical Geology*, 1994, pp. 250.

<sup>76</sup> Kharif crops or Autumn crops are domesticated plants that are cultivated and harvested in India, Pakistan and Bangladesh during the summer season, which lasts from June to October depending on the area, Teclaff, Ludwik A, *The River Basin in History and Law*. Springer Science & Business Media, 2012, pp. 115.

<sup>77</sup> Malik, *Indus Water Treaty...*, pp. 75.

denoted another defining moment in the water system of the Indus Basin, as the expansion of water system in the Doabs<sup>78</sup> between the Punjab Rivers or in the land south of the Sutlej would require either upstream capacity or preoccupation from the Indus over the Sindh Sagar (Thal) Doab. Change from the Indus required the assent of Sindh Government. Sindh experts in 1932 had quite recently opened the main flood the Lloyd Barrage at Sukkur and its first lasting trench framework. It was not in a mind-set to make any new responsibility. Along these lines, Sindh, whose interests, around then were as yet spoken to by the Bombay Government took solid exemption to any withdrawals, or any adjustments in the waterway administrations that may influence its immersion trenches above or underneath the Sukkur order.<sup>79</sup> Thus the political benefits of provinces were superseding each other. Eleven SVP canals along with four barrages and a mega project of Sukkur Barrage were completed by the 1932. As these canal networks started operation a number of problems arose. Khairpur beside Bahawalpur states sought after some additional supplies. For Haveli project, Punjab also demanded for more water. Thus Government decided to look into the matter in order to resolve inter province conflict by appointing a committee.

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<sup>78</sup> Doab is a term used in India and Pakistan for the “tongue” or water-rich tract of land lying between two converging, or confluent, rivers. It is similar to an inter flue In the *Oxford Hindi-English Dictionary*, R. S. McGregor defines it as “a region lying between and reaching to the confluence of two rivers (esp. that between the Ganges and Yamuna) D’Souza, Rohan. "Water in British India: The Making Of A Colonial Hydrology." *History Compass*, 2006, pp. 621-628.

<sup>79</sup> Letter No. 4420-F-47, dated 16th September 1935, from the Chairman of the Committee to the Secretary to the Government of India, Department of Industries and Labour, forwarding the Report of the Committee on the Distribution of the Waters of the Indus and its Tributaries, Indus Basin Dispute-Historical Background Information-Correspondence 03, Report of a Committee of The Central Board of Irrigation on Distribution of the Waters of the Indus And Its Tributaries 1<sup>st</sup> to 8<sup>th</sup> March 1935- 17<sup>th</sup> to 20<sup>th</sup> June 1935, Folder ID. 1787860, The World Bank Group Archives, 1949-1953, pp. 1-4.



#### 2.4.4 The Anderson Committee (1935)

Growing rivalry among provinces on water especially Sindh, Punjab, Khairpur and Bahawalpur states a committee was drafted by British Government. The dispersion of waters of the Indus River System has been a wellspring of discussion between different regions and Indian states, particularly among Sindh and Punjab in any event since 1919. In 1935 a portion of the issues in contention were alluded by the Government of India to an eight part panel of specialists, six of whom were designated by the intrigued units (in particular, Bombay including Sindh, Punjab, NWFP, Bahawalpur, Khairpur and Bikaner) and the staying two, including the Chairman were autonomous individuals named by the Government of India.<sup>80</sup> This panel was named Anderson Committee, after its Chairman's name.<sup>81</sup> The board of trustees presented a consistent write about 16 September 1935. The Government of India at that point counseled the different units concerned and passed last requests on 30 March 1937. It expanded water system supplies for Haveli and Thal Projects.<sup>82</sup> Be that as it may, Sindh (which was under the Bombay administration when the Anderson Committee report was discharged, yet had accomplished the status of territory in 1935) demonstrated its trepidation in regards to the impacts of certain finished and considered water system extends in Punjab and formally held up a protestation on 7 June 1941 to the Governor General of India. The objection identified with the accompanying activities:

1. The Haveli Project which was in activity during 1941.

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<sup>80</sup> Gulhati, *Indus Waters Treaty...*, pp. 205.

<sup>81</sup> Indus Commission Report on the Irrigation Dispute Between Sindh and The Punjab, Apportionment of Waters of Indus and tributaries, IOR/I/E/9/372, The British Library, United Kingdom, 1945, pp. 4.

<sup>82</sup> Bengali, K, *The Politics of Managing Water*. Karachi: Oxford University Press, 2005, pp. 162.

2. The Thal Project which was under development during 1941.
3. The Bhakra Dam Project which was in examination during 1941.
4. Twenty-four stockpiling stores with an accepted limit of 500,000 section of land feet each, on the fortune of Indus, Jhelum, Chenab, Ravi, Beas and Sutlej streams and one of them, the Woolar Lake Scheme, on the Jhelum itself was in thought.
5. Feeders to exchange water from the Ravi to the Beas and from the Chenab to the Beas with aggregate expected withdrawals of 23,000 cusecs at its highest-in thought.<sup>83</sup>

Accordingly, the Governor General delegated a commission known as the Indus Commission to investigate the dissension of Sindh and to write about the issues relating to the grumbling.

#### **2.4.5 Rau Commission (Indus Commission)**

After the Government of India Act 1935<sup>84</sup> came into power on April 1, 1937, the improvement of waterway waters turned into a commonplace subject. From this time forward every region was allowed to attempt any work for advancement of stream waters going through its domain as thought about catalyst. The Governor General Victor Alexander John Hope could intercede just on receipt of grievance by one region against the other. Accordingly of the protest put together by the Sindh, first time in October 1939 and again in its last shape on 7 June 1941, Governor General of India selected the Indus commission which is prominently known after the name of

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<sup>83</sup> Bengali, *The Politics of...* pp. 162.

<sup>84</sup> The Government of India Act, 1935 was passed by British Parliament in August 1935. With 321 segments and 10 plans, this was the longest demonstration gone by British Parliament. The government of India Act, 1935 got material from four key sources. Salman MA. "Inter-States Water Disputes In India: An Analysis Of The Settlement Process." *Water Policy*, 2002, pp. 223-237.

its Chairman Justice B. N. Rau<sup>85</sup> as "Rau Commission".<sup>86</sup> Alluding to the British Common Law, American Supreme Court choices, choices of the Permanent Court of International Justice and basic practice in different nations, the Rau Commission set out the accompanying general standards for the appropriation of the water of inter-commonplace streams.

The most acceptable settlement of question of this sort is by assertion, the gatherings embracing a similar specialized arrangement of every issue, as though they were a solitary network unified by political or managerial wildernesses. If once there is such an understanding, to the point that in itself outfits the law overseeing the privilege of the few gatherings until the point that another assertion is closed. If there exist no such understanding the privileges of the few areas and states must be controlled by applying the standards of 'evenhanded' division,<sup>87</sup> every unit getting a decent amount of the natural existing stream. For reason of need, the date of an undertaking wasn't the date when study was first started, however the date when the task achieved conclusion and was settled and positive reason to take it up and bring it through. As between activities of various types for the utilization of water, an appropriate request

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<sup>85</sup> Sir Benegal Narsing Rao (1887- 1953) was an Indian government worker, legal adviser, negotiator and statesman known for his key job in drafting the Constitution of India. He was additionally India's delegate to the United Nations Security Council from 1950 to 1952. B. Shiva Rao Sahni, Hamir K. "The Politics Of Water In South Asia: The Case of The Indus Waters Treaty," *Sais Review of International Affairs*, 2006, pp. 153-165.

<sup>86</sup> Michel, *The Indus Rivers...*, pp. 129 see also Gulhati, *Indus Waters Treaty...*, pp. 38.

<sup>87</sup> Harles, John, *Seeking Equality: The Political Economy of the Common Good in the United States and Canada*, University of Toronto Press, 2017, pp. 10.

of priority may be (a) utilization for residential and clean purposes (b) use for route and (c) use for power and water system.<sup>88</sup>

Rau Commission set up need of water portion for Paharpur Canal<sup>89</sup> and furthermore affirmed assignment for the Thal and the Sukkar plots as suggested by the Anderson Committee. The commission presented its report in July 1942. The Commission found that upstream withdrawals would unfavorably influence activity of immersion waterways in Sindh particularly amid September. The most ideal approach to check this impact was to develop blasts at Guddu and Hajipur. (Hajipur Barrage was supplanted by Kotri Barrage).<sup>90</sup> The Commission additionally prescribed that "pay ought to be paid to Sindh from the Punjab territory for harms likely outcome from upstream withdrawals". It likewise set out that the proposed Dam at Bhakra on fulfillment must be so worked as not to make material harm the waterways of the downstream region of Sindh. Its discoveries and suggestions were neither acknowledged by Punjab nor by Sindh.<sup>91</sup>

#### **2.4.6 Draft Sindh-Punjab Agreement (1945)**

The Rao Commission put a ban on attempted Bhakra Dam's development before first October, 1945 and recommended that meanwhile the delegates of Punjab and Sindh should deal with on a respective premise the issues of water sharing and related

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<sup>88</sup> Bengali, *The Politics of...*, pp. 162.

<sup>89</sup> Indus Commission Report on the Irrigation Dispute Between Sindh and The Punjab, Apportionment of Waters of Indus and tributaries, IOR/I/E/9/372, The British Library, United Kingdom, 1945, pp. 6.

<sup>90</sup> Indus Basin Dispute-Historical Background Information-Correspondence 03, Interim Report on Distribution of the Waters of the Indus And Its Tributaries, Volume II, Folder ID. 1787860, The World Bank Group Archives, 1949-1953, pp. 88.

<sup>91</sup> Malik, *Indus Water Treaty...*, pp. 297 see also Gulhati, *Indus Waters Treaty...*, pp. 39.

issues. At this stage the arrangements were opened between the two Chief Engineers of Sindh and Punjab to discover an answer and achieve an understanding. After delayed transactions among Sindh and Punjab a draft assention was drawn on 28th September, 1945. It was liable to settlement of the monetary period of the question concerning sharing of waters of Indus and Punjab's streams. The draft understanding included development of a torrent on the Indus at Guddu and connection waterways in Punjab with limit restricted to 19,300 cusecs from the Chenab and Ravi Rivers to the Sutlej for enhancing supplies for SVP trenches.

In any case, the assertion couldn't be finished. At last it was chosen to elude the issue to his greatness' Government in England. Right off the bat in 1947, Government of India eluded the case to the Secretary of State for India<sup>92</sup> for a choice. The issue remained unresolved till the Indian Independence Act of July 1947 which was finally passed that led two independently free states of India and Pakistan on 15 of August 1947. Accordingly, because of the effects of partition and its political and land impacts, the water debate stayed unresolved with uncertainty over the use of aquatic resources in future.<sup>93</sup>

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<sup>92</sup> Secretary of State for India referred to for short as the India Secretary or the Indian Secretary was the British Cabinet serve and the political leader of the India Office in charge of the administration of the British Indian Empire (typically referred to just as 'the Raj' or British India), Aden, and Burma. Buckley, Robert Burton. *The Irrigation Works of India, and Their Financial Results: Being a Brief History and Description of the Irrigation Works of India, and of the Profits and Losses which They Have Caused to the State*. WH Allen & Company, 1880, pp. 115.

<sup>93</sup> Malik, Indus Water Treaty ..., pp. 73.

## 2.5 The Issues Identified with the Water Conflicts

After a short survey of the historical backdrop of water debate in the Indus Basin, following issues have been followed this made strain among the areas amid the British Rule:

1. There was inadequate capacity limit along the Indus bowl from 1920 to 1945, because of which a lot of water couldn't be used and streamed to the Arabian Sea. This absence of capacity limits expanded strain among the upper riparian and bring down riparian territories/states, since adequate water was not accessible to meet the rural prerequisite consistently. This issue could be settled through the development of supplies.<sup>94</sup>
2. The existing waterway framework was not adequate to meet the requests of the expanding populace in the Indus Basin. As the new terrains were being changed over into horticultural grounds which likewise expanded the odds of contentions among the areas.<sup>95</sup>
3. Revenue age from the farming terrains was another issue of contentions. Commonplace governments needed to hold produced income since it was a primary wellspring of their economies. They needed to change over increasingly infertile terrains into rural grounds and to create water assets to flood those grounds without considering impacts and wounds on different regions, which resultantly made clashes and threats.<sup>96</sup>
4. Although, to accomplish most extreme horticultural yield, the water from the waterways was assuming a noteworthy job yet the mind boggling structure of

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<sup>94</sup> Letter from Government of Bombay to the Government of India, letter No. 8255-I, dated 3<sup>rd</sup> June 1929, Indus Basin Dispute-Historical Background Information-Correspondence 03, Folder ID. 1787860, The World Bank Group Archives, 1949-1953, pp. 1-4.

<sup>95</sup> Summary of Findings and Recommendations of the whole Committee, Indus Basin Dispute-Historical Background Information-Correspondence 03, Folder ID. 1787860, The World Bank Group Archives, 1949-1953, pp. 29.

<sup>96</sup> Letter No. 1838 (secret) from South Asia department to U.K High Commission in India. 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.

trench framework in the bowl and request of equivalent distribution made water a political issue among the territories.<sup>97</sup>

Constrained by the unfriendly political improvements in the Indian subcontinent, the legislature of India was not intrigued to enjoy such a problem.<sup>98</sup> The Government of India Act of 1935, which produced results in 1937, made Sindh a different region and extraordinarily expanded common self-governance. The divisions of water system and power had gone under commonplace ward. The impedance of the focal Government was liable to the formal protestation by an area against some other region in regards to obstruction with their water supplies.<sup>99</sup> The Punjab Government understood that the streaming water in the waterways goes unused as it streams down into the Arabian Sea before the developing period of Rabi crops and the sowing period of Kharif crops. While lack of water, then again was antagonistically influencing the agrarian generation. The trenches organize was futile without legitimate upstream stockpiling. The Punjab Government formally asked for the center to find destinations for dams to store water for water system amid lean months and to deliver power too. The British Government began finding likely dam destinations on the stream Indus and all its tributaries.<sup>100</sup>

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<sup>97</sup> Letter No. 1025 (secret) from South Asia department to U.K High Commission in India. File No. T 220/1075, TNA, UK, 1949, pp. 2.

<sup>98</sup> Quinquennial Report April 1945 To March 1950, Central Water-Power, Irrigation and Navigation Commission, IOR/v/24/4496, The British Library, United Kingdom, 1947, pp. 37. See also Krutilla, John V., Otto Eckstein, *Multiple Purpose River Development: Studies in Applied Economic Analysis*, New York, RFF Press, 2013, pp. 70.

<sup>99</sup> Michel, *The Indus Rivers...*, pp. 98.

<sup>100</sup> "End of Indus Water Dispute in Sight", *Statesman*, 9 August 1945, pp. 2.

The main task was originated in Punjab because Punjab means the land of five rivers it's the most fertile land of Indian subcontinent all the rivers of Indus were flowing in Punjab, so it was later extended to a High Dam Authority, with Chief Engineer Mr. Khosla<sup>101</sup> as its chairman. The venture circle found various dam locales from the stream Sutlej to the Indus, wherever the waterways crossed through limited canyons and had a huge stockpiling limit upstream of the ravine.<sup>102</sup> The primary proposed dam must be on the meeting of the streams Indus and so on. The High Dam Authority called it Makhed Dam now acclaimed as Kalabagh Dam, with a capacity limit of 15 MAF. The second dam on the Indus was proposed at Tarbela. It offered 9.3 MAF stockpiling alongside an off-channel stockpiling limit of 30 MAF.<sup>103</sup> Two more dam destinations were situated on the waterway Jhelum; first on the mouth of Wullar Lake; and second at Mangla close Mirpur. While on the stream Chenab, the proposed dam site was situated at Dhiangarh.<sup>104</sup> On the Sutlej a chasm had just been under investigation since 1907 at Rupar. The second dam site at Sutlej was proposed at Bhakra with 8 MAF stockpiling capacities.<sup>105</sup> It was additionally chosen to interface the waters of the Chenab and Ravi by developing a passage under Marhu

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<sup>101</sup> Ajudhia Nath Khosla (1892-1984) was an Indian designer and government official. He was the Chairman of the Central Waterways Irrigation and Navigation Commission of India. Khosla was conceived in New Delhi, and filled in as Vice Chancellor of the University of Roorkee from 1954 to 1959. International Bank Negotiations on Indus waters, DO 35/8588, TNA, UK, 1958-1959, pp. 2 see also Ali, I, *The Punjab under Imperialism, 1885-1947* Princeton, Princeton University Press), 1988, pp. 32.

<sup>102</sup> Letter from E.L. Protheree, Esq, I.S.E, Secretary to Government of Punjab, P.W. Dept, Irrigation Branch to the Secretary to the government of Sindh, Finance Department, Apportionment of Waters of Indus and tributaries, IOR/I/E/9/372, The British Library, United Kingdom, 1945, pp. 2.

<sup>103</sup> Michel, *The Indus Rivers*, pp. 274 & 292.

<sup>104</sup> Ibid.

<sup>105</sup> Quinquennial Report April 1945 To March 1950: Hydrology, Ministry of Works Mines and Power, Government of India, Central Water-Power, Irrigation and Navigation Commission, IOR/v/24/4496, The British Library, United Kingdom, 1947, pp. 69.



Pass,<sup>106</sup> from where it could be disseminated to Sutlej Valley Canals through the development of Madhapur-Beas link.<sup>107</sup>

It was at this crossroads of the history that Indian subcontinent was divided bringing about the part of Punjab into West Punjab<sup>108</sup> and East Punjab.<sup>109</sup> The West Punjab was given to Pakistan while East Punjab was granted to India. Kashmir was held by India. All the catchment zones of the Indus Rivers were gone under the Indian control which debilitated the Pakistan's advantages. The contention factor identified with climatic variety featuring the regular changeability of the releases of the Punjab streams as they leave the lower regions, that is, before the withdrawal of water for water system. The checked regularity mirrors the storm precipitation design. The real disadvantage looked by the Punjab administrations was the unfriendly timings of need and accessibility of the waters. The requirement for water was most noteworthy from late August to early December due to the developing of the Kharif (fall collected) crops and the sowing of Rabi (spring-reaped) crops. Though the streams

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<sup>106</sup> Mathu Pass is arranged at an elevation of around 4,365 m, in transit from Dalhousie to Manali of Himachal Pradesh. The pass is a perfect base for trekking. Since soak, the trekking is difficult. Undemeath the go, there is a little frosty lake. There is a helpful level land for outdoors see also Allan, Allan, Nigel JR. "Communal and independent mountain irrigation systems in north Pakistan," *Proceedings of the IGU Irrigation Conference. Lahore: International Geographical Union.* 1986, pp. 411

<sup>107</sup> Zawahri, Neda A. "India, Pakistan and cooperation along the Indus River system." *Water Policy*, 2009, pp. 1-20.

<sup>108</sup> West Punjab was an area of Pakistan from 1947 to 1955. The region secured a region of 205,344 km<sup>2</sup> (79,284 sq mi), including a significant part of the present Punjab region and the Islamabad Capital Territory, yet barring the previous regal province of Bahawalpur. Aggarwal, Jagdish Chand, and Surendra P. Agrawal, *Modern History of Punjab: A Look Back Into Ancient Peaceful Punjab Focusing Confrontation and Failures Leading to Present Punjab Problem, and a Peep Ahead: Relevant Select Documents*. Vol. 37. Concept Publishing Company, 1992, pp. 60.

<sup>109</sup> East Punjab (referred to just as Punjab from 1950) was an area and later a territory of India from 1947 until 1966, comprising of the pieces of the Punjab Province of British India that went to India following the partition of the region among India and Pakistan by the Radcliffe Commission in 1947. Aggarwal, Jagdish Chand, and Surendra P. Agrawal, *Modern History of Punjab: A Look Back Into Ancient Peaceful Punjab Focusing Confrontation and Failures Leading to Present Punjab Problem, and a Peep Ahead: Relevant Select Documents*. Vol. 37. Concept Publishing Company, 1992, pp. 37.

were quickly falling amid this season and hence making the Rabi request particularly difficult to meet. Towards the finish of April the interest for water begins diminishing, while the streams now begin rising. Before partition, weirs and waterways in part leveled free market activity, yet not by any stretch of the imagination, since no supply trenches existed at the time. There was a mounting requirement for the expansive scale stockpiling activities and this need likewise complemented the riparian clash amongst India and Pakistan.<sup>110</sup>

Since the water strife emerged quickly following partition, a synopsis of the pre-segment channel framework will be important before alternate variables are considered. Amid the just about ninety years of the British government's quality in Punjab (1859-1947) exactly twelve million sections of land of already ineffective land was brought under development and was effectively settled.<sup>111</sup> The main canals at the time of partition are shown in figure 2.6 may be conveniently categorized as follows.

1. The Sirhind Canal takes water from the Sutlej at Rupar and irrigates lands to the southeast of the river.
2. The Upper Bari Doab Canal takes water from the Ravi at Madhopur and irrigates the northern part of the Bari Doab.
3. The Lower Chenab Canal takes water from the Chenab at Khanki and irrigates the southern part of the Rechna Doab.

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<sup>110</sup> Lamb, Alastair, "Studying the Frontiers of the British Indian Empire," *Journal of the Royal Central Asian Society*, 1966, pp. 245-254. See also Gazdar, Haris, "Baglihar and Politics of Water: a Historical Perspective from Pakistan", *Economic and Political Weekly*, 2005, pp. 813-817.

<sup>111</sup> The Indus River System Dispute, DO 35/2698, Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for financing irrigation and hydro-electric works, TNA, UK, 1951-1952, pp. 2.

4. The Lower Jhelum Canal takes water from the Jhelum at Rasul and irrigates the southern part of the Jech Doab.
5. The Triple Canals Project includes the waters of three waterways. The Upper Chenab Canal takes water from the Chenab at Merala to parts of northern Rechna Doab. The principle trench crosses the Ravi by a reservoir conduit at Balloki and turns into the Lower Bari Doab Canal. This was done on the grounds that past waterways had essentially depleted the Ravi and Sutlej waters, leaving the lower Bari Doab un-recovered. In any case, the Upper Chenab Canal would take such a great amount of water from the Chenab River that the supply of the officially existing lower Chenab Canal would be genuinely decreased. Henceforth the Upper Jhelum Canal was considered to bring water from the Jhelum at Mangla to the Chenab at Khanki and in this way recharge the Lower Chenab Canal. In the meantime the Upper Jhelum Canal gives water to inundating the upper Jech Doab.
6. Different trenches including headworks at Ferozepur, Sulaimanki and Islam, all on the Sutlej, flood arrives on the two sides of that stream. A flood at Trimmu, just underneath the intersection of the Jhelum and Chenab, waters some portion of the south-eastern Sindh Sagar Doab<sup>112</sup> toward the west through Ranpur Canal<sup>113</sup> in addition to the extraordinary southern part of the

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<sup>112</sup> The Sindh Sagar Doab is the tract of land in Pakistan lying between the Indus River and the Jhelum River. It is one of the five noteworthy doabs of Punjab and structures the northwestern bit of the Punjab plain. Siddique, M.H, Inter-Provincial water apportionment accord-coordination and control of water distribution, (Consultant of the Government of the Punjab, irrigation and power department). pp. 8.

<sup>113</sup> The Rechna Doab, or Rachna Doab (in Pakistan), can be named one of the principle locales of Punjab. Punjab generally has been separated into locales dependent on its different waterways, since the name Punjab depends on its five primary streams. The Rechna incorporates all the zone between the Chenab and Ravi Rivers, the whole distance from the Jammu Division of the Jammu and Kashmir

Rechna Doab. The fundamental capacity is performed by the Haveli Canal, which additionally conveys water to the Sidhnai Barrage on the lower Ravi to help supply the Sidhnai Canal in southwestern Bari Doab. There is additionally a torrent on the Panjnad, just underneath the Trimmu-Sutlej conjunction,<sup>114</sup> which floods a restricted strip along the Panjnad's eastern bank.<sup>115</sup>

In March 1940, the Lahore Resolution of the All India Muslim League in its Annual session at Lahore, the basic principle laid in that Resolution was:-

~~Geographically contiguous units are demarcated into regions which should be so constituted with such territorial readjustment as may be necessary that the areas in which Moslems are numerically in a majority as in the North-Western and North-Eastern Zones of India should be grouped to constitute independent states which the constitution units shall be autonomous and sovereign”<sup>116</sup>~~

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state in India till their conjunction in Punjab, Pakistan. Nazir ahmad, Water resources of Pakistan and their utilization, Lahore: Mirajdin urdu bazaar, 1993, pp. 1-12.

<sup>114</sup> Trimmu-Sutlej Conjunction, is situated on the Chenab River downstream of its intersection with the Jhelum River. Sedimentation has diminished the torrent's flood entry limit (FPC) by 30% from 18,265 cubic meters for each second (m<sup>3</sup>/s) in 1939 to 12,743 m<sup>3</sup>/s in 2013 Undertaking Number: 47235, Islamic Republic of Pakistan: Trimmu and Panjnad Barrages Improvement Project, Asian Development Bank, 2014 Trimmu, Ghani, E. U, Transboundary waters-perspective of Indus water treaty-1960. Paper presented at world water day, March 2009, Pakistan Engineering Congress, 2009, pp. 22-25.

<sup>115</sup> Bandaragoda, Don Jayatissa, *Warabandi in Pakistan's Canal Irrigation Systems: Widening Gap between Theory and Practice*. No. 7. IWMI, 1995, pp. 18.

<sup>116</sup> Lahore Resolution, File No. 1099, National Archives of Pakistan, Islamabad, 1940.

On 20 Feb 1947, the British reported their goal of power shifting from British India to the hands of Indians by June 1948.<sup>117</sup> The Common Authoritative Assemblies of Bengal and the Punjab would suppose to be requested to meet in two sections, one speaking to the Muslim greater part areas and whatever remains of the region. To determine the number of inhabitants in areas, the 1941 enumeration figures will be taken as legitimate.<sup>118</sup>

## 2.6 Boundary Commission: Radcliffe Award

The Indian Independence Act, 1947 described that Pakistan and India were isolated into two separate states. On July 4 1947, this Act was introduced in the House of Commons in the British<sup>119</sup> where it was settled that a limit commission would decide the new boundaries.<sup>120</sup> First it was suggested that the undertaking of dividing the limits of the Punjab and Bengal ought to be given to the United Nations<sup>121</sup> or the

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<sup>117</sup> Preparation for Transfer of Power. File No. FO 371/63533, TNA, UK Kingdom, 1947, pp. 2 see also Admiral Mountbatten by India Office on political situation in Provinces and Central India, File No. PREM 8/559, TNA, UK, pp. 1 1947 and Extract of Clement Attlee's Minute to the Secretary of State for India on 18 March 1947, File No. L/PJ/10/79, The British Library, United Kingdom, 1947, pp. 1.

<sup>118</sup> Arrangements for broadcasts by the Prime Minister and the Viceroy announcing the Transfer of Power, File No. PREM 8/551, TNA, UK, 1947, pp. 2 see also Report by Lord Mountbatten on his Viceroyalty of India, File No. DO 142/364, TNA, UK, 1947-1949, pp. 2 and Plan for Transfer of Power in India Announcement in Parliament 3.30pm 3 June 1947, File No. IOR: L/1/768, The British Library, United Kingdom, 1947, pp. 1.

<sup>119</sup> The House of Commons is the lower place of the Parliament of the United Kingdom. Like the upper house, the House of Lords, it meets in the Palace of Westminster. Formally, the full name of the house is the Honorable the Commons of the United Kingdom of Great Britain and Northern Ireland in Parliament collected. Attributable to lack of room, its office convenience reaches out into Portcullis House. <https://www.parliament.uk/business/commons/> retrieved on 18 January 2019.

<sup>120</sup> Indian Independence Act, 1947, File No. IOR: L/PO/6/122, The British Library, United Kingdom, 1947, pp. 2.

<sup>121</sup> The United Nations appeared in 1945, after the pulverization of the Second World War, with one focal mission: the upkeep of worldwide harmony and security. The UN does this by attempting to avoid struggle; helping parties in strife make harmony; peacekeeping; and making the conditions to enable harmony to hold and prosper. <https://spinbot.com/> retrieved on 15 January 2019.

ICJ.<sup>122</sup> Jinnah<sup>123</sup> bolstered the proposal yet Nehru<sup>124</sup> restricted it because it would include undue deferral.<sup>125</sup> Mountbatten,<sup>126</sup> who tried to assuage the Congress,<sup>127</sup> dropped the thought. Jinnah at that point recommended that three judges of the Judicial Committee of the Privy Council in Britain<sup>128</sup> ought to be designated as the individuals from the Boundary Commission. Mountbatten again dismissed this proposition on the ground that the elderly judges would not have the capacity to

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<sup>122</sup> The International Court of Justice (ICJ) is the chief legal organ of the United Nations (UN). It was set up in June 1945 by the Charter of the United Nations and started work in April 1946. The seat of the Court is at the Peace Palace in The Hague (Netherlands). <https://www.icj-cij.org/en/court> retrieved on 18 January 2019.

<sup>123</sup> Muhammad Ali Jinnah (25 December 1876-11 September 1948) was a legal advisor, legislator, and the author of Pakistan. Jinnah filled in as the pioneer of the All-India Muslim League from 1913 until Pakistan's autonomy on 14 August 1947, and afterward as Pakistan's first Governor-General until his passing. He is worshipped in Pakistan as Quaid-i-Azam and Baba-I-Qaum "Father of the Nation"). [http://www.bbc.co.uk/history/historic\\_figures/jinnah\\_mohammad\\_ali.shtml](http://www.bbc.co.uk/history/historic_figures/jinnah_mohammad_ali.shtml) retrieved on 18 January 2019.

<sup>124</sup> Pandit Jawaharlal Nehru (14 November 1889 – 27 May 1964) was an opportunity contender, the primary Prime Minister of India and a focal figure in Indian governmental issues when freedom. He developed as a famous pioneer of the Indian autonomy development under the tutelage of Mahatma Gandhi and served India as Prime Minister from its foundation as an autonomous country in 1947 until his demise in 1964 [http://www.pmindia.gov.in/en/former\\_pm/shri-jawaharlal-nehru/](http://www.pmindia.gov.in/en/former_pm/shri-jawaharlal-nehru/) retrieved on 21 December 2018. See also Ghose, Sankar. *Jawaharlal Nehru, a biography*. Allied Publishers, 1993, pp. 23.

<sup>125</sup> Campbell-Johnson, Alan, *Mission with Mountbatten*, London: Robert Hale, 1951, pp. 124.

<sup>126</sup> Chief of naval operations of the Fleet Louis Francis Albert Victor Nicholas Mountbatten, first Earl Mountbatten of Burma, (25 June 1900 - 27 August 1979) was a British Royal Navy officer and statesman, an uncle of Prince Philip, Duke of Edinburgh, and second cousin once removed of Queen Elizabeth II. <https://www.britannica.com/biography/Louis-Mountbatten-1st-Earl-Mountbatten> retrieved on 19 January 2019. Bose, Mihir. *The Lost Hero*. Vikas Publishing House, 1982, pp. 340.

<sup>127</sup> The Indian National Congress frequently called the Congress Party or essentially Congress) is an extensively based ideological group in India. Established in 1885, it was the main current patriot development to rise in the British Empire in Asia and Africa. From the late nineteenth century, and particularly after 1920, under the administration of Mahatma Gandhi, Congress turned into the primary chief of the Indian autonomy development. Low, Donald Anthony, ed. *Congress and the Raj: facets of the Indian struggle, 1917-47*. London: Heinemann, 1977, pp. 106.

<sup>128</sup> The Privy Council of England, otherwise called His (or Her) Majesty's Most Honorable Privy Council was an assemblage of consultants to the sovereign of the Kingdom of England. Its individuals were regularly senior individuals from the House of Lords and the House of Commons, together with driving churchmen, judges, negotiators and military pioneers Aldrich, Richard, Dennis Dean, and Peter Gordon. *Education and policy in England in the Twentieth Century*. Routledge, 2013, pp. 231.

withstand the warmth of the Indian summer.<sup>129</sup> Be that as it may, the Quaid-i-Azam's longing was to delegate three Law Lords from the United Kingdom for the limit commissions as unbiased individuals. He was well aware that the Law Lords couldn't confront the searing warmth of summers as they were elderly people. Later on, Lord Mountbatten persuaded him to acknowledge the arrangement of an English legal advisor, Radcliffe,<sup>130</sup> as the executive of both the limit commissions who might have the ability to make the honor and the arrangement of Radcliffe was made on fourth July with the Viceroy letter to secretary of province of India.<sup>131</sup>

The boundary commission will undoubtedly have an equivalent number of delegates of India and Pakistan combined with at least one unbiased individuals. The contentions were up and coming to emerge between the agents of Hindus and Muslims. The compromise between both these gatherings on a pleasant equation in regards to the partition of Punjab and Bengal was incomprehensible without the association of an unprejudiced outsider, or individuals from every limit commission having high uprightness as to win general trust. Mountbatten at that point thought of the last thought of selecting two boundary commissions in the Punjab and Bengal. It was chosen that Bengal Commission would likewise manage Assam.<sup>132</sup> To fulfill

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<sup>129</sup> H.V. Hodson, *The Great Divide: Britain-India-Pakistan*, Karachi: Oxford University Press, 1985, pp. 346.

<sup>130</sup> Sir Cyril Radcliffe K.B.E, K.C., had been appointed as the chairman of the two boundary commissions, one for Punjab and other for Bengal. Radcliffe, K.B.E 1944; K.C 1935; one of the leader of English Bar was born on March 30, 1899. Information Department Telegram No. 2265/47 from Secretary of State for India to viceroy, File No. IOR: L/PJ/7/12500, The British Library, United Kingdom, 1947 see also "Radcliffe, Chairman of Boundary Award", *Civil & Military Gazette*, 6 July 1947, pp. 1.

<sup>131</sup> Letter from Viceroy to Secretary of State of India, File No. IOR: L/PJ/7/12500, The British Library, United Kingdom, 1947, pp. 2.

<sup>132</sup> Minutes of Viceroy's Staff Meeting, June 25, 1947, in Mansergh and Moon, *Transfer of Power*, Vol. XI, pp. 634-36.

both the gatherings, the Congress and the Muslim League,<sup>133</sup> it was chosen that each Commission was to be made out of four High Court Judges, two Muslims and two Non-Muslims, under the summon of an English man as Chairman. The Muslim judges were to be selected by the Muslim League and the Non-Muslim judges by the Congress. It was additionally concurred that one of the two judges named by the Congress for the Punjab Commission ought to be a Sikh.<sup>134</sup> Mountbatten likewise proposed that same individual ought to be delegated as Chairman of both the Commissions so he would have the capacity to alter any slight misfortune one state may need to endure in one specific territory by remunerating it in another.<sup>135</sup>

At the Partition Committee's<sup>136</sup> meeting on 26 June 1947, Mountbatten nominated Cyril Radcliffe for the joint Chairmanship of both the commissions. Both the Congress and the Muslim League had no other option but to accept nomination of Radcliffe. The two political parties recommended their nominees as the members of the two commissions. The Muslim League nominated Abu Saleh Mohammad

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<sup>133</sup> The All-India Muslim League (advanced as Muslim League) was an ideological group set up amid the early long stretches of the twentieth century in the British Indian Empire. Its solid promotion for the foundation of a different Muslim-larger part country state, Pakistan, effectively prompted the segment of British India in 1947 by the British Empire. Afzal, M. Rafique. *A History of the All-India Muslim League, 1906-1947*, Oxford University Press, 2013, pp. 15.

<sup>134</sup> Minutes of Viceroy's Miscellaneous Meeting, June 13, 1947, in Mansergh and Moon, *Transfer of Power*, Vol. XI, pp. 320-329.

<sup>135</sup> Minutes of the Special Committee of the Indian Cabinet, June 26, 1947, in Mansergh and Moon, *Transfer of Power*, Vol. XI, pp. 650-57.

<sup>136</sup> On 17 June, a press report was issued setting the wide diagrams of the set-in the mood for working out the authoritative outcomes of segment, At the summit of this set-up was the exceptional committee of the Cabinet, later supplanted by the partition Council. The Partition Council also was directed by Lord Mountbatten. Partition of India, *India Quarterly: A Journal of International Affairs*, 1999, pp. 62.



Akram<sup>137</sup> and S.A. Rahman<sup>138</sup> for the Bengal Boundary Commission<sup>139</sup> and Din Mohammad<sup>140</sup> and Mohammad Munir<sup>141</sup> for the Punjab Boundary Commission.<sup>142</sup> While the Congress nominated C. Biswas<sup>143</sup> and B.K. Mukherji<sup>144</sup> for the Bengal Boundary Commission and Teja Singh<sup>145</sup> and Mehr Chand Mahajan<sup>146</sup> for

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<sup>137</sup> Mr. Justice Abu Saleh Mohammed was acted as judge of Calcutta small causes court and Calcutta High Court variously from 10<sup>th</sup> April 1937, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>138</sup> Mr. Justice Shaikh Abdul Rehman, M.A (Punjab), BA (Hons.) oxford, joined the Indian Civil Services 29<sup>th</sup> September 1928 and served in the Punjab as Assistant commissioner; judge, judge small cases court (April 1933); District and Session judge (December 1937), File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>139</sup> The Partition of Bengal in 1947, some portion of the Partition of India, separated the British Indian territory of Bengal dependent on the Radcliffe Line among India and Pakistan. Prevalently Hindu West Bengal turned into a territory of India, and overwhelmingly Muslim East Bengal (presently Bangladesh) turned into a region of Pakistan Bengal. <https://protectionforumforbengaleehindusofassam.wordpress.com/category/bengal-boundary-commission/> retrieved on 22 January 2019. Chatterji, Jova. *Bengal divided: Hindu communalism and partition, 1932-1947*. Vol. 57. Cambridge University Press, 2002, pp. 459.

<sup>140</sup> Mr. Justice Din Muhammad born 02 December, 1886; joined Punjab Judicial Department, 2<sup>nd</sup> October 1933; appointed judge Lahore High Court, 27<sup>th</sup> March 1934, recently acted as Chairman, Air Transport Licensing Board, New Delhi, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>141</sup> Mr. Justice Muhammad Munir, born 3<sup>rd</sup> May 1895; joined Punjab Judicial Department, 3<sup>rd</sup> July 1937 as Assistant to the Advocate General, Punjab. Served on the Central Board of Revenue and as President, Income Tax appellate Tribunal before being appointed a judge of Lahore High Court on 28<sup>th</sup> September 1942, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>142</sup> Punjab Boundary Commission was one of the two powerful boards set up under Governor General Lord Mountbatten's partition plan of 3 June 1947 (the other one being the Bengal Boundary Commission) to partition the Punjab among India and Pakistan, the two new expresses that were being cut out. Talbot, Ian, and Gurhpal Singh. *Partition and Region: Bengal, Punjab and the Partition of the Subcontinent*. Oxford University Press, 1999, pp. 138

<sup>143</sup> Mr. Justice Charu Chandra, C.I.E. appointed officiating Judge of the Calcutta High Court, 1<sup>st</sup> March 1937, confirmed 20<sup>th</sup> January, 1940, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>144</sup> Mr. Justice Bijan Kumar Mukherji, M.A, D.L. appointed senior Government Pleader 4<sup>th</sup> June 1935, judge of the Calcutta High court 3<sup>rd</sup> July 1939, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>145</sup> Mr. Justice Teja Singh Sardar, BA, LL.B, born 1<sup>st</sup> January 1889, joined the Punjab Civil Service, 8<sup>th</sup> July 1932 and appointed District and Session Judge; Judge of the Lahore High Court 27<sup>th</sup> September 1943. Granted title of the Sardar Bahadir, 11<sup>th</sup> May 1937, publications commentary on the Punjab pre-emption Act of 1913, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

the Punjab Boundary Commission. Thus, the two boundary commissions were finalized on 30<sup>th</sup> June 1947. The boundary commission was instructed to demarcate boundaries of the two parts of the Punjab and Bengal on the basis of Muslim and Non-Muslim majority population. However, it was also to take into account “other factors”, while making a decision. Interestingly, the term “other factors” was kept vague and the Commission had every right to have its own interpretation of the term.<sup>147</sup>

The problem with the composition of the two commissions was that due to charged conditions prevailing at that time it was obvious that the Muslim members would favor Pakistan and the non-Muslim members would favor India. This gave the final verdict and thus the future of the Punjab and Bengal rested in the hands of one man, i.e. Radcliffe. Radcliffe had been appointed as the chairman of the two boundary commissions, one for Punjab and other for Bengal. Radcliffe one of the leaders of English Bar was born on 30<sup>th</sup> March 1899. He married in 1939 Antonia, daughter of the 1<sup>st</sup> Baron Charlwood. He was educated at Haileybury and New College Oxford. He was a Fellow of All Souls College Oxford 1922-33; Eldon Law Scholar 1924; called to the Bar (Inner Temple) 1924; Bencher 1943; held various appointments at Ministry of

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<sup>146</sup> Mr. Justice Mehr Chand Mahajan, born 22<sup>nd</sup> December 1889, appointed judge Lahore High Court on, 27<sup>th</sup> September 1943, File No. IOR: L/I/1/770, The British Library, United Kingdom, 1947, pp. 1.

<sup>147</sup> “Other Factor, Boundary Award”, *The Statesman, Calcutta*, 7 July, 1947, pp. 3 see also “Boundary Award”, *Civil & Military Gazette*, 16 July 1947, pp. 5.

Information 1939-41; Director General Minister of Information 1941-45. He was at present Vice-Chairman of the General Council of the Bar.<sup>148</sup>

The 3<sup>rd</sup> June plan<sup>149</sup> guaranteed that at the division of the Punjab and Bengal, a Boundary Commission will be built up which will settle the terms and conditions important for the segment in discussion with the individuals from both the gatherings. The division of limits was to be done as per the two sections of the Punjab on the ground of the adjacent larger part territories of both the networks keeping in see alternate factors also. The capacity of the commission was to democrats limits between two sections based on the found out coterminous larger part regions of Muslims and non Muslims. The commission would likewise assess "other factors".<sup>150</sup> It was additionally concurred that the segment of Bengal would become effective on indistinguishable grounds from that for Punjab. Before the entry of the report of the boundary commission, the temporary limits won't be changed.<sup>151</sup>

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<sup>148</sup> Information Department Telegram No. 2265/47 from Secretary of State for India to viceroy, File No. IOR: L/PJ/7/12500, The British Library, United Kingdom, 1947 see also Civil & Military Gazette, 06 July 1947, pp. 1.

<sup>149</sup> The Indian Independence Act 1947 is an Act of the Parliament of the United Kingdom that partitioned British India into the two new autonomous domains of India and Pakistan. The Act got the regal consent on 18 July 1947, and in this manner present day Pakistan and India appeared on 15 August. Visram, Rozina. *Ayahs, Lascars and Princes: the story of Indians in Britain 1700-1947*. Routledge, 2015, pp. 280.

<sup>150</sup> –Punjab and Bengal Commission”, *The Statesman, Calcutta*, 7 July, 1947, pp. 3 see also –Boundary Award”, *Civil & Military Gazette*, 16 July 1947, pp. 5.

<sup>151</sup> Ibid

# The Partitioning of India, 1947

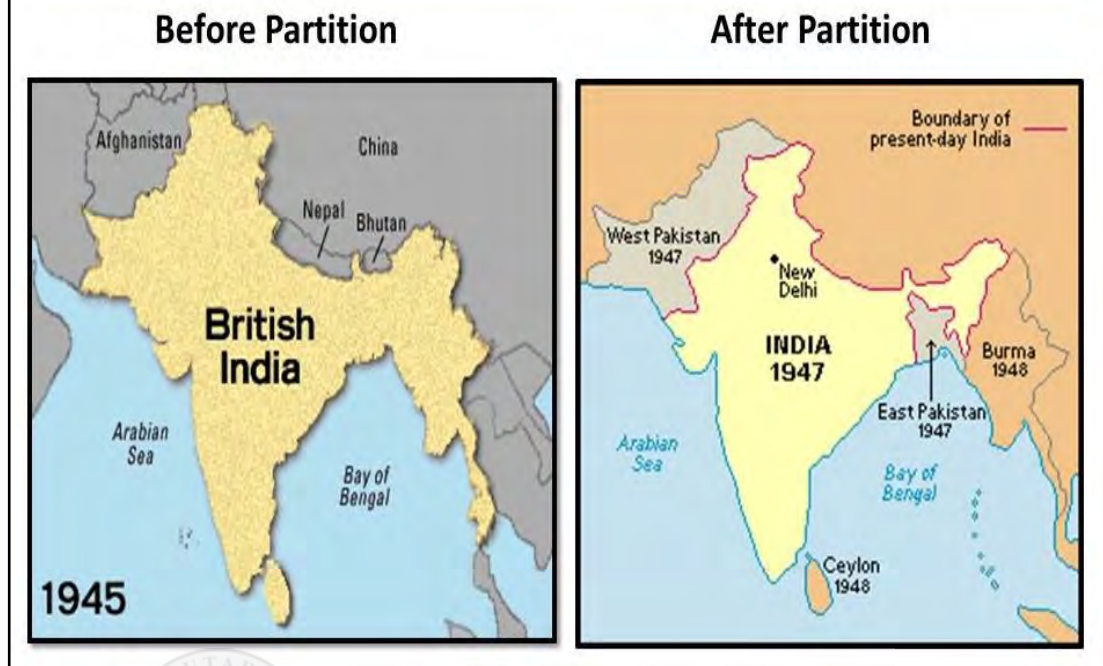


Figure 2.2. Map of India Before and After Partition, 1947<sup>152</sup>

Source:- Indus River System and its Tributaries, DO 35/6648, TNA, UK, 1952-1953, pp. 2.

The above map shows that how British India was divided into India and Pakistan (East and West Pakistan are highlighted clearly). However Burma and Ceylon were later came into existence in 1948. After partition there was a division of British India into Pakistan and India, India resided in the center of East and West Pakistan that were two wings of one country with 1000 km distance from one another. Lots of administrative discrepancies were faced by Pakistan due to this distance and illogical division of land. Later in 1971 Pakistan was further divided into Pakistan and Bangladesh.

<sup>152</sup> This map shows two figures one clearly mentioned British India before partition. Second figure shows Partition in 1947, Red line indicated the Boundary of India marked by Boundary Commission. Blue line shows the boundary along waters of Arabian Sea and Bay of Bengal.

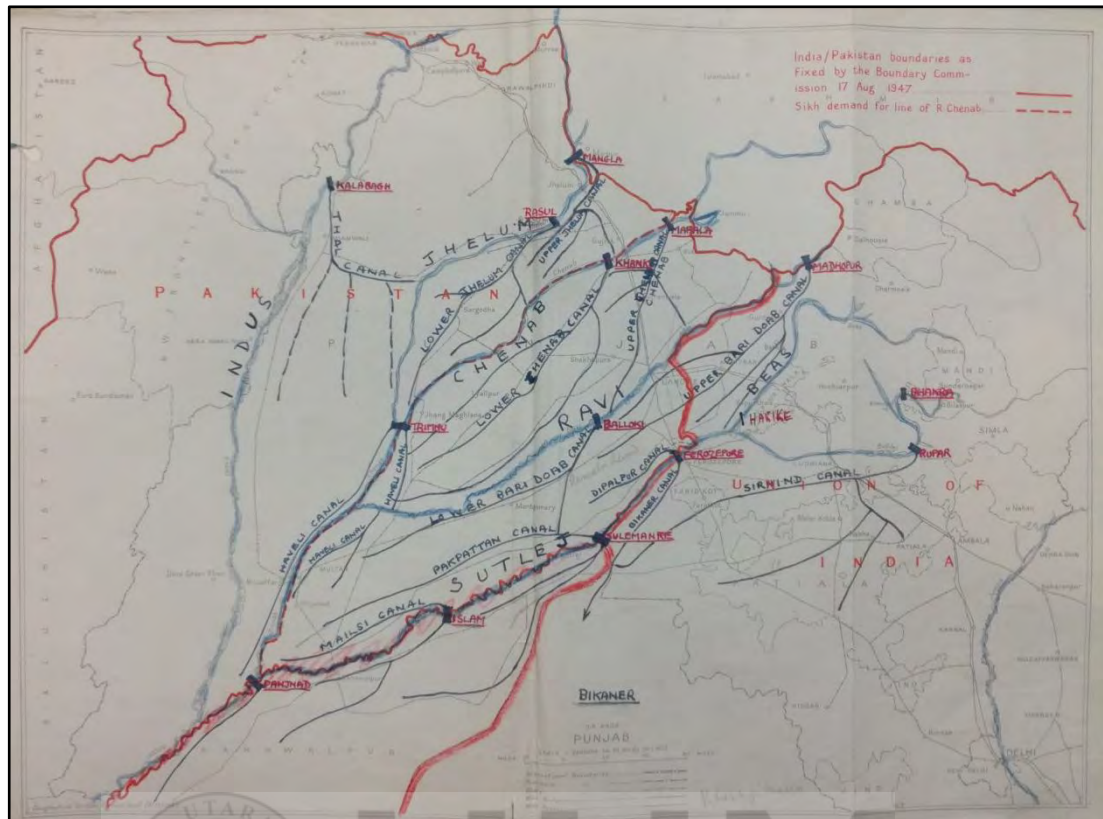


Figure 2.3. Indus irrigation system, 1947.

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

The Punjab comprised of two wings, as clearly shown in the figure above, a western wing along the Indus and eastern wing between the five rivers Jhelum, Chenab, Ravi, Beas and Sutlej. The western wing and everything except an edge of the eastern along Sutlej were not in debate, the fight run over the focal Doabs and particularly finished the easternmost, the upper Bari Doab amongst Beas and Ravi. This contain three of the territory, the fifth biggest and one of the best urban communities of India; Amritsar<sup>153</sup> with a 46.5% Muslim zone and Gurdaspur<sup>154</sup> an exceptionally

<sup>153</sup> Amritsar Punjabi articulation verifiably otherwise called is a city in northwestern India which is the regulatory central command of the Amritsar area and is situated in the Majha district of the Indian province of Punjab <http://punjabtourism.gov.in/Punjab.html#/destination/1/Amritsar> retrieved on 22 January 2019.

<sup>154</sup> Gurdaspur is a city in the territory of Punjab, arranged in the northwest piece of the Republic of India, between the streams Beas and Raavi, 10 km from the universal fringe among India and Pakistan. It houses the authoritative central station of Gurdaspur District and is in the land focal point

minor region, socially firmly Muslim with a larger part of 51.4%.<sup>155</sup> Radcliffe likewise visited Lahore. The principle target of the visit was to resting the system whereby the commission set out to gather confirms.<sup>156</sup>

In the Punjab, the Congress and the Sikhs asserted the Muslim dominant part zones and endeavored to influence the Commission for moving the limit as far west as the stream Chenab. As they were asserting the Muslim lion's share areas, for example, Gurdaspur, Gujranwala, Lahore, Sheikhupura, Layallpur, Montgomery and Sialkot to be incorporated into East Punjab (India). Their primary contention was that the zones, for example, Nankana Sahib,<sup>157</sup> which was situated in Sheikhupura, had the sacred spots of Sikh holy places. Similarly, the Muslim individuals could have guaranteed Delhi, Sirhind and Ajmer, which had the blessed spots of Muslims. The Congress and the Sikhs were additionally asserting for Lahore as it was the capital of the Punjab in spite of the way that Lahore was a Muslim lion's share region and it was in no way, shape or form coterminous to Indian soil. It just demonstrated the stiff necked attitude of the Hindus and Sikhs.

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of the locale. <https://gurdaspur.nic.in/> retrieved on 22 January 2019. Barnes, James Hector. *Sugar and the Sugarcane in the Gurdaspur District*. Superintendent Government Printing, India, Calcutta, 1918, pp. 34

<sup>155</sup> –Punjab and Bengal Commission”, *The Statesman*, Calcutta, 7 July, 1947, pp. 3 see also –Boundary Award”, *Civil & Military Gazette*, 16 July 1947, pp. 5.

<sup>156</sup> –Boundary Commission”, *Civil and Military Gazette*, 15 July 1947, pp. 1.

<sup>157</sup> Nankana Sahib is a city and capital of Nankana Sahib District in the Punjab region of Pakistan. It is named after the main Guru of the Sikhs, Guru Nanak, who was conceived in the city and initially started lecturing here. Today it is a city of high noteworthy and religious esteem and a well known journey site for Sikhs from everywhere throughout the world. It is situated around 91 km (57 mi) west of Lahore and around 75 km (47 mi) east of Faisalabad. The city has a populace of roughly 70,000. <http://www.sikh-history.com/sikhhist/events/nankana.html> retrieved on 22 January 2019. Singh, Trilochan. *Historical Sikh shrines in Delhi fundamental belief of Sikh religion the ten masters*. Delhi Sikh Gurdwara Board (1972), 2016, pp. 220-225.

Then again, the Muslim League was mentally disposed to move the limit towards the east however much as could reasonably be expected. It asserted the entire domain of Lahore division including a piece of the Jullundur division.<sup>158</sup> By and large, the Muslim individuals requested just the adjoining Muslim greater part regions and in no way, shape or form requested for Non-Muslim lion's share territories. The Bengal Commission<sup>159</sup> sat at Calcutta from July 16 to 24 and again from August 4 to 6 and the Punjab Commission stayed in session at Lahore from July 21 to 31. Radcliffe had advised visits to Calcutta and Lahore yet he really set up his central command at Delhi. Procedures of the two Commissions were accounted for to him on consistent schedule and he thought of it as adequate to peruse the record of the Commissions' sessions and their particular reports. Not surprisingly, the distinctions emerged between the Muslim and non-Muslim individuals and a consistent choice of the commission turned out to be for all intents and purposes unthinkable and the significance of the making choice of the Chairman additionally expanded. Since the two Commissions couldn't touch base at an agreement, the last Awards were for the most part composed by Radcliffe. The Muslim League trusted that while outlining the outskirts, Radcliffe neglected to give equity. In the Punjab, utilizing "alternate

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<sup>158</sup> After the first Anglo-Sikh war, Maharaja Dalip Singh was compelled to cede a part of his territory which had earlier formed part of his empire. Article III of First Treaty of Lahore said, "Maharaja cedes to the Hon'able Company in perpetual sovereignty, all his forts, territories and rights in the Doab or Country, bill and plain, situated between the rivers Beas and Sutlej. Gorrie, R.M. Countering dessication in the Punjab, *Geographical Review*, 1948, pp. 30-40.

<sup>159</sup> Boundary Commission, consultative committee created in July 1947 to recommend how the Punjab and Bengal regions of the Indian subcontinent were to be divided between India and Pakistan shortly before each was to become independent from Britain. The commission appointed by Lord Mountbatten, the last viceroy of British India consisted of four members from the Indian National Congress and four from the Muslim League and was chaired by Sir Cyril Radcliffe. Arbitral Tribunal to deal with matters arising out of the Partition of India. File No. LCO 2/3234, The National Archives (TNA), United Kingdom (UK), 1947 see also Arrangements for broadcasts by the Prime Minister and the Viceroy announcing the Transfer of Power, File No. PREM 8/551, TNA, UK, 1947 see also Report by Lord Mountbatten on his Viceroyalty of India, File No. DO 142/364, TNA, UK, 1947-1949 and Plan for Transfer of Power in India Announcement in Parliament 3.30 pm 3 June 1947, File No. IOR: L/I/1/768, The British Library, United Kingdom, 1947, pp. 1.

components" as an avocation, the Award gave huge region with Muslim greater parts toward the East of the stream Ravi to India.

The tehsils<sup>160</sup> of Gurdaspur and Batala in the locale of Gurdaspur with a Muslim dominant part of 52.1 percent and 55.06 percent individually were put in India. The same happened to the Muslim-larger part tehsils of Jullundur with 51.1 percent Muslim populace and Nakodar with 59.2 percent Muslim populace, in Jullundur District. The tehsils of Zira with 65.2 percent Muslim populace and Ferozpur with 55.2 percent Muslim populace were given toward the East Punjab on the request that the ruling for Pakistan would exasperate interchanges. Pathankot tehsil and the rich Muslim modern town of Batala were given to India. Indeed, even a piece of Lahore locale was severed as Radcliffe chosen to attract a town to town limit. Muslim dominant tehsil of Ajnala in Amritsar District with 59.4 percent Muslim's share was additionally joined with India.<sup>161</sup> In actual, not a solitary Hindu greater part tehsil in the Punjab was granted to Pakistan.

The geo-political and geo-financial segments of the Indus waters conflict can be assembled in sets as takes after: relative territories and riparian cases, the unnatural interlaced case of political cutoff points and surface features for agriculture and water openness, ecological change and water supply, people thickness and cases of settlement for the land utilize and inside weights and outside relations of the social

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<sup>160</sup> A tehsil (otherwise called a taluk, taluq or taluka) is a managerial division in a few nations of South Asia. It is a territory of land with a city or town that fills in as its authoritative focus, with conceivable extra towns, and ordinarily various towns. The terms in India have supplanted before land terms, for example, pargana, pergunnah and thannah, utilized under Delhi Sultanate and the British Raj, Sinha R, *Transboundary Disputes: Two Neighbours and a Treaty*, Journal of Economic and Political Weekly, 2006, pp. 209.

<sup>161</sup> –Boundary Award”, *The Pakistan Times*, 19 August 1947, pp. 2.



occasions.<sup>162</sup> In the midst of the early long stretches of the Indus waters question, from 1947-51, these segments ceaselessly expected a section in hardship age, while later, from 1952-60, a segment of these parts in like manner contributed towards battle change in the end provoking a settlement. Most particular among those was the changing family unit political and money related condition and nature of external relations. Each one of these components is related with the fiscal and security interests of the riparian are restricted in the control of the Kashmir area. The relative conflict capacity of these components in delivering a between state contradiction about the control of the Indus streams system has been overviewed by using the join connection methodology. The request whether the points of confinement in the Indus bowl were drawn in light of the region of water resource get to or not is in like manner oversaw in detail.<sup>163</sup>



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<sup>162</sup> Parliamentary Debates (HANSARD), House of Lords, Official Report (Unrevised), Volume 142 No. 118, Thursday, 18<sup>th</sup> July, 1946, pp. 582.

<sup>163</sup> Political Situation in India, File No. CAB 21/2042 TNA, UK, 1945-1946, pp. 1.

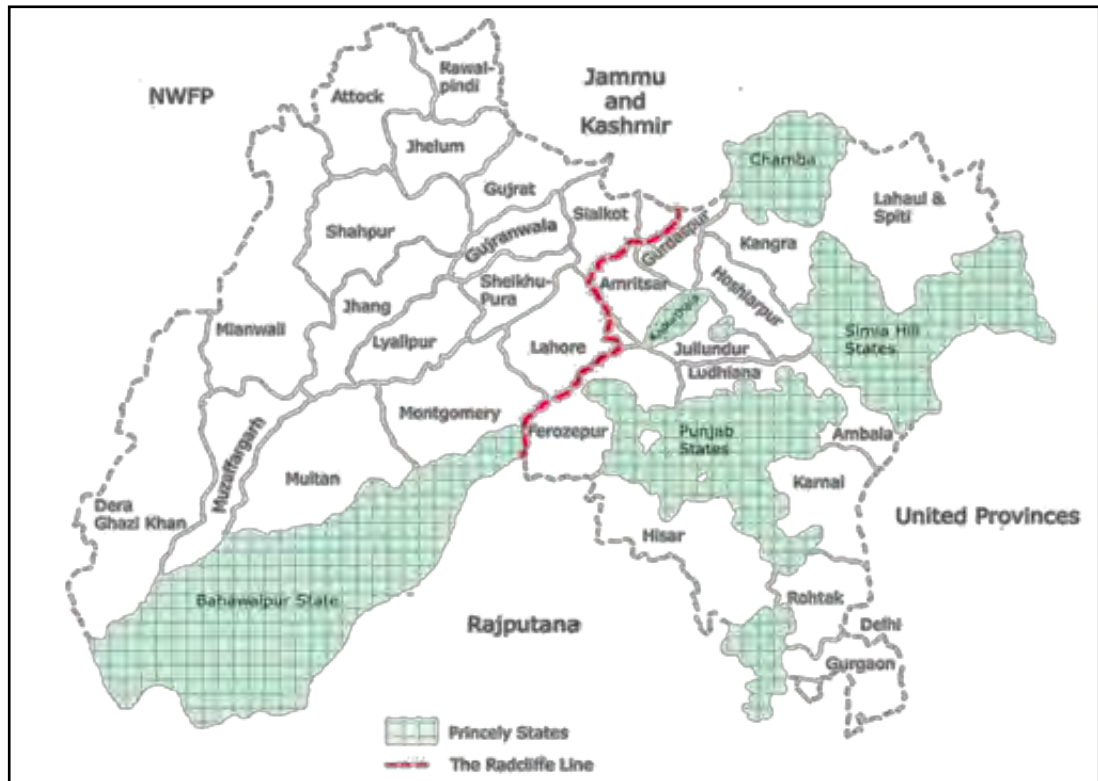


Figure 2.4. Map of Partition of Punjab

Source:- Chatta, Ilyas Ahmad, *Partition and its Aftermath: Violence, Migration and the Role of Refugees in the Socio-Economic Development of Gujranwala and Sialkot Cities, 1947-196*, Doctoral dissertation, University of Southampton, 2009, pp. xv.

## 2.7 Geopolitical Importance of Indus Basin With Reference to Kashmir Issue

The Indus System of Rivers consist of the main river Indus, five tributaries from the East-the Jhelum, the Chenab, the Ravi, the Sutlej and the Beas-and a few tributaries from the West. The main river Indus arises in Tibet and after flowing through Kashmir, it enters Pakistan tribal territory.<sup>164</sup> Indus originated from Kashmir and there is a complete system of rivers: Sutlej, Beas, Ravi, Chenab, Jhelum and Indus are flowing down to Arabian Sea. International Boundaries along with Barrage under construction canal headwork's, storage Basin, retention dams as well as suggested sites and some irrigation canal built since partition either under construction or fully built are mentioned in the map.

<sup>164</sup> Indus River System and Its Tributaries, DO 35/6648, TNA, UK,1952-1953, pp. 1-4.

The valley of the river in its upper part is separated from the rest of Kashmir by very high mountains. The river Jhelum rises in Kashmir and enters Pakistan long before it emerges from the hills. The waters of these two rivers, which carry about two-third of the total flow of the entire Indus system, thus enters Pakistan as any large extraction of water is not possible from these resources.<sup>165</sup> The river Chenab rises in Punjab (India) and, after flowing through Himachal Pradesh<sup>166</sup> and the Jammu Provinces of Kashmir, enters Pakistan soon after it emerges from the Himalayas.<sup>167</sup> Apart from two minor canals in Jammu, the entire waters of this river flow at present into Pakistan. The rivers Ravi and Sutlej pass at first through India and then through Pakistan; the river Beas lies wholly within India.<sup>168</sup> No major canal exists on the Beas, but on the Ravi and Sutlej there are canals both in India and Pakistan. The western tributaries of the Indus lie in Afghanistan and Pakistan.<sup>169</sup>

An elaborated canal system has been developed from the Indus System of Rivers and each of the political units mentioned above receives some irrigation supplies from it. Some of the earlier canals were constructed either alongside the rivers, or to protect

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<sup>165</sup> –Pakistan’s Canal Water Allegation”, *India News* 4 April 1953 see also Facts about Canal Water Dispute, DO 35/6648, TNA, UK, 1952-1953, pp. 6.

<sup>166</sup> Himachal Pradesh is a northern Indian state in the Himalayas. It is home to grand mountain towns and resorts, for example, Dalhousie. Host to the Dalai Lama, Himachal Pradesh has a solid Tibetan nearness. This is reflected in its Buddhist sanctuaries and religious communities, just as its dynamic Tibetan New Year festivities. The locale is additionally outstanding for its trekking, climbing and skiing zones. <https://himachal.nic.in/index.html> retrieved on 19 January 2019.

<sup>167</sup> The Himalayas, or Himalaya, structure a mountain extend in Asia, isolating the fields of the Indian subcontinent from the Tibetan Plateau. The Himalayan range has huge numbers of the Earth's most elevated pinnacles, including the most noteworthy, Mount Everest <http://www.pbs.org/wnet/nature/the-himalayas-himalayas-facts/6341/> retrieved on 19 January 2019. See also Berreman, Gerald Duane. *Hindus of the Himalayas*. University of California Press, 1963, pp. 32.

<sup>168</sup> Indus Basin Project, FCO 11/54, TNA, UK, 1967, pp. 3.

<sup>169</sup> Indus River System and Its Tributaries, DO 35/6648, TNA, UK, 1952-1953, pp. 2.

the then existing part of the Punjab; but during the 70 years preceding partition the emphasis was on scheme of irrigation which could irrigate waste lands belonging to the Crown, so that the British Government could earn revenues not only from water-rates, but also additional income from the sale of Crown lands. Most of these lands lay in the areas which are now in Pakistan and this is the reason why the bulk of the irrigation canals now lie in Pakistan.<sup>170</sup>

India claimed an exclusive right to the use of the water of any river passing through her territory; she only allowed its use by Pakistan at an extortionate price and until she could arrange to use the whole of it herself. Leaving aside the question of the control of Kashmir, the rivers concerned, for the area under consideration are the Sutlej, Beas, Ravi and Chenab, all of which contribute water for irrigation.<sup>171</sup> When the snows melt at the beginning of summer the volume of water in these as well as other rivers of the Indus system become self-sufficient for all existing irrigation channels in both Punjab (India and Pakistan) and Sind and when the monsoon<sup>172</sup> flood water is added large quantities are left to run to waste in the Arabian Sea. In the winter supplies from the high hills dry up and the water can only be made sufficient for irrigation by heading it up at barrages thrown across the rivers at head-works no water is left for canals without barrages (inundation) and even for some which have them (e.g. the Dipalpur Canal). The only way to increase the winter supplies, which

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<sup>170</sup> –Pakistan's canal water allegation", *India News* 4 April 1953 see also Facts about Canal Water Dispute, DO 35/6648, TNA, UK, 1952-1953, pp. 6.

<sup>171</sup> Punjab Canal Dispute, Supplementary note and Summary, DO 142/231, TNA, UK, 1948-1950, pp. 2.

<sup>172</sup> Monsoon is traditionally defined as a seasonal reversing wind accompanied by corresponding changes in precipitation, but is now used to describe seasonal changes in atmospheric circulation and precipitation associated with the asymmetric heating of land and sea. See also Auffhammer, Maximilian, Veerabhadran Ramanathan, and Jeffrey R. Vincent. "Climate Change, the Monsoon, and Rice Yield in India." *Climatic Change*, 2012, pp. 411-424.

nourish the important wheat crops are to store some of the summer flood water behind dams in the hills and make it available in the winter.<sup>173</sup>

In general therefore, adequate summer water supplies should be available to Pakistan regardless of India's control of the upper head works on these rivers even the Bhakra dam increased in height though Mr. Foy said that it was assumed to be at that time, would hold back only a fraction of the surplus and the Indian canals could not take significantly more than their planned maximum. For summer agriculture however it was of prime importance that supplies should come at the proper sowing season which was in April and May normally before the full summer spate this assured supply therefore will most often come too late for a full crop and indeed for any sowings of cotton to be possible.<sup>174</sup>

The winter waters of the Sutlej River were entirely absorbed by the Sirhind Canal,<sup>175</sup> the canal systems lower down the river being fed by the waters of the Beas which entered it at Harike in India. It is therefore the Indian control of the Beas which hit Pakistan. It is relatively simple for India to make full and absolute control by constructing a barrage at Harike and using the Beas winter waters for a canal which would cross the Sirhind Canal system and irrigate the large area on the borders of the East Punjab and Bikaner now proposed to be irrigated by the Bhakra-Nangal

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<sup>173</sup> Facts about Canal water dispute, Indus River waters dispute and danger of war between India and Pakistan, DO 35/6648, TNA, UK, 1952-1953, pp. 3.

<sup>174</sup> Punjab Canal Dispute, Supplementary note and Summary, DO 142/231, TNA, UK, 1948-1950, pp. 2.

<sup>175</sup> The Sirhind Canal is a huge water system trench that conveys water from the Sutlej River in Punjab state, India. It is one of the most seasoned and greatest water system works in the Indus waterway framework, and was initiated in 1882. Buck, Cecil Henry. "Canal irrigation in the Punjab." *The Geographical Journal* 27.1 (1906). pp. 60-67.

Canal<sup>176</sup> from the Sutlej, which could in that event be re-planned to give extra water to the Western Jumna system and to the district of Gurgaon south of Delhi. This Harike scheme,<sup>177</sup> Mr. Foy thought, would take two to three years from the time equipment was available and if the Bhakra dam was to be raised and its completion thus delayed he thought India may well be intending to put this scheme into effect immediately' further it would be financially a most profitable operation. For Pakistan it would result a complete stoppage of winter supplies to the Pakpattan,<sup>178</sup> Mailsi<sup>179</sup> and Bahawalpur Sutlej Canals with no possible remedy.<sup>180</sup> As the table 2.1 below describes all the statistical figures that ensure the flows of water at various seasons on different rim stations in Million Acre Feet by early developmental projects on Indus Basin.



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<sup>176</sup> The Bhakra primary line is a trench that for the most part supplies water system water to the province of Haryana. Bhakra Dam is a solid gravity dam on the Sutlej River in Bilaspur, Himachal Pradesh. In any case, at times both the dams together are called Bhakra-Nangal Dam however they are two separate dams Sakthivadivel, Ramaswamy, et al. *Performance evaluation of the Bhakra irrigation system, India, using remote sensing and GIS techniques*. Vol. 28. IWMI, 1999, pp. 11.

<sup>177</sup> *Harike* Wetland also known as "*Hari-ke-Pattan*", with the *Harike* Lake in the deeper part of it, the *Harike* Wetland Conservation Mission to prepare a *Master Plan* for the integrated conservation and development of the *Harike* wetland Sinha, Ram Nandan Prasad, ed, *Geography and Rural Development*, Concept Publishing Company, 1992, pp. 178.

<sup>178</sup> Pakpattan, often referred to as Pakpattan Sharif, is the capital city of the Pakpattan District, located in central Punjab province in Pakistan. Canal, Dipalpur. "Upper Pakpattan Canal (U. Pakpn)." *Lower Pakpattan Canal (L. Pakpn), Haveli Internal*, pp. 23.

<sup>179</sup> Mailsi, is a city located Punjab, Pakistan. The city of Mailsi is the headquarters of its namesake Mailsi Tehsil, an administrative subdivision of the Vehari District. Abbas, S., et al. "Physicochemical and chemical quality of Mailsi City groundwater." 2014, pp. 131.

<sup>180</sup> Development of the Indus River System (An Engineering Approach) by A.N Khosla, Indian Council of World affairs, New Delhi see also International Bank Negotiations on Indus waters, DO 35/8588, TNA, UK, 1958-1959, pp. 2.

Table 2.1

*Mean volume of flow at rim Stations in million acre-feet*

<b>River</b>	<b>Winter (Oct-Mar.)</b>	<b>Early Kharif (Apr. Jun.)</b>	<b>Monsoon (July-Sept)</b>	<b>Annual</b>
Indus	12.9	27.9	48.7	89.5
Jhelum	4.5	9.9	8.2	22.6
Chenab	3.7	6.7	13.1	23.5
Ravi	1.2	1.9	3.3	6.4
Beas	2.4	1.9	8.5	12.8
Sutlej	2.0	3.2	8.4	13.6
<b>Total</b>	<b>26.7</b>	<b>51.5</b>	<b>90.2</b>	<b>168.4</b>

Source: DO 35/8588, TNA, UK, 1958-1959, pp. 2.

The winter waters of the Ravi were entirely absorbed by the Upper Bari Doab, the Pakistan portion of which (now known as Central Bari Doab), could be left dry at any time, as had already once happened the water for the Lower Bari Doab (in Pakistan) did not come from the Ravi but from the Chenab via the Upper Chenab Canal which discharges into the Ravi just above the Lower Bari Doab barrage at Balloki.<sup>181</sup> The upper reaches of the Chenab itself however were in Indian territory in the mountains of Chamba State,<sup>182</sup> and it was possible (had in fact been seriously proposed in pre-partition days) to drive a four-mile tunnel through the mountains and discharge its water into the upper supplies of the Ravi. So much of this extra water as was not needed for the Upper Bari Doab Canal could quite simply be fed into the Beas

<sup>181</sup> *Balloki Headworks* is a headworks on the River Ravi in the Punjab province of Pakistan [http://www.wikiwand.com/en/Balloki\\_Headworks](http://www.wikiwand.com/en/Balloki_Headworks) retrieved on 19 January 2019.

<sup>182</sup> Chamba is a town in the Chamba district in the state of Himachal Pradesh, in northern India. According to the 2001 Indian census the town is situated on the banks of the Ravi River, at its confluence with the Sal River. Goetz, Hermann. *The Early Wooden Temples of Chamba*. No. 1. Brill Archive, 1955, pp. 122.

through a channel leading from the Harike scheme which would take eight to ten years from commencement and could definitely be completed.<sup>183</sup>

The result for Pakistan would be a serious diminution of winter water in the West Punjab Chenab; this would mean a serious cut in the winter water for the Lower Bari Doab from the Upper Chenab Canal and in the vast area served by the Lower Chenab Canal which received water both from the Chenab and through the Upper Jhelum Canal, from the Jhelum.<sup>184</sup>

Scenarios after partition widely emphasized on how West Pakistan was totally dependent on Indus Rivers for irrigation. Without the rivers this arid area which was earlier a barren land in British rule would revert again to desert. In absence of well managed and organized Indus water sharing system, one of the world's massive food granaries and most intensively irrigated area in the world would dry up and millions starve to death. Farms alone did not depend on irrigation; as a versatile city as Lahore depends for its drinking water on a canal. India was unlikely to overlook a weapon of such potentiality. According to Lilienthal (Head of the Seven-State Tennessee Valley Authority and one-time Chairman of the Atomic Energy Commission who toured the Indian subcontinent in 1951) the use of force with bombs and shellfire could not devastate a land as thoroughly as Pakistan could be

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<sup>183</sup> The Indus River System Dispute, Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for financing irrigation and hydro-electric works, DO 35/2698, TNA, UK, 1951-1952, pp. 3.

<sup>184</sup> Punjab Canal Dispute, Supplementary note and Summary, DO 142/231, TNA, UK, 1948-1950, pp. 4.



devastated by the simple expedient of India's permanently shutting off the sources of water that keep the fields and the people of Pakistan alive.<sup>185</sup>

The Jammu and Kashmir<sup>186</sup> was of prime significance concerning horticulture as about every one of the waterways discover their source from this state. Its aggregate territory was 84,471 square miles. It was the greatest province of India. It was deliberately an imperative state as its universal limits were with Tibet, Russia and Afghanistan. As indicated by the 1941 statistics, the aggregate populace of the state was around 4 million with 77 percent Muslims. The Muslims delighted in greater part in each area of the state. Of the aggregate populace, Muslims constituted 61 percent in Jammu area; 93 percent in the Kashmir territory; and about 100 percent in the Gilgit.<sup>187</sup> In April 20, 1948, the Commander in Chief of Pakistan Army<sup>188</sup> stated:

It is obvious that a general offensive is about to start very soon now.  
If Pakistan is not to face another serious refugee problem with about

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<sup>185</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office (CRO) London, DO 35/6648, TNA, UK, 1952-1953, pp. 1-2.

<sup>186</sup> Jammu and Kashmir is the northernmost territory of India, the majority of which are situated in the Himalayas . Jammu and Kashmir are circumscribed by the conditions of Himachal Pradesh and Punjab, India toward the south, Pakistan toward the west and to the People's Republic of China in the upper east and east. Jammu and Kashmir are frequently known as "Indian involved Kashmir" and is a questioned area among India and Pakistan. Gupta, Jyoti Bhusan Das. *Jammu and Kashmir*. Springer, 2012, pp. 21.

<sup>187</sup> Gilgit referred to locally as Gileet, is the capital city of the Gilgit-Baltistan district, a managerial domain of Pakistan. The city is situated in a wide valley close to the confluence of the Gilgit River and Hunza River. Gilgit is a noteworthy visitor goal in northern Pakistan, and fills in as a center for mountaineering undertakings in the Karakoram Range. Iqbal, Zafar, "Conflict, Constitutional And Developmental News In Print: How Does The Press In Gilgit-Baltistan Treat Them?," *Advisory Editorial Board*, 2011, pp. 76.

<sup>188</sup> General Sir Frank Walter Messervy (1893-1974) was a British Indian Army officer in the First and Second World Wars. Following its freedom, he was the primary Commander-in-Chief of the Pakistan Army (15 August 1947-10 February 1948) Previously, he had filled in as General Officer Commanding in Chief Northern Command, India in 1946 and 1947. Mohammad D, Bhat Problems of Power Sector Development. In Shri Prakash and G.M. Shah, eds., *Towards Understanding the Kashmir Crisis*, Delhi, 2002, pp. 175.

275,000 people uprooted from their homes, if India is not to be allowed to sit on the doorsteps of Pakistan to the rear and on the flank at liberty to enter at its will and pleasure; if the civilian and military morale is not to be affected at dangerous extent; and if subversive political forces are not to be encouraged and let loose within Pakistan itself, it is imperative that the Indian Army is not allowed to advance beyond the general line of Uri-Poonch Naoshera”.<sup>189</sup>

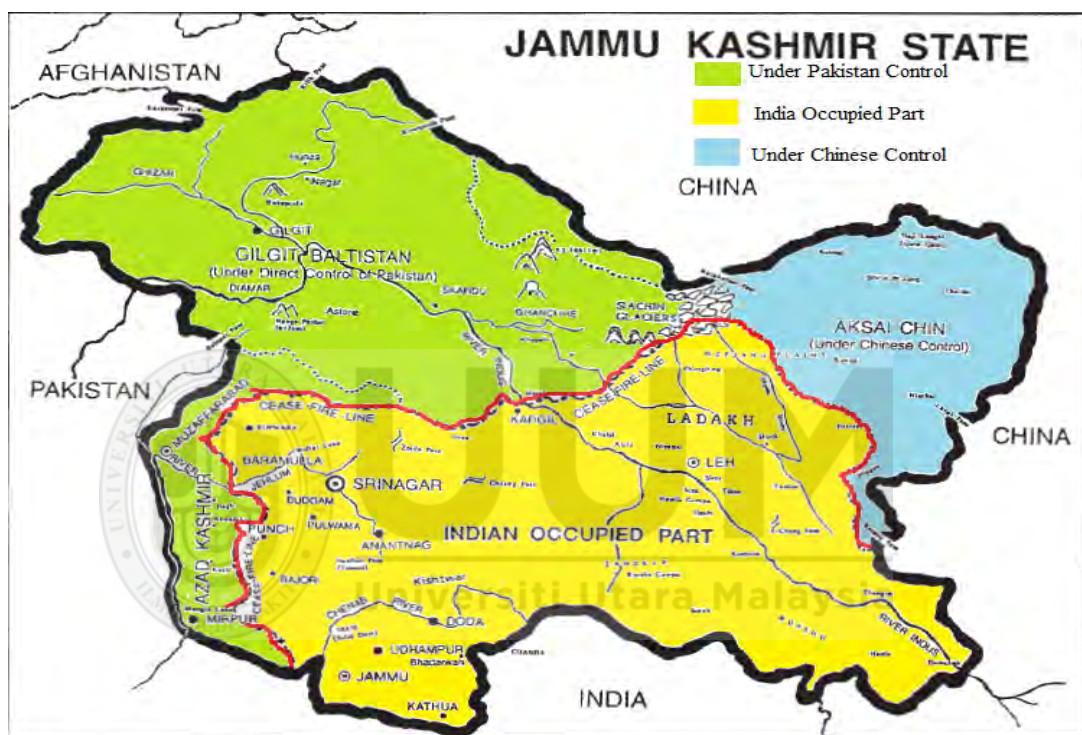


Figure 2.5. Map of Kashmir

Source :- Schofield, Victoria, *Kashmir in Conflict: India, Pakistan and the Unending War*, London: IB Tauris, 2000, pp. 161.

Like Bengal, the partition of Punjab was totally unfair. The Radcliffe Award entitled various Muslim greater part coterminous zones to India; however it didn't entitle even a solitary Non-Muslim larger part region to Pakistan. The aggregate populace of Gurdaspur was 328,819 where Muslims constituted 52.16% while the aggregate populace of Tehsil Batala was 830,053 where Muslims constituted 55.07% were

<sup>189</sup> Ali, Chaudhri Muhammad, *The Emergence of Pakistan*, New York: Columbia University Press, 1967, pp. 305.

additionally made piece of India alongside Pathankot Tehsil to make a linkage amongst India and the Muslim larger part territory of Jammu and Kashmir.<sup>190</sup>

In the event that these territories had not been given to India, the Kashmir issue couldn't have emitted from the earliest starting point. At partition a welcome for promotion has additionally been sent to the Kashmir to join the Indian Union, yet, as it lies outside its limits, no unique pressure has been laid.<sup>191</sup> Alastair Lamb<sup>192</sup> in his book *–Kashmir a disputed legacy*” wrote: *–The Kashmir issue existed between the congress and the British since 1947 in which Quaid-i-Azam and the Muslim League were kept away and it was resolved at that time to make the Kashmir a part of India.”* The Muslim majority Tehsils like Ajnala, Nakodar and Jullundur, Zira and Ferozepore of the Amritsar district, the Jullundur district and Ferozepore district were entitled to India. The partiality in the partition of Punjab is crystal clear as many Muslim majority areas were assigned to India that was contiguous to West Punjab.<sup>193</sup>

The majority of Kashmir’s population was Muslim but its Hindu ruler at the time of independence announced its accession to India. Pakistan contests that accession, used force to undo it and demanded the implementation of United Nations resolutions

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<sup>190</sup> Trkkaya, Atay, *Kashmir and Neighbours: Tale, Terror, Truce: Tale, Terror, Truce*. Routledge, 2017, pp. 105.

<sup>191</sup> *–Kashmir*”, *Civil & Military Gazette*, 18 July 1947, pp. 1.

<sup>192</sup> Alastair Lamb is a conciliatory student of history who has wrote a few books on Sino-Indian fringe debate and the Indo-Pakistani disagreement about Kashmir. Lamb, Alastair, *Kashmir: A Disputed Legacy, 1846-1990*, Oxford University Press, 1991, pp. 15.

<sup>193</sup> Interview with Sara Ansari, Royal Holloway, University of London, United Kingdom, 10 July 2018 see also Pavri, Tinaz, *–Shall We Talk? Communications during Crises in the India–Pakistan Conflict*,” *The Round Table*, 2009, pp. 473-481.

calling for a plebiscite to determine the wishes of Kashmiri people.<sup>194</sup> Pakistan assumes that a plebiscite will result in a vote in its favor, based on the logic of partition that led to all contiguous Muslim-majority provinces and princely states under British rule or paramount in India to form Pakistan in 1947. India insisted that Kashmir's accession was not only a settled matter, unaffected by "out-dated and redundant" UN resolutions, it was also crucial for a secular India to include a Muslim-majority state. For Pakistan giving up Kashmir meant to deny the ideological basis of partition. Affirming that ideological basis remains important for Pakistan's leaders more than five decades after partition because, in the absence of democracy, ideology served as their major defense against ethnic or language-based sub nationalism. For India, conceding Kashmir amounts to reaffirming religious-based nationalism, which Indian leaders opposed even when they recognized Pakistan's independence.<sup>195</sup>

Lord Birdwood,<sup>196</sup> an officer of the Indian army with great experience, expressed the view that "it was Radcliffe's Award to India of the Gurdaspur and Batala Tehsils with Muslim majorities which rendered possible the maintenance of an Indian force at Jammu based on Pathan kot as railhead and which enabled India to consolidate her defense southwards all the way from Uri to Pakistan border."<sup>197</sup> It was also an

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<sup>194</sup> Haqqani, Husain, "Pakistan's Endgame in Kashmir", *India Review*, 2003, pp. 35.

<sup>195</sup> Ali, Rabia Umar, "Planning for the Partition of India 1947: A Scuttled Affair," *Pakistan Journal of History and Culture*, 2009, pp. 113-130.

<sup>196</sup> William Riddell Birdwood (1865-1951) was Field Marshal in the British Indian Army posted to the 12th Lancers in India, transferring in 1887 to the 11th Bengal Lancers, Hewitt, K, Natural dams and outburst floods in the Karokorum Himalaya, *Hydrological Science Journal*, 1982, pp. 266-267.

<sup>197</sup> Birdwood, L. *Two Nation and Kashmir*. London: Robert Hale, 1956, pp. 156.

opinion that Hari Singh,<sup>198</sup> Maharaja of Jammu and Kashmir found it very difficult to protect himself against the pressure of the Congress unless at the right moment he decided to join one or other of the Constituent Assemblies.<sup>199</sup>

It was not for him to suggest which constituent assembly they should join, but clearly Kashmiris should work this out for themselves on the basis of the best advantage and in consideration of the factor of geography and the probable attitude of the Congress and the Muslims League with respect to Kashmir. Pandit Nehru drew a strongly adamant behavior about Kashmir.<sup>200</sup> The Radcliffe Award laid down in a fine vague way that these headworks should be within Pakistan; and so they were but the boundary was so drawn as to leave most of the "bunds" on which the headworks depended in India, or else actually on the repair work.<sup>201</sup> This was the terrible mischief in the history of Indian subcontinent that laid the foundation of a severe water conflict based on the geo-political conditions of resource hungry India and Pakistan. Both are agricultural countries and needed water to meet their daring newly built economies. Thus a new imbalance of power in the South Asia appeared with the

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<sup>198</sup> Maharaja Hari Singh (1895-1961) was the last managing Maharaja of the regal territory of Jammu and Kashmir in India. In 1947, after India picked up autonomy from British principle, Jammu and Kashmir could have joined India, joined Pakistan, or stayed autonomous. Wescoat Jr. James L., Sarah J. Halvorson, and Daanish Mustafa. "Water management in the Indus basin of Pakistan: a half-century perspective." *International Journal of Water Resources Development*, 2000, pp. 91-96.

<sup>199</sup> Earl Mountbatten views on Kashmir, File No. DO 196/425, TNA, UK, 1964 see also Note of conversation between H.E and Pandit Kat, Prime Minister of Kashmir, File No. R/1/3/137, The British Library, United Kingdom, 1947, pp. 2.

<sup>200</sup> Letter No. 436 (secret) from South Asia department to U.K High Commission in India etc. File No. CAB 21/3375, Relations between India and Pakistan: proposed Commonwealth Conference at Colombo, TNA, UK, 1952, pp. 1.

<sup>201</sup> Letter No. 684 (secret) dated 16 September 1949 written to J.N Mckelvie, United Nation Trade Commissioner, New Delhi, West Punjab canals: proposals by Pakistan for lifting water from the River Ravi, File No 142/232, TNA, UK, 1948, pp. 2.

creation of India and Pakistan that rank a new political scenario of states. Let the conflict factor ranking appeared in Indus Basin visualized clearly.

## 2.8 The Indus Basin: Conflict Factor Ranking

The whole of Pakistan depends on the Indus and its tributaries as a civilized and populous state. The Indus mainly rises in Tibet,<sup>202</sup> and after flowing North West for some four hundred miles through desolate mountainous range, it turns southwards and flows to the sea near Karachi, over, 100 miles away. It receives as a tributary on the right bank, the Kabul River,<sup>203</sup> which rises in Afghanistan and traverses the North West Frontier Province before reaching the Indus. On the left bank the Punjab joins the Indus further exelling to South, bringing in the combined inflow of the five tributaries-Jhelum, Chenab, Ravi, Beas and Sutlej. These tributaries rise in the Himalayas.<sup>204</sup> The first two flow through Kashmir and enter west Punjab directly the last two rise in the Indian hill states and traverse East Punjab before entering West Punjab; the Ravi rises in Indian States and forms the boundary between Kashmir and

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<sup>202</sup> Tibet is a recorded locale covering a great part of the Tibetan Plateau in Inner Asia. It is the conventional country of the Tibetan individuals just as some other ethnic gatherings, for example, Monpa, Tamang, Qiang, Sherpa, and Lhoba people groups and is currently additionally possessed by significant quantities of Han Chinese and Hui individuals. Tibet is the most astounding area on Earth, with a normal height of 4,900 meters (16,000 ft). Altaf, A., Mir, Whittington, D., Haroon, J. & Smith, V.K, Rethinking rural water supply policy in the Punjab, Pakistan, *Water Resources Research*, 1993, pp. 943-954.

<sup>203</sup> The Kabul River is a 700-kilometer (430 mi) long stream that develops in Maidan Wardak Province in the Sanglakh Range of the Hindu Kush mountains in Afghanistan, and is isolated from the watershed of the Helmand River by the Unai Pass. The Kabul River exhausts into the Indus River close Attock, Pakistan. It is the principle waterway in eastern Afghanistan. M, *From Sanitation to Development: the Case of the Baldia Soakpit Pilot Project*, Technical Paper Series no. 31 (The Hague, IRC International Water and Sanitation Center), 1992, pp. 32.

<sup>204</sup> The Himalayas, or Himalaya, structure a mountain go in Asia, isolating the fields of the Indian subcontinent from the Tibetan Plateau. The Himalayan range has a significant number of the Earth's most elevated pinnacles, including the most elevated, Mount Everest <http://www.pbs.org/wnet/nature/the-himalayas-himalayas-facts/6341/> retrieved on 19 January 2019 see also Bandaragoda, D.J, *Design and Practice of Water Allocation Rules: Lessons from the Warabandi in Pakistan*, Report No. 17 (Columbo, IWMI), 1998, pp. 44.

East Punjab and between East and West Punjab before entering West Punjab territory. The undivided Punjab also received important irrigation from the Jumna tributary of the Ganges<sup>205</sup> residing in India.<sup>206</sup>

It is really difficult to convey the importance of this river system. The rivers have been almost completely utilized for irrigation during the winter (low flow) months and there are in addition important canals fed during the summer only from the higher discharges then available. One wet Punjab canal-the Lower Chenab irrigates an area larger than the entire irrigated area of Egypt. Finally it has been realized that Punjab could only develop further by storing the excess summer supplies by means of high dams in the Himalayas.<sup>207</sup>

Table 2.2

*Area watered by Canals*

Area	Acres
Undivided Punjab and States	24 Million Acres
Sindh and States	9 Million Acres
Frontier Province	½ Million Acres
<b>Total</b>	<b>33.1/2 million acres.</b>

Source:- File No. DO 142/232, TNA, UK, 1949, pp. 2.

<sup>205</sup> The Ganges, or Ganga is a trans-limit waterway of the Indian subcontinent which courses through the countries of India and Bangladesh. The 2,525 km (1,569 mi) waterway ascends in the western Himalayas in the Indian territory of Uttarakhand, and streams south and east through the Gangetic Plain of North India. In the wake of entering West Bengal, it separates into two streams: the Hooghly and the Padma River. <https://wwf.panda.org/our-work/water/freshwater-problems/river-decline/10-rivers-risk/ganges/> retrieved on 23 January 2019 see also Akhtar, W., Ali, I., Zaidi, S.S.H. & Jilani, S, Status of marine pollution levels of Karachi harbour and adjoining coastal water, *Water Air Soil Pollution*, 1997, pp. 99-107.

<sup>206</sup> Extract from Common wealth Relations office fortnightly summary of the situation in India and Pakistan No. 2 for the second half of June, 1948 (Secret), Note on the results of control by the Indian dominion on the waters of the Indus tributaries in Kashmir, West Punjab canals: proposals by Pakistan for lifting water from the River Ravi, File No DO 142/232, TNA, UK, 1949, pp. 2.

<sup>207</sup> Extract from Common wealth Relations office fortnightly summary of the situation in India and Pakistan No. 2 for the second half of June, 1948 (Secret), Note on the results of control by the Indian dominion on the waters of the Indus tributaries in Kashmir, West Punjab canals: proposals by Pakistan for lifting water from the River Ravi, File No DO 142/232, TNA, UK, 1949, pp. 2.

Apart from irrigation the system was capable of very great hydro-electric development. This was in its infancy and the only existing schemes were relatively small ones in the North West Frontier Province and at Mandi for the Punjab. But the process of real development had already initiated and some new projects for the East Punjab. The catchments of the five main left bank tributaries all located in the Indian hill states or in Kashmir. Kashmir contains most of the catchment of the Jhelum and Chenab and a large fraction of the Rave catchment.<sup>208</sup>

The dominion of India had already controlled the hill catchments of the Ravi, Beas, Sutlej and also over a sufficient length of those rivers in their course in the plains to enable it to cause very great hardship and disaster to West Pakistan and particularly to West Punjab and Bahawalpur.<sup>209</sup> Soon after partition at a conference in Delhi, India disclosed that she intended to divert as much as possible of those three rivers to her own territory and that it was only a matter of time before she did so. There was in fact, no engineering difficulty to stop them and such works as were necessary would be financially remunerative. There was no international law and little precedent to restrain India from undertaking this task of destruction. In point of time they could commence some additional abstraction and could complete the full useful abstraction in from there to five years. The Sutlej Valley canals were directly dependent on the

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<sup>208</sup> Extract from Common wealth Relations office fortnightly summary of the situation in India and Pakistan No. 2 for the second half of June, 1948 (Secret), Note on the results of control by the Indian dominion on the waters of the Indus tributaries in Kashmir, West Punjab canals: proposals by Pakistan for lifting water from the River Ravi, File No DO 142/232, TNA, UK, 1949, pp. 2.

<sup>209</sup> Bahawalpur, is a city located in the Punjab province of Pakistan. Bahawalpur is the 11th largest city in Pakistan, Gazetteer of the Bahawalpur, File No. OIH 915.45, The British Library, United Kingdom, 1897, pp. 100.



flows from the Beas, Sutlej and irrigate over the million acres in West Punjab and three million acres in Bahawalpur State.<sup>210</sup>

Apart from these canals, which would be almost totally destroyed, the adverse effects would be felt all the way down the river into Sindh. The Indus Commission, which reported to the Government of India in 1942, found that the Sind canals would be adversely affected by the Bhakra storage project alone and this abstraction will be far more severe. The destruction of the Sutlej valley canals can be prevented to some extent by expensive measures of diversion from the Chenab and Jehlum, but if these rivers were to be interfered with in Kashmir, such measures would not be worth undertaking. The loss on the Ravi would be one million acres.<sup>211</sup>

Hence the new order of Indian subcontinent had revealed that the partition was not the 'end of Muslim struggle' for achieving a homeland based on Islam rather that was a beginning of a new era. Balance of power had changed in a new demarcation of Asia and it had created a thirst of water. To gain the maximum advantages from water both India and Pakistan conquest each other. The tussle of resources between India and Pakistan after partitioning of India brought them at the edge of a water war that will be discussed later in wake of their deteriorated foreign policy shift towards each other. The following map shows the canal network in Punjab at the time of Partition in 1947.

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<sup>210</sup> Extract from Common wealth Relations office fortnightly summary of the situation in India and Pakistan No. 2 for the second half of June, 1948 (Secret), Note on the results of control by the Indian dominion on the waters of the Indus tributaries in Kashmir, West Punjab canals: proposals by Pakistan for lifting water from the River Ravi, File No. DO 142/231, TNA, UK, pp. 2

<sup>211</sup> Biswas, Asit K, "Major water problems facing the world," *International Journal of Water Resources Development*, 1983, pp. 1-14.

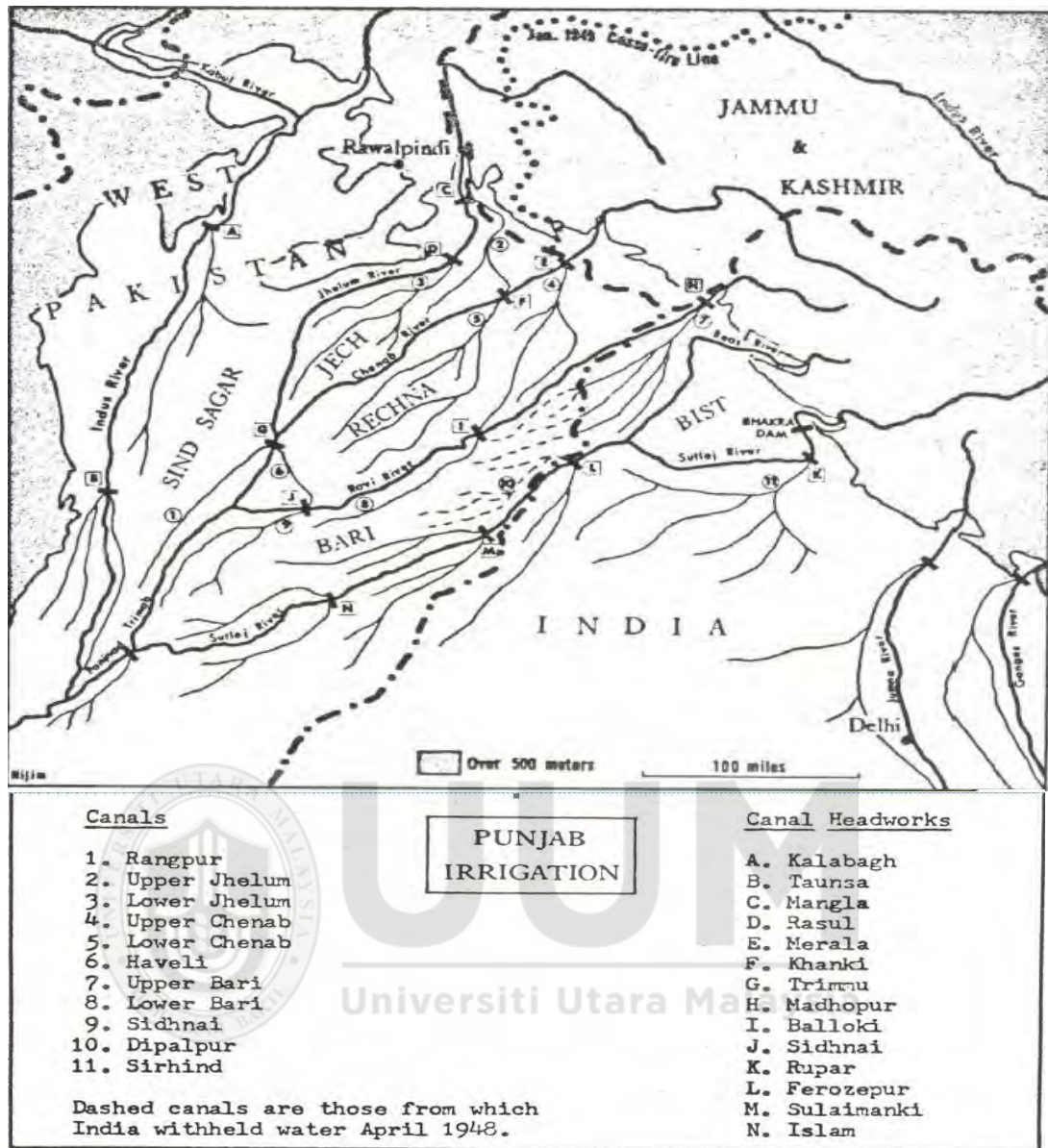


Figure 2.6. Canal Network in Punjab at the Time of Partition, 1947

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

## 2.9 Conclusion

Water has turned into an undeniably essential fixing in the improvement procedure of all nations. Not exclusively is protected drinking water basic for our prosperity, however water is additionally an essential imperative for assisting horticultural, modern and vitality related advancements. In view of existing investigations, four noteworthy water issues confronting the world today are recognized. These are the

arrangement of safe drinking water; water necessities for facilitate farming, hydroelectric and modern advancements; manageability of water improvement activities; and advancement of water assets shared by at least two states. Both the greatness and nature of the issue regions are talked about. Four noteworthy key contemplations, as they identify with the need territories recognized are sketched out. These incorporate thought of the multidimensionality of the issue; advancement of the proficient utilization of water; support of better administration of water assets frameworks; and use of research results to tackle genuine issues.

Taking into account the early traditional forms of irrigation for agricultural purposes in Indus Basin includes wells, canals, saailab and later perennial canal networks. rivers, streams, rainfall and groundwater are the main sources of water. According to the claims of Ghulati roughly about 4.73 million acres of land were being irrigated annually by wells. With the advent of time the modern methods like tube wells with mechanical or electrical prime movers in the field of agriculture have changed the conventional method vigorously. Different muslim rulers of India worked on the upgradation of Indus Water Basin they built water tanks , lakes and canals to promrote the irrigation system in India. The geo-political and geo-financial segments of the Indus waters conflict can be assembled in sets as takes after: relative territories and riparian cases, the unnatural interlaced case of political cutoff points and surface features for agriculture and water openness, ecological change and water supply, people thickness and cases of settlement for the land utilize and inside weights and outside relations of the social occasions.

Summing up, Pakistan is already threatened with the loss of six million acres owing to the control of India over the Ravi, Beas and Sutlej. Ameliorative measures for these areas will be worthless if the control of the Jhelum and Chenab passes to India via Kashmir. In addition, Pakistan would be threatened with an immediate direct loss of three million acres of irrigation and of her most promising hydro-electric scheme on which she has incurred heavy commitments. She would face further difficulties and danger in the days to come shortly. This is altogether apart from the barrier to development which the inclusion of Kashmir in India would cause to Pakistan.



## CHAPTER THREE

### POST PARTITION CONFLICT ARISE FROM INDUS WATER RESOURCES

#### 3.1 Introduction

Pakistan is an agricultural country, thus economy of West Pakistan is depended on Indus and its tributaries, the Jhelum, Chenab, Ravi, Beas and Sutlej. It is difficult by mere figures to convey the importance of this rivers system. The rivers have been almost completely utilized for irrigation during the winter (low flow) months and there are in addition important canals fed during the summer only from the higher discharge then available. The West Punjab canal along with Lower Chenab canals irrigates an area larger than the entire irrigated area of Egypt. Thus Punjab can only develop further by storing the excess summer supplies by means of high dams in the Himalayas. The low supplies utilized in total about fifty times the flood flow of the Thames at Teddington; normal summer utilization is five times greater. The canals of this system irrigate about thirty three million acres of which five million acres are now in the Indian Union. Out of this commanded area about twenty two million acres are cropped annually.

The Dominion of India had taken control over the hill catchments of the Ravi, Beas and Sutlej and also took excess water of these rivers in their course to enable India by diverting waters inside her territory to cause very great hardship and indeed disaster to West Pakistan and particularly to West Punjab and Bahawalpur State. At a conference in Delhi in May 1948 to discuss the allocation of water between India and Pakistan after the Government of East Punjab had for a time cut off supplies to certain canals inside Pakistan, India disclosed that she intended to use the waters of

these three rivers in her own territory and that it is only a matter of time before she does so. There is in fact no engineering difficulty to stop the Government of India doing this and such works as are necessary would be financially remunerative. The Sutlej Valley canals are directly dependent on the flows from the Beas, Sutlej and irrigate over two million acres in West Punjab and three million acres in Bahawalpur State. Apart from these canals which would be almost totally destroyed the adverse effects would be felt all the way down the river into Sind. Pakistan can prevent measures of diversion from the Chenab and Jhelum, but if these rivers also were to be interfered with in Kashmir such measures would not be worth undertaking. The loss on the Ravi would be one million acres.

To overcome the crises of water shortfall and to make a dispute settlement on permanent basis “Canal Water Talks” were initiated that insisted on “proprietary rights in the waters of the rivers in East Punjab lies wholly in the East Punjab Government”. Pakistan did not give acceptance to it and this initial meeting ended up without any outcome. Later the sets of negotiation committees and various suggestions keep on rolling between the two countries India and Pakistan. As initiated on 5 October 1949 in response to India’s communication a negotiation committee was setup for “exploring possibilities of a settlement of the dispute”. For whole decade different rounds of communication and bilateral discussions among India and Pakistan remained in process. This chapter will focus on the early problems faced by Pakistan to cope its irrigational needs. It further suggests that how the conflict arises between India and Pakistan due to vague description of various partition allotment areas on sharing of water resources. Suggestions and discussions to resolve the conflict on partition of land, water resources and their sharing will be

taken into account keeping in view the International water laws on upper and lower riparian rights.



Figure 3.1. Map of Kashmir and Indus Basin.

Source:- Indus Basin Dispute between India and Pakistan, File No. DO 121/222, The National Archives, United Kingdom, 1954, pp. 2.

Above map shows a clear picture of how Indus originated from Kashmir and there is a complete system of rivers: Sutlej, Beas, Ravi, Chenab, Jhelum and Indus are flowing down to Arabian Sea. International Boundaries along with Barrage under construction canal headwork's, storage Basin, retention dams as well as suggested sites and some irrigation canal built since partition either under construction or fully built are mentioned in the map.

### **3.2 Indus Basin Linkages: International Water Law**

Geography of a country is a key factor that vigorously changes the political strength of a state. Talking about the Indus water dispute the geography of both India and Pakistan mattered widely. In Indus Basin, water naturally flows downhill whereas the hills are located at north-east, where the mountains of Kashmir, Tibet and northern India give rise to the six major rivers of Indus variously. Thus the location of Pakistan lies downstream as the Kashmir which is still disputed was occupied by India. As long as there was a natural flow of water existed arguments about the sharing of waters of Indus River System did not exist. However the development of the arrangement of floods like construction of barrages and canals and trenches for the redirection and capacity storage of river water rendered water appropriation a component of new policy designs during British rule. Not surprisingly, these choices ended up quarrelsome because of the way that the advantages and expenses of every choice were conveyed uniquely.<sup>1</sup> Distribution of water was the root cause that led to the creation of active conflict. Where water is daring need, it turns into a troublesome factor in neighborhood economies and legislative issues. Furthermore, where society

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<sup>1</sup> Bengali, *The Politics of...*, pp. 161.



is isolated by ethnicity, position and class description, such disruptiveness can wind up hazardous.

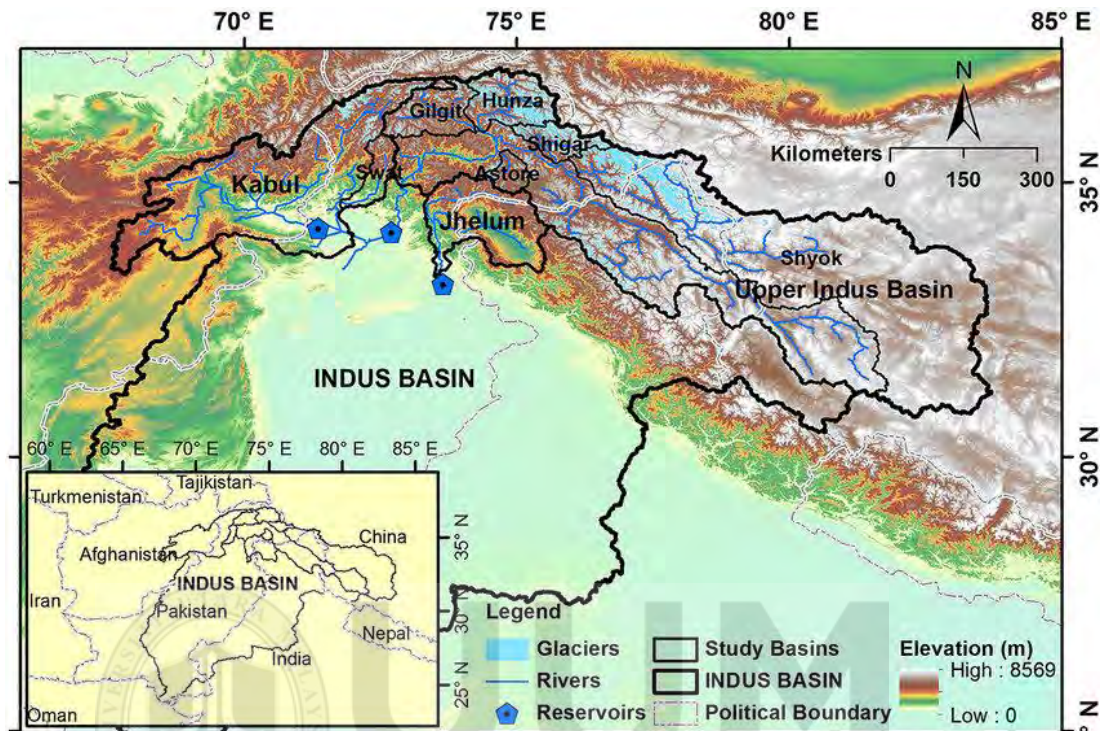


Figure 3.2. Map of Indus Basin

Source :- Fazal Akbar Committee Report Vol. I, Government of the Punjab, Irrigation Department, Lahore, 1947, pp. 9.

This map figures out that how upstream geographical position in Upper Indus Basin was utilized by upper riparian India and rest of water flows towards lower Indus Basin hence utilized by lower riparian Pakistan. India being upper riparian adopted the ideology termed as absolute sovereignty by water analysts. An ardent supporter of this law is United States of America. It is also known as the Harmon Doctrine<sup>2</sup>, which says that, A riparian (relating to or situated on the banks of a river) proprietor

<sup>2</sup> Based upon an opinion of Attorney General Judson Harmon issued by the end of 19th century (more than a 100 years ago), the doctrine holds that a country is absolutely sovereign over the portion of an international watercourse within its borders. Thus that country would be free to divert all of the water from an international watercourse, leaving none for downstream states. Mc Caffrey, Stephen C. "The Harmon Doctrine One Hundred Years Later: Buried, Not Praised." *Natural Resources Journal*, 1996, pp. 965-1007.

or occupier has an unhindered right to take and utilize the water of a river for ordinary domestic and local purposes, for example, drinking washing and for the need of its steers.<sup>3</sup> However, there is an ambiguous application of the law, in 1895, to resolve water conflict over Rio Grande River between United States and Mexico. A treaty was signed by US to allow a fixed flow of water to Mexico in 1903. However the treaty further stipulated that US itself never adhere to Mexican claim to water and it did not understand to maintain it as a general principal.

United States haven't applied this law in any of the treaties signed with its two neighbors one was Canada during 1909 and other was Mexico in 1944 on a water dispute settlement between shared lakes and rivers.<sup>4</sup> In a nutshell, the principle of Absolute Territorial Sovereignty claims that there is no specific international law on the subject. This principle has been criticized by a number of scholars and was described in 1931 by one jurist as "radically unsound".<sup>5</sup> For a valid interpretation of this law in the 1957 Arbitration Tribunal Lake Lanoux case<sup>6</sup> made a conclusion that "...according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every

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<sup>3</sup> Pevnick, Ryan. *Immigration and the Constraints of Justice: Between Open Borders and Absolute Sovereignty*. Cambridge University Press, 2011, pp. 59.

<sup>4</sup> Bevans, Charles Irving. *Treaties and Other International Agreements of the United States of America, 1776-1949: Multilateral, 1776-1917: 1776-1917*. Vol. 1. Department of State, 1968, pp. 139. see also Godana, Bonaya Adhi. *Africa's Shared Water Resources. Legal and Institutional Aspects of the Nile, Niger and Senegal River Systems*. Lynne Rienner Publishers, Inc., 1985, pp. 34-35.

<sup>5</sup> Smith, Herbert Arthur. *The Economic Uses of International Rivers*. No. 108. PS King & Son, 1931, pp. 8.

<sup>6</sup> Lake Lanoux is arranged in southern France close to the fringe of Spain. The lake is encouraged by a few streams that all start in France. Water streams out of the lake in a solitary stream that joins the Carol River before intersection into Spain. Laylin, John G., and Rinaldo L. Bianchi. "The Role of Adjudication in International River Disputes: The Lake Lanoux Case." *American Journal of International Law* 53.1 (1959), pp. 30-49.

satisfaction compatible with the pursuit of its own interests and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own".<sup>7</sup> Thus it is widely believed that the principle of absolute territorial sovereignty is no longer considered as a part of the law of international watercourses.<sup>8</sup> However India adopted this ideology that led upstream state to own wholly all the water that flows within its territorial parameters with full right of possession that added fuel to the dispute.

Pakistan being the lower riparian at a downstream position it adopted another rule termed as "territorial integrity". It sets up the right of a riparian state to request continuation of the normal progression of a worldwide waterway into its region from the upper riparian or riparian, however forces an obligation on such state not to limit such characteristic progression of waters to other lower riparian. At most, this rule endures just insignificant uses by an upstream state and in that regard it has likenesses with the customary law regulation of riparian rights.<sup>9</sup> In quintessence, this guideline is the definite inverse of the absolute sovereignty as it is proposed to support down-stream riparian, regularly by securing existing uses or earlier appointments. The guideline should secure lower riparian from any mischief or damage that might be brought about by the employments of the waters of the global stream by the upper riparian. This appears differently in relation to the rule of outright regional sway where the state, frequently the upper riparian is allowed to

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<sup>7</sup> Van Puymbroeck, Rudolf V., ed. *Conflict and Cooperation on South Asia's International Rivers: A Legal Perspective*. The World Bank, 2003, pp. 21.

<sup>8</sup> Subedi, Surva P. *International Watercourses Law for the 21<sup>st</sup> Century: The Case of the River Ganges Basin*. Routledge, 2016, pp. 361-367.

<sup>9</sup> Ludwik A. Teclaff, *Water Law in Historical Perspective* (Buffalo, New York: W. S. Hein, 1985), at 6-20 see also David H. Getches, *Water Law in a Nutshell*, 1997, pp. 15-55.

discard the water of the worldwide stream the manner in which it regards fit. For similar reasons that the standard of outright regional power was rejected-inability to consider the rights and interests of other riparian states-the guideline of outright regional trustworthiness couldn't be acknowledged as a piece of global water law.

The third guideline consolidates the rules of 'absolute territorial sovereignty' and 'territorial integrity'. It confines the two standards by stating that each riparian state has an option to utilize the waters of the worldwide waterway, yet is under a comparing obligation to guarantee that such use does not fundamentally harm different riparian. In quintessence, this rule builds up the privilege of each riparian state over the common stream. Probably the soonest case to which this rule can be followed is the Meuse Stream question among Holland and Belgium.<sup>10</sup> In other words, the riparian states are not allowed to make themselves a complete authority of the water by using directly or diverting it to serve their own personal needs, whether for purposes of navigation or for the purpose of irrigation.<sup>11</sup>

'The water system extensions or irrigational projects that were assembled first have more appropriate right to draw from, the waterway than the ones finished later'. This law is famous as the 'historic right'<sup>12</sup> or riparian. From the Government of India Act

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<sup>10</sup> Linderfalk, Ulf. *On the Interpretation of Treaties: the Modern International Law as Expressed in the 1969 Vienna Convention on the Law of Treaties*. Vol. 83. Springer Science & Business Media, 2007, pp. 14.

<sup>11</sup> Provost, René. *International Human Rights and Humanitarian Law*. Vol. 22. Cambridge University Press, 2002, pp. 191-199.

<sup>12</sup> The term "historic rights" is used here to mean title created in derogation of international law through historical processes by which one State has asserted a jurisdiction originally illegal. Boyle, Alan E., and David Freestone, eds. *International Law and Sustainable Development: Past Achievements and Future Challenges*. Oxford University Press, USA, 2001, pp. 105.

1935<sup>13</sup> Section 131 (6), the third right is excluded which perceives the rule that no territory or state can be given an altogether free submit regard of a typical wellspring of water, like an area within a state/ province river.<sup>14</sup> Limited territorial sovereignty<sup>15</sup> and integrity theory<sup>16</sup> is the guiding principal which advocates the privilege of each riparian country to use a universal conduit going through its limits so that its uses don't hurt the interests of other riparian states.<sup>17</sup> Fundamentally, this theory guarantees privileges of every single riparian country on typical common waterways. Reasonable and equitable utilization is the core idea of this doctrine.<sup>18</sup>

The foremost guideline has never been questioned however the second in regard to historic laws violated widely. The conflict on the sharing of water resources among India and Pakistan was marked on the grounds that in April 1948, India declined to discharge the recorded water right of about 1.7 MAF through Dipalpur Canal System, Central Bari Doab channels and Bahawalpur state tributary from Ferozpur

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<sup>13</sup> The Government of India Act, 1935 was passed by British Parliament in August 1935. With 321 segments and 10 plans, this was the longest demonstration gone by British Parliament up until now and was later part into two sections viz. Administration of India Act, 1935 and Government of Burma Act, 1935. The Government of India Act, 1935 got material from four key sources viz. Report of the Simon Commission, discourses at the Third Round Table Conference, the White Paper of 1933 and the reports of the Joint select boards of trustees. Keith, Arthur Berriedale. *A Constitutional History of India, 1600-1935*. Routledge, 2017, pp. 133-135.

<sup>14</sup> Bengali Kaisar, *The Politics of Managing Water*, Karachi: Oxford University Press, 2005, pp. 121.

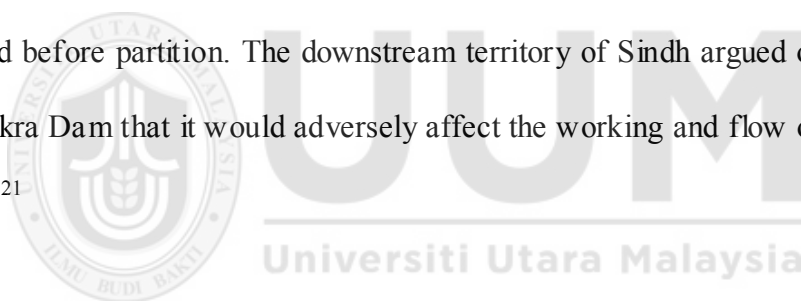
<sup>15</sup> As indicated by this regulation, a riparian State isn't permitted to use the water of a global waterway in a way which makes noteworthy damage the sensible usage by other riparian States. <https://www.unescwa.org/limited-territorial-sovereignty> retrieved on 19 January 2019.

<sup>16</sup> Kaptein, Muel, and Johan F. Wempe, "Three General Theories of Ethics and the Integrative Role of Integrity Theory", 2011, pp. 28.

<sup>17</sup> Some Methodological Considerations Concerning the Study on The Uses of The Waters of International Rivers, Indus Basin Dispute- International Law- Correspondence 01, Folder ID 1787921, The World Bank Group Archives, 1954-1958, pp. 4.

<sup>18</sup> Wolf, Aaron T. "Criteria for Equitable Allocations: the Heart of International Water Conflict." *Natural Resources Forum*. Vol. 23. No. 1. Oxford, UK: Blackwell Publishing Ltd, 1999, pp. 1.

and Madhupur headwork. The third and lastly stated principal that of equitable apportionment<sup>19</sup> with the assent of riparian states is the most hard to set up. The objective of fair dispersion cannot be accomplished without the assent of the every single riparian unit.<sup>20</sup> British engineers paved the latest architectural structure and design to excel water system extraordinarily through the development of head works on the rivers by making various canals on them. Thriving states and colonies were built up. Cultivation of wheat, cotton, sugarcane and rice was extended marvelously. New towns sprang into reality by construction. Plantations and all around tended horticultural homesteads throughout the countryside. Indus River inundate the most widely spread area as compared to any other river system in the world. Bhakra Dam (as mentioned in table 3.2) on the River Sutlej in the East Punjab was the only dam planned before partition. The downstream territory of Sindh argued on the operation of Bhakra Dam that it would adversely affect the working and flow of its inundation canals.<sup>21</sup>



In 1921 before the Sutlej Valley Project was endorsed, a worry was voiced by different units on the sufficiency of accessible supplies. Bahawalpur State challenged any provisions being given to Bikaner State (see table 3.2), as gave in the undertaking, on the ground that the provisions were inadequate notwithstanding for

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<sup>19</sup> Fair division is the water law convention that administers the U.S. Incomparable Court's designation of interstate waters (generally interstate waterways) between or among states. This exercise gives a survey of the evenhanded distribution precept for understudies who have considered this regulation in a Water Law, Advanced Property, or Natural Resources course. <https://www.cali.org/lesson/7935> retrieved on 19 January 2019.

<sup>20</sup> The Indus River System Dispute. Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for financing irrigation and hydro-electric works, DO 35/2698, TNA, UK, 1951-1952, pp. 2.

<sup>21</sup> Ali, C. M., *The Emergence of Pakistan*, Lahore: Research Society of Pakistan, University of the Punjab, 1973, pp. 317.

the necessities of the riparian regions of Punjab and Bahawalpur State. In the meantime, Punjab challenged the Sukkar Canal Project, which additionally was before the Government for endorse, as it felt that there would be insufficient for both Sukkar and Thal floods. Bombay territory, which than included Sindh, on its part challenged the Sutlej Valley Project since it expected that withdrawals for the undertaking would leave insufficient supplies for the barrage and canals of Sukkar.<sup>22</sup> Nearly from the beginning of the Sutlej Valley Project, it was obvious that provisions for its channels were insufficient. On the basis of average supplies provided over a specific period of years. These canals had been planned. Without plentiful capacity, normal supplies were not reliable. The unusable pinnacle of streams flowed unusable in peak seasons of year that twisted the image abruptly. The outcome was that the waterways, after development, endured by and large deficiencies down the middle of the year. After some years, they endured outrageous deficiencies amid early Kharif when supplies were most required, a circumstance which demonstrated unbearable.<sup>23</sup>

Various questions emerged about water sharing, after the World War I due to expansion in withdrawals of various supplies on rivers in various parts of the Indus Plains. It required the division of the river waterways among a few riparian's by the Government. However the water was not divided among various provinces according to their agricultural and irrigational needs rather it was shared among each other being parts of British India. The provinces with a wide influence on politics gained undue advantages of water consumption where as the rest were the sufferers of

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<sup>22</sup> Gulhati, N. D, *Indus Waters Treaty: An Exercise of International Mediation*. New Delhi: Allied Publishers, 1973, pp. 38.

<sup>23</sup> Khan, S. A, *Apportionment of Waters of Indus River System between the Provinces of Pakistan*. Islamabad: Indus River System Authority, 1991, pp. 18.

unjustified distribution of water resources. To evaluate the theme of Indus Basin Water conflict geopolitical importance of Indus Basin after partition should be studied in detail.

### 3.3 Indus Basin: Arena of Geopolitics

Indus Basin is a diversified macro-geographical territory wherein different nations in close topographical vicinity share certain shared characteristic of interests. These interests could join an entire array of verifiable, land, financial, cultural, political and social angles. Truth be told, it is where geology, history, governmental issues and culture are genuinely interwoven and a domain of perhaps the most established human advancement on the planet where individuals from all races and religions have existed together over a significant stretch.<sup>24</sup> The administration of trans-boundary waterways has turned into a significant social and political issue as of late, for an assortment of reasons, some legitimate and others because of direct yet mistaken reasoning. There are a few legitimate reasons. To start with, there are many major trans-boundary waterways and lakes where there are no settlements for water designation between all the co-bowl nations that could give a directing structure to water arranging and the executives.<sup>25</sup> Second, despite the fact that the Convention on the Law of Non-Navigational Employments of International Watercourses<sup>26</sup> was overwhelmingly affirmed by the United Nations (UN) General Assembly with just

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<sup>24</sup> Yu, Winston, et al. *The Indus Basin of Pakistan: The Impacts of Climate Risks on Water and Agriculture*. The World Bank, 2013, pp. 48.

<sup>25</sup> Dombrowsky, Ines, "Revisiting the Potential for Benefit Sharing in the Management of Trans-Boundary Rivers." *Water Policy*, 2009, pp. 130.

<sup>26</sup> The United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses plays a crucial role in protecting and managing international watercourses and other sources of fresh water. Draft Articles on Protection and Preservation of Ecosystems, Harmful Conditions and Emergency Situations, and Protection of Water Installations. *Colo. J. Int'l Envtl. L. & Pol'y* 3, 1992, pp. 175.



three disagreeing cast a ballot however abstentions.<sup>27</sup> It has not yet entered into force even thirteen years after the initial approval. In recent years, there appears to be a slightly increased momentum for its ratification, acceptance, accession or approval, which included countries such as Germany, Guinea-Bissau, Spain, Tunisia and Uzbekistan. A few NGOs, such as the WWF,<sup>28</sup> have launched an initiative to accelerate the ratification process, but it is likely to be several years before the Convention is ratified. The campaign by the NGOs has brought additional attention to the issue of management of trans-boundary Rivers and lakes.

However, delays in the ratification of this convention indicate two contributory factors: (a) management of trans-boundary water courses is not a priority issue in the world's political agenda and (b) the countries that have trans-boundary rivers appear to prefer to have bilateral or multilateral negotiations between the co-basin countries and do not seem to be in any special hurry to ratify the Convention.<sup>29</sup> This worldwide enthusiasm for trans-boundary water issue has been additionally increased, due to the ongoing dissension between the Nile Basin nations. The nations neglected to concede to an arrangement, when the five upstream nations (Ethiopia, Kenya, Uganda, Rwanda and Tanzania) chose to consent to an arrangement without the keeping in view bowls heavy water flow towards Egypt and Sudan. Likewise the dispute of Arab/Israel over Jordan waters where head waters of Jordan Basin rise in Lebanon,

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<sup>27</sup> Varis, O., Tortajada, C. furthermore, Biswas, A.K, –The Executives of Transboundary Waters: An Outline". In Management of Transboundary Streams and Lakes, 1999, pp. 12.

<sup>28</sup> The World Wildlife Fund (WWF) is an international organization working for the conservation of nature. WWF is the world's largest independent conservation organization. It promotes activities related to the conservation, research and restoration of the environment. Pemberton, Richard, et al. *Taking control: Autonomy in language learning*. Vol. 1. Hong kong University press, 1996, pp. 25

<sup>29</sup> Nabeel, Fazilda, –How India and Pakistan are Competing over the Mighty Indus River? *The Conversation*, 2017, pp. 25.

which has its sources in Israel and Syria and forms the boundary between Syria and Jordan.<sup>30</sup> In real, the trans-boundary issue had gotten expanded global consideration before when Pakistan chose to go directly to intervention without considering different alternatives accessible under the IWT.<sup>31</sup>

This mosaic of various societies has given Indus Basin a special recognition that is unrivaled at anywhere else around the globe. Countries of the South Asian subcontinent are comprehended as a solitary geological unit which offers three noteworthy waterway bowls viz. the Indus, the Ganges and the Brahmaputra. These waterways are the biggest single financial asset of this locale, particularly when considered related to the populace.<sup>32</sup> The biggest freshwater house on earth are the mighty mountain chains residing in this region, numerous specialists accept, the greatest imperative on the future development of the world's economy isn't would be a lack of oil however water.<sup>33</sup>

Almost all the countries of Indian subcontinent are predominantly agrarian depending widely on the river water for their farming. It is additionally the way in to their hydropower and industrialization.<sup>34</sup> Be that as it may, attributable to the quick development of industrialization, farming advancement and residential use, water assets are declining quickly which thusly offer approach to political, monetary and

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<sup>30</sup> The Arab/Israel Dispute of Jordan Waters: The Background, Jordan Waters dispute, File No. FO 371/175574, The National Archives (TNA), United Kingdom (UK), 1964, pp. 2.

<sup>31</sup> Indus Basin dispute between India and Pakistan, File No. DO 121/222, TNA, UK, 1947, pp. 2.

<sup>32</sup> Condon, Madison, et al, "Challenge and Response in the Indus Basin," *Water Policy*, 2014, pp. 60.

<sup>33</sup> Vashishth, C.R. *Indus Waters Treaty: Conflict between India and Pakistan*, 2008, pp. 21.

<sup>34</sup> Mustafa, Khalid, "Pak-India Talks on Kishenganga and Ratle Hydropower Projects Fail." *The News*, 2016, pp. 12

territorial clashes. Water Resources of Indus Basin have both the aspects of aquatic wealth as well as shortage of water.<sup>35</sup> Probably the biggest storage facility of freshwater on the world is encouraged by the Hindu Kush and Himalayan mountain framework located in Indus range.<sup>36</sup> There are twenty rivers beginning from this mountain chain according to the report of World Bank.<sup>37</sup> Out of the aggregate the four noteworthy waterways are the Brahmaputra and the Barak (Meghna), otherwise called IGBM bowl the Indus and the Ganges. The Indus River takes a westbound course towards the Arabian Sea while the Ganges and the Brahmaputra make an adventure towards the Bay of Bengal east of the sub-landmass.<sup>38</sup> This figure shows the IRB with six South-Asian nation's viz. Pakistan, India, Bangladesh, China, Bhutan and Nepal.



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<sup>35</sup> Dabelko, D., and T. Aaron, "Water, Conflict, and Cooperation," *Environmental Change and Security Project Report*, 2004, pp. 61.

<sup>36</sup> Allouche, Jeremy, and Matthias Finger, *Water Privatisation: Trans-National Corporations and the Re-Regulation of the Water Industry*. CRC Press, 2001, pp. 14.

<sup>37</sup> World Bank South Asian Water Initiative. "The Ganges Strategic Basin Assessment: A Discussion of Regional Opportunities and Risks; 67668-SAS." *The World Bank: Washington, DC, USA* (2014) pp. 35.

<sup>38</sup> Khaki, Saadat Bilal, *Indo-Pak and Hydro-Politics*. Greater Kashmir, 2018, pp. 3.



Figure 3.3. Indus River Basin.

Source:- Water conflicts between Asian nuclear powers pose global threat; UNU book charts path to cooperation (2016, October 28) retrieved 7 October 2019 from <https://phys.org/news/2016-10-conflictsasian-nuclear-powers-pose.html>.

Six South-Asian nations viz. Pakistan, India, Bangladesh, China, Bhutan and Nepal stretch out these streams. These multi river frameworks consisting of four rivers channel a territory around 27, 73,700 km<sup>2</sup> extending over around 3000 km<sup>2</sup> in an east-west heading and 800 square km in a north-south course. The IGBM bowl has broad water assets with a general overflow in excess of 1500 billion cubic meters for every year. The Brahmaputra stream framework conveys the most elevated volume of water with 585 billion cubic meters for every year pursued by the Ganges and the Indus with 525 billion cubic meters and 181 billion cubic meters individually. The Indus depletes the regions of India and Pakistan while the Ganges, the Brahmaputra and the Mehghna channel Bhutan, Nepal India and Bangladesh in certain pieces of China also. The bowls of these streams finish up the remainder of the two, Myanmar and Afghanistan. The appropriation of water is a difficult issue everywhere throughout the world. The real clashes are noticed over the absolute mightiest

streams where 40 percent of total populace lives on conduits crossing through a few nations, i.e., the Nile, the Tigris, the Euphrates the Brahmaputra and the Indus.

Table 3.1

*Sharing of South Asian Subcontinent River Basins*

Basin Name Total bowl region ( in sq km)	Country name with sharing territory (in sq km)
Indus 1,138,800	Pakistan 5,97,700 China 76,200 Nepal 10 India 3,81,600 Afghanistan 72,100 Chinese controlled asserted by India 9,600 Indian controlled guaranteed by China 1,600
Ganges-Brahmaputra Mehgna 16,34,900	Bangladesh 1,07,100 India 9,48,400 China 3,21,300 Bhutan 39,900 Myanmar 80 Nepal 1,47,400.

Source:- Wolf, Aaron T. "Water Wars and Water Reality: Conflict and Cooperation along International Waterways." *Environmental Change, Adaptation and Security*. Springer, Dordrecht, 1999, pp. 32.

However keeping into account the arid regions of India where these rivers are the only source to provide water, there is an uplifted danger between state and intra-state strife among upstream and downstream nations.<sup>39</sup> Each upstream and downstream nation needs to utilize greatest water from shared waterways. In this manner the dissemination and use of water from shared waterways is the fundamental driver of debates between upper riparian and lower riparian nations. Actually, this issue is one of the real reasons for the stressed relationship among the clients. Water Disputes between different Countries of Indus Basin especially sub-mainland in such locale where a geopolitical substance gives a base to clashes. As major financial transactions are based on horticulture and water being the most significant determinant of farming and furthermore for different exercises.<sup>40</sup> "Water, water, all

<sup>39</sup> Sadoff, Claudia W., and David Grey. "Beyond the River: the Benefits of Cooperation on International Rivers," *Water Policy*, 2002, pp. 389.

<sup>40</sup> Gilmartin, David. *Blood and Water: the Indus River Basin in Modern History*. University of California Press, 2015, pp. 206.

over the place, nor any drop to drink" this proposition portrays the issue of water in Indus Basin<sup>41</sup> an issue of shortage in the midst of abundance. However, water is a most vital component of the Indus Basin as well as South Asian subcontinent has fuelled a great deal of warmed talk and clashes among the nations of the area.

### 3.3.1 Sino - Indian Water Dispute in Indus Basin

The shared rivers between two countries India and China who are the giants of Asia, share four noteworthy rivers, however these are not solely between them.<sup>42</sup> The Indus River is shared by China, India and Pakistan. The Brahmaputra River is shared by India, China, Bangladesh and Bhutan. The Kosi and Ghaghara waterways<sup>43</sup> are shared by China, Nepal and India. Plainly, India and China don't share any streams particularly: all Trans boundary waterways of India and China are additionally imparted to different neighbors. For every such waterway, China happens to be the upper riparian state. India is the center riparian state in the Brahmaputra, Indus and Sutlej waterways, yet a lower riparian state in the other two stream frameworks. Among the mutual streams, most strains exist along the Brahmaputra River. This is because of three noteworthy reasons. To start with, while China is the upper riparian state for all the four trans-boundary system of rivers, it just possesses huge pieces of the Brahmaputra River. China has over half of the Brahmaputra River bowl region. Therefore, the potential effect of China's exercises on the Brahmaputra River is a lot greater when contrasted with different streams. Second, Brahmaputra River is an

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<sup>41</sup> McGoodwin, James R. *Crisis in the World's Fisheries: People, Problems, and Policies*. Stanford University Press, 1995, pp .125.

<sup>42</sup> –Brahmaputra River: An Eternal Conflict between India and China.” Tibet Policy, 2017, pp. 12.

<sup>43</sup> It flows southeast through Uttar Pradesh and Bihar states to enter the Ganges below Chapra after a 600-mile (970-km) course. The major tributaries the Kuwana, the Rapti, and the Little Gandak rivers—all flow into the Ghaghara from the mountains to the north. Sharma, Dr KGS. "India's National Waterways: A long Way to Go." *Rites Journal July*, 2010, pp . 11.

extraordinary significance to the two India and China. For India, it represents almost 30 percent of the freshwater assets and about 40 percent of all out hydropower capability of the country.<sup>44</sup>

On account of China, while at national level, the role of Brahmaputra River in the nation's absolute freshwater supply is very restricted, it is critical to Tibet. The Brahmaputra River is viewed as the origin of the Tibetan human advancement and it assumes a basic job in Tibet's horticultural and vitality parts. The Brahmaputra River is connected to Sino-Indian outskirts questions. The two nations have challenged guarantees in the Eastern Himalayas, the triple intersection between India, China and Bhutan from the west to Brahmaputra River in the east, to a great extent along the peak of the Himalayas.<sup>45</sup> This contested zone is called South Tibet in China and Arunachal Pradesh State in India which presently controls the region. This contested zone involves about a zone of 90,000 km<sup>2</sup> and has a populace of more than a million people. The Rise of the 'Water Wars Narrative' for years, Indian media, security specialists just as some worldwide spectators have been cautioning of the happening to water wars between the two nations. The individuals who accept that water wars would break among China and India fundamentally center on the eventual fate of Brahmaputra River. Third, they point to China's reluctance to give any official

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<sup>44</sup> Ashraf, M., Jaleel Tariq, and M. Jaffar, "Contents of Trace Metals in Fish, Sediment and Water from three Freshwater Reservoirs on the Indus River, Pakistan," *Fisheries Research*, 1991, pp. 360.

<sup>45</sup> Coleman, James M, "Brahmaputra River: Channel Processes and Sedimentation," *Sedimentary geology*, 1969, pp. 130.

concurrence with downstream nations up trans-boundary streams as proof that China is demanding the outright power of water standard.<sup>46</sup>

They contend that following this guideline would make noteworthy damage downstream nations and that an absence of straightforwardness from the Chinese side is further irritating the circumstance. China's Position and Responses no doubt, Indian's worries are not totally unwarranted. China is without a doubt one of the most water focused on nations on the planet and water shortage is probably going to compound given quickly rising interest driven by industrialization and urbanization just as contamination. Water elements are freely attached to India's association with its other riparian nations, in particular, Bangladesh, Pakistan, Nepal and Bhutan.<sup>47</sup>

Indian requests over the rights and privileges of the Brahmaputra stream is marked 'deceptive' by Bangladesh, Pakistan and even Nepal, who have comparative 'lower riparian' complaints.

India as of now has a stressed association with Bangladesh over the long late Teesta Waters Treaty and conflicts with Pakistan over hydropower dams and decreased progression of water in the Indus stream. In this manner, while India consults with China on the privileges of shared streams, it should be adjusted, key and reasonable so as not to set unreasonable desires from its lower riparian nations.<sup>48</sup> Another pattern prone to impact India's geopolitical position is China's work day in

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<sup>46</sup> Karim, O., et al, "Heat transfer coefficient for water cooled heat sink: Application for standard power modules cooling at high temperature," 2001, pp. 26.

<sup>47</sup> Crow, Ben, and Nirvikar Singh, "Impediments and Innovation in International Rivers: the Waters of South Asia," *World Development*, 2000, pp. 1920.

<sup>48</sup> Ahmad, Meher, "Pakistan Tries A New Way to Pay For A Dam: Crowd sourcing." *The New York Times*. 2018, pp. 3.



inclination from two-sided to multilateral water collaboration leaving India in an awkward position. In accordance with its outskirts strategy (neighborhood arrangement), China set up the Lancang Mekong Commission (LMC) with the six Mekong nations as an option in contrast to Mekong River Commission, which China censured from the beginning. Beijing is pushing for a comparable China controlled multilateral set up in the Brahmaputra bowl. Similarly China has been propelling its commitment with Bangladesh on water the executives, hydrological information sharing (on the Brahmaputra), flood control and fiasco decrease. China is likewise set to fund a progression of hydropower extends in Pakistan added to its Repertoire and Road Initiative (BRI), incorporating one in challenged an area among India and Pakistan.<sup>49</sup>

India, on the other, keeps on inclining toward two-sided concurrences with its riparian countries. It has kept up prudence in its commitment with its eastern (Bangladesh) and western riparian (Pakistan) neighbors. In spite of endeavors to improve discretionary ties with Bangladesh and Pakistan, India fears Chinese circle and control to a feeble arranging position. China's forceful exercises on the upstream of the Brahmaputra may bolster into its 'Salami Slicing' technique.<sup>50</sup> The Southeast Tibetan area and Northeast India are two of the most immature locales in both the nations. According to the International law of earlier assignment, China can guarantee a more prominent portion of the Brahmaputra waterway on the off chance

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<sup>49</sup> *Annual Flood Report-2017 Federal Flood Commission, Ministry of Water Resources Page, Government of Pakistan, Ministry of Water Resources, pp. 12.*

<sup>50</sup> Salami slicing refers to a series of many small actions, often performed by clandestine means, that as an accumulated whole produces a much larger action or result that would be difficult or unlawful to perform all at once. The term is typically used pejoratively. Spielman, Glen I., Tracey L. Biehn, and Dustin L. Sawrey. "A Case Study of Salami Slicing: Pooled Analyses of Duloxetine for Depression." *Psychotherapy and Psychosomatics*, 2010, pp. 97-106.

that it can use the water first to move water to its bone-dry areas, produce power, or use it for horticulture. As China builds up this piece of the Southeastern Tibetan level, it won't just have the option to fortify its military reach however should strengthen its regional case on Arunachal Pradesh, which Beijing alludes to as 'Southern Tibet'.<sup>51</sup>

China has a reputation of depending on super framework undertakings, for example, Three Gorge Dams and South–North Water Diversion (SNWDs) ventures to manage its water difficulties. There have been inside dialogues about redirecting waters from Brahmaputra to China's dry north. To wrap things up, in connection to trans-boundary stream participation with neighboring nations, China is one of the three nations (the others are Turkey and Burundi) that casted a ballot against the 1997 UN Convention on the Law of the Non-Navigational use of International Watercourses (UNWC) and stays missing from the Mekong River Commission (MRC).<sup>52</sup> In any case, the water wars story, as pointed out by Jonathan Holslag, gives off an impression of being untimely. China has not endorsed any real water redirection venture in Tibet and keeping in mind that Indian security investigators, media and lawmaker are excessively stressed over the Sino-Indian water clashes, their Chinese partners show little enthusiasm for the topic. Nonetheless, the developing 'water wars' account in India has constrained China to react and made water debates one of the top respective issues to being talked about between two nations' pioneers. The Chinese Ministry of Foreign Affairs and Ministry of Water Resources had to react to

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<sup>51</sup> Panda, Ankit, "The Political Geography of the India-China Crisis at Doklam," *The Diplomat*, 2017, pp. 55.

<sup>52</sup> Hong Kong Territorial Waters, Foreign and Commonwealth office, File No. FCO 21/1271, TNA, UK, 1974, pp. 19

India's allegation of China's exercises along the upper stream of Brahmaputra waterway on a few events. During the major two-sided Sino-Indian summits, the Chinese President and Premier have needed to console their Indian partners that China's dam building exercises won't hurt Indian's advantage.<sup>53</sup>

Discretionary associations on water collaboration among China and India have not generally pursued the forms of their geopolitical relationship. Preferably, a warm connection between the riparian nations is straightforwardly relative to the probability of participation over trans-boundary waters. Be that as it may, this has not generally been the situation. With the improvement of the political relationship during the 1950s, joint water and flood the executives and debacle avoidance were the driving elements for coordinated effort among India and China. All discussions on water participation were slowed down during and a lot after the 1962 Sino Indian war. As the relationship recuperated, China and India marked the first MOU on sharing the Hydrological Information on the Brahmaputra/ Yalu Zangbu stream. The hydro-political condition was at risk initially, as a result water and political trades became delinked. In the later period during twenty-first century a conflicting water relationship had negligible effect on the more extensive political relationship. Indian misgivings on the effect of the Chinese Zangmu dam on the upper scopes of the Brahmaputra were on the high when China and India were building up a fringe goals

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<sup>53</sup> Liebman, Alex, "Frickle-down Hegemony?: China's "Peaceful Rise" and Dam Building on the Mekong." *Contemporary Southeast Asia: A Journal of International and Strategic Affairs*, 2005, pp. 285.

instrument, financial and key organizations and continuing respective armed force works out.<sup>54</sup>

As the accessibility of water is fundamental to endurance, water-rare nations are probably going to present water as a security risk on the off chance that they offer water assets with different nations. For example, up until the 1990s, Egypt securitized the Nile River waters as basic to its endurance established its predominance of the Nile vis-a-vis the other riparian states through water understandings upheld by the utilization of force.<sup>55</sup> In the Middle East specifically, water shortage is regularly viewed as an issue of national security to the degree that asset the board strategies are securitized. Such moves to securities water are not just a routine with regards to the water-rare and struggle ridden Middle East. In Asia, the water question among Malaysia and Singapore is securitized, with Malaysia taking steps to 'remove' the stock of water from Johor state to Singapore at whatever point relations take a downturn and Singapore clarifying that such an activity is *casus belli*.<sup>56</sup>

India itself securitizes water issues with its South Asian neighbors. The India-Pakistan argument about the Indus River is painted as an existential security danger to the two nations and connected to the contested domains among India and Pakistan

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<sup>54</sup> Wang, Lan, Ratoola Kundu, and Xiangming Chen, "Building for what and Whom? New town development as planned suburbanization in China and India," *Suburbanization in Global Society*. Emerald Group Publishing Limited, 2010, pp. 335.

<sup>55</sup> A Note on Control of Rivers in Jammu & Kashmir, Ministry of External Affairs, India/Pakistan/Kashmir dispute: Chenab waters, File No. DO 189/180, 1963, pp. 2.

<sup>56</sup> Tortajada, Cecilia, "Water Management in Singapore," *Water Resources Development*, 2006, pp. 230.

of Jammu and Kashmir.<sup>57</sup> Nehru had in reality trusted that the IWT would inevitably make ready to settling the Kashmir dispute.<sup>58</sup> India has besides exploited its upstream position to undermine Pakistan as to the Indus. India has additionally securitized the development of the Tanakpur Barrage on the Mahakali River imparted to Nepal so as to weight Nepal and increase its help for the development of the barrage, all the while, India verified great terms for itself, including an exchange of land from Nepal to build some portion of the torrent in 1991. The China–India water contest additionally discredits the traditional view that de-securitization is a regularizing decent and prone to prompt cooperation. De-securitization is viewed as a move to broaden an issue into the common open space, whereby as straightforwardness of the basic leadership procedure expands issues, can be transparently bantered to enable more partners to take an interest in the goals of center problems. However, de-securitization has not prompted more significant levels of participation among China and India. The two nations are a long way from thinking of fair goals to their water contest as there is no substantive discourse of the foundation of the contention-the interweaving of the water debate with the disagreement about Arunachal Pradesh.<sup>59</sup>

As far as Brahmaputra River is concerned, playing up the 'water wars' story or the 'China danger' account when all is said in done isn't useful. More awful still, the genuine risk of the water wars story is that it turns into an inevitable outcome as it dissolves common trust, which is urgently required for improving Sino-Indian

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<sup>57</sup> Mustafa, Daanish, –Colonial Law, Contemporary Water Issue in Pakistan.” Political Geography, 2001, pp. 830.

<sup>58</sup> Discussions at UN on Problem of Kashmir, File No. FO 371/129777, TNA, UK, 1957, pp. 2

<sup>59</sup> Pal, G. D. –Observations on Ethnobotany of Tribals of Subansiri, Arunachal Pradesh,” *Nelumbo*, 1984, pp. 30.

relations and prompts overcompensations from the two sides. The shock wave of these Sino-India relations are no doubt the key to China-Pakistan and Indo-Pak relations as well because the two mighty giants of South Asia ; China and India not only effect the political underbidding of Asia but rest of the World being emerging powers. They are the motivators for the balance of power maintenance in Indus Basin.<sup>60</sup>

### **3.3.2 Pak - Afghan Water Dispute in Indus Basin**

Arguments about water assets are as old as humanity's history. The history additionally saw collaboration and common concurrences on the mutual water assets between the gatherings. In the course of recent years, thirty seven disagreements about water assets involving savagery and one hundred and fifty settlements over shared water assets have been recorded. The exhausting water assets should make the water organizer mindful of the significance of this asset for the endurance of the mankind. The ten disagreements regarding the mutual water asset among different countries ought to be set out to utilize the accessible supplies of water proficiently and reasonably. Pakistan and Afghanistan share around nine waterways however have never consented to any arrangement on joint administration of the common conduits.<sup>61</sup> It ought to be viewed as that consenting to an arrangement isn't the main test; rather the genuine issue is to keep the understandings alive in letter and soul.<sup>62</sup> Kabul River, which later joins the Indus River is one of the most significant

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<sup>60</sup> Qureshi, Asad Sarwar, et al, –Challenges and Prospects of Sustainable Groundwater Management in the Indus Basin, Pakistan,” *Water Resources Management*, 2010, pp. 1550.

<sup>61</sup> –Avoiding Water Wars: Water Scarcity and Central Asia’s Growing Importance for Stability in Afghanistan And Pakistan.” US Senate Report, 2005, pp. 7.

<sup>62</sup> King, Matthew, and Benjamin Sturtewagen, –Making the Most of Afghanistan’s River Basins: Opportunities for Regional Cooperation,” *East West Institute, New York*, 2010, pp. 35.

waterways and a potential wellspring of hydropower for the two nations. In excess of seven million individuals in Afghanistan, equal to twenty three percent of the Afghan populace, live in the Kabul River Basin (KRB). The principle wellspring of the Kabul River is from the icy masses and snow of the Hindu Kush Mountains, which are a piece of the Himalayas-Pamir. Around twenty six percent of Afghanistan's water assets are represented by this river.<sup>63</sup> On the Pakistani side of the bowl, the stream is a hotspot for water system purposes in the remote and bumpy Khyber Pakhtunkhwa (KPK) territory. In Pakistan, flood and dry spell will in general happen all the while, influencing an enormous piece of the nation by compounding the water rare circumstance and bringing critical unfavorable financial effects.<sup>64</sup>

Information sharing for the stream is viewed as significant for Pakistan to apply early cautioning frameworks to forestall flood and dry season harms. Environmental change has affected the icy masses and snow soften that feed the Kabul and brought about worsening of a pattern which additionally demonstrates the move of the stream bowl occasional storms. The changed atmosphere lately has brought about floods, for example, the one which happened in 2010 and affected in excess of 18 million individuals in Pakistan. The Kabul River streams for 560 km inside Afghanistan before entering Pakistan.<sup>65</sup> The Kunar River is one of the principle tributaries of KRB that streams into the eastern piece of Afghanistan and the northwestern piece of

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<sup>63</sup> Favre, A, and Golam Monowar Kamal, "Watershed Atlas of Afghanistan," 2004, pp. 45.

<sup>64</sup> Chen, Xiang Ying, et al, "Nitrogen-doped Porous Carbon for Supercapacitor with Long-Term Electrochemical Stability," *Journal of Power Sources*, 2013, pp. 55.

<sup>65</sup> Plan to Harness Indus River, Hydro-Electric Schemes in Pakistan, File No. DO 142/82, TNA, UK, 1948-1950, pp. 47

Pakistan. The all out length of this stream, which finishes in the Indus River in Pakistan is 700 km.<sup>66</sup>

Significantly, in the KRB, Afghanistan and Pakistan are both upstream and downstream of one another. The Kunar River begins in Pakistan and afterward joins the Kabul River closer to Jalalabad. At that point it goes into Pakistan and joins the Indus River at Attock. Different cross fringe tributaries incorporate the Khuram River, which starts from the mountains of Paktia territory in Afghanistan and streams into the Khuram Agency of the Federally Administered Tribal Area in Pakistan. Gomal River is the third significant cross-fringe waterway, which starts in the mountains of Ghazni territory of Afghanistan and enters South Waziristan Agency of Pakistan. With the money related help of USAID, Pakistan has developed the Gomal Zam water system dam in the Agency.<sup>67</sup>

There are additionally some regular waterways that stream into the streams of Afghanistan's territories of Kandahar, Zabul and Paktika and the Balochistan territory of Pakistan. The three years of war and common distress in Afghanistan has caused broad neediness and has harmed the customary social foundations. The whole conventional water system framework which was overseen by ranchers has likewise been harmed. A couple of infrastructural advancements have improved water system productivity been embraced. As per the World Bank, in the KRB, "fifty-nine percent

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<sup>66</sup> Ahmadullah, Rasooli, and Kang Dongshik, "Construction of Hydraulically Balanced Water Distribution Network," 2015, *International Conference on Intelligent Informatics and Biomedical Sciences (ICIIBMS)*, IEEE, 2015, pp. 65.

<sup>67</sup> Wang, George, Wei Hu, and Colin Duffield, "Risk Mitigation in Managing a Mega Project-a Case Study of Gomal Zam Dam Construction Weight and Cloud Model." *Journal of Risk Analysis and Crisis Response*, 2013, pp. 7.



of the number of inhabitants in the bowl in Afghanistan is provincial and lives outside Kabul; in excess of ninety six percent live in little towns and settlements principally along the waterways in cultivable zones with access to water".<sup>68</sup>

Restoration of the harmed water system frameworks and reestablishing the capital of provincial networks is esteemed perhaps the most elevated need in Afghanistan. However the World Bank reports that "In spite of some achievement, in any case, there has not been any interest in foundation that would: (i) free ranchers from the limitations of low volume and exceptionally factor stream in the developing season; (ii) lessen the effect of regular dry season and whimsical downpour and (iii) give them a base from which they could incorporate with the nation's developing economy and breaking out of persevering destitution."<sup>69</sup> A wide area of Afghanistan is critically encountering a sixty percent drop in the downpour and snowfall required for production of food. The quick development of Kabul's populace, extraordinary dry climatic conditions of the country and the apparition of environmental change have exacerbated the requirement for new water framework. However, building it is politically confused; the Afghanistan-Pakistan outskirts locale is characterized by its perplexing labyrinth of trans-boundary streams and there is no legitimate system set up to maintain a strategic distance from real clash between the countries.<sup>70</sup>

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<sup>68</sup> Van den Berg, W. B. "Osteoarthritis Year 2010 In Review: Pathomechanisms," *Osteoarthritis and Cartilage*, 2011, pp. 337.

<sup>69</sup> Ibid.

<sup>70</sup> Siddique, Abubakar, *The Pashtun Question: The Unresolved Key to the Future of Pakistan and Afghanistan*. Hurst & Company Limited, 2014, pp. 99.

It's nothing unexpected, at that point, that in the Chahar Asiab area of Kabul, on a tributary of the Kabul River the Maidan work start on the Shahtoot Dam. The dam will hold water for two million Kabul inhabitants with 146 million cubic meters of consumable water and flood 4,000 hectares of land. It will likewise give drinking water to another city on the edges of Kabul called Deh Sabz. Afghanistan is at last, following quite a while of crushing wars, in a situation to start to build up its economy and power from hydropower.<sup>71</sup> That is a danger to a nation like Pakistan, which is profoundly subject to horticulture. A World Resources Institute report expresses that Pakistan could turn into the most water-focused country in the area by 2040, preceding the capability of decreased water stream from the Kabul River.<sup>72</sup>

### 3.3.3 Indo - Nepal Water Dispute in Indus Basin

The historical backdrop of a water contest among India and Nepal is long-standing. There are around 6,000 waterways and streams in Nepal however shares with India a sum of two hundred and sixty four tributaries and streams which all structure a noteworthy piece of Ganges framework. The source of the contention between the two nations is over the Mahakali River a significant tributary of Ganges River. The utilization of the Mahakali River to differentiate the fringe between the Nepal and India and is the wellspring of debate between the two nations.<sup>73</sup> Actually, the very beginning of the stream is a wellspring of conflict, the Kalapani locale which incorporates a zone of around 400 km<sup>2</sup> is perceived as a universally questioned fringe

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<sup>71</sup> Briscoe, John et. al., "Pakistan's Water Economy: Running Dry" Washington, DC: World Bank, 2005, pp. 125.

<sup>72</sup> Sayama, Takahiro, et al., "Rainfall-Runoff-Inundation Analysis of the 2010 Pakistan Flood in the Kabul River Basin," *Hydrological Sciences Journal*, 2012, pp. 299.

<sup>73</sup> Dhungel, Dwarika N., and Santa B. Pun, eds., *The Nepal-India Water Relationship: Challenges*, Springer Science & Business Media, 2009, pp. 12.

area. It possesses thirteen percent of the Ganges Basin and supplies right around forty seven percent of its water history and variables prompting the settlement. The written history of a water debate among India and Nepal wound up dynamic since British time over the sharing of Mahakali River. Mahakali isn't only a tributary of Ganges yet additionally divides the limit line among India and Nepal. In the land setting of Mahakali, Nepal stayed an upper riparian nation while India is lower riparian nation. In 1816 during the British rule an issue came up over the utilization of Mahakali between British Government and the Kingdom of Nepal. It was settled by the marking of Sugauli Treaty between two nations. Mahakali River was formally declared as a boundary river when this settlement was approved among India and Nepal.<sup>74</sup>

According to Mahakali Integrated Treaty signed in 1996, this agreement manages the incorporated advancement of Mahakali River which paid heed to Sarda barrage conflict, barrage Thanakpur contention and Panchswar venture. It is an extraordinary accomplishment for advancement of guideline over sharing water. The accord was finally signed on 12 February 1996 in New Delhi.<sup>75</sup> According to many water experts this accord was the very first a tool of national identification for Nepal. One of the water experts from Nepal is of the view that because of this settlement for the first time water rights of Nepal were perceived; besides, it likewise gave equivalent status

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<sup>74</sup> Gyawali, Dipak, and Ajaya Dixit, "Mahakali Impasse and Indo-Nepal Water Conflict," *Economic and Political Weekly*, 1999, pp. 560.

<sup>75</sup> Pun, Santa Bahadur, "Tanakpur Barrage Thirteen Year Saga of the Nepal Canal Sill Level," *Hydro Nepal: Journal of Water, Energy and Environment*, 2010, pp. 25.

to Nepal over sharing of water with India. The primary arrangements of this bargain given are underneath.<sup>76</sup>

The settlement perceives the Mahakali as a limit stream on the significant stretch between the two nations. Nepal to reserve the privilege during wet Season (May 15 to October 15) to the stock of 1,000 cusecs of water from the Sarada Barrage and during the dry season (October 16 to May 14) it can facilitate the supply of 150 cusecs. India is required to keep up a progression of not less than 350 cusecs downstream of Sarada Barrage in the Mahakali River to keep up and ensure the stream framework. Thanakpur Barrage in Nepal keep having sway over the land (2.9 hectares) required for structure the eastern afflux bund, just as a hectare of the poundage zone.<sup>77</sup>

In return, Nepal has, free of cost, 1,000 cusecs of water in the wet season and 300 cusecs in the dry season and 70 million kwh of power from the Thanakpur power station, with the transmission line to its fringe. A large portion of the gradual power created at Thanakpur after expansion of river water with the authorizing of the Panchswar dam, to be provided to Nepal at a large portion of the operational and any extra cost. India likewise develops an infra structure of all-climate route road interfacing the Thanakpur barrage to Nepal's East-West Highway, along with the construction of bridge on the way. There is arrangement for the inventory of 350

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<sup>76</sup> Verghese, Boobli G, –Water Conflicts in South Asia, *Studies in Conflict & Terrorism*, 1997, pp. 190.

<sup>77</sup> Pun, Santa Bahadur, –Tanakpur Barrage Thirteen Year Saga of the Nepal Canal Sill Level,” *Hydro Nepal: Journal of Water, Energy and Environment*, 2010, pp. 32.

cusecs of water for the water system of Dodhara Chandni<sup>78</sup> territory. A joint Indo-Nepal hydroelectric task on Mahakali River by a 50:50 money saving advantage split known as Panchswar Project, which remains the most dubious piece of the treaty.<sup>79</sup>

### 3.4 Post Partition Accommodation in Indus Basin

Post partition scenarios widely emphasis on how West Pakistan was totally dependent on Indus Rivers for irrigation. Without the rivers this arid area won earlier from the desert in British rule would revert again to desert. The most intensively irrigated area in the world and one of the world's food granaries would dry up and millions starve to death. Farms alone did not depend on irrigation; as a versatile city as Lahore depends for its drinking water on a canal. India was unlikely to overlook a weapon of such potentiality. In the words of Lilienthal, Head of the Seven-State Tennessee Valley Authority and one-time Chairman of the Atomic Energy Commission, who toured the Indian subcontinent in 1951 –“No army with bombs and shellfire could devastate a land as thoroughly as Pakistan could be devastated by the simple expedient of India's permanently shutting off the sources of water that keep the fields and the people of Pakistan alive”.<sup>80</sup>

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<sup>78</sup> Mahakali Bridge (commonly known as Dodhara Chandani Bridge) is a suspension bridge over Mahakali (Sharada) River with a length about 1,496.5m. Which is located on Kanchanpur District of Malakali Zone in Farwestern development Region. It is famous for its unique style of engineering technique. Dhungel, Dwarika N., and Santa B. Pun, eds. *The Nepal-India water relationship: challenges*. Springer Science & Business Media, 2009, pp. 123.

<sup>79</sup> Maharjan, Manisha, and Kabi Raj Paudyal, –Gender Perspective in Flood Risk Management: A Case Study in Dodhara-Chandani areas of Kanchanpur district, far Western Nepal,” *Journal of Nepal Geological Society*, 2016, pp. 120.

<sup>80</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office London, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

At the time of Partition approximately 37 million acres received irrigation from the Indus System on rivers, namely the Sutlej, the Beas, the Ravi, the Chenab, the Jhelum and the Indus. Of this total about 31 million acres lie in West Pakistan an acreage almost five times that irrigated from the Nile River and 35% larger than the total area irrigated in the United States. An additional 50 million acres within the Indus Basin are cultivable, but remain to be irrigated. Of this area, approximately 44 million acres lie in West Pakistan. Taking the scanty and undependable rainfall into account, the water required to raise crops would exceed the total annual flow of the entire Indus System of Rivers. The coordinated idea of the Indus waterway framework in British Punjab, which was isolated at Partition time of the Indian subcontinent between India (East Punjab) and Pakistan (West Punjab), brought forth various issues.<sup>81</sup>

The segment line drawn by the Radcliffe left both the headworks (Madhopur and Ferozepur) in the Indian Punjab (East Punjab) and the trenches, being sustained by these headworks alongside inundated terrains, in Pakistani Punjab (West Punjab). Thus, the Upper Bari Doab Canals (UBDC), whereupon the Central Bari Doab Canals (CBDC) in West Punjab was reliant, left to the Indian control. No basin in the world is so systematically and fully exploited as the Indus Basin. Usable flow supplies were practically exhausted in the irrigation established and planned before partition. Some 46 million people lived in the Indus Basin as of 1951. The annual net increase in the population of the basin is approximately 1.5%. The persistent necessity for the Government of Pakistan to buy food grains is indicative of the

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<sup>81</sup> Ahsan, Aitzaz. *The Indus Saga*. Roli Books Private Limited, 2005, pp. 127

chronic food shortage suffered in the area.<sup>82</sup> Post partition overview exhibit the fact that 5.5 million Muslim exiles had settled in the Punjab, speaking to about twenty eight percent of the populace in the region.<sup>83</sup>

The foremost issue for the approaching evacuees, regardless of whether they were urban or provincial were the arrangement of essential necessities, for example, sustenance, safe house, apparel and restorative consideration. The record exhibit very clearly that there was a massive shift of population that migrated from India opt for the permanent settlement around Indus River. By the end of January 1948, the Punjab Government had set up 75 outcast camps where countless individuals were furnished with free basic needs of life until they had been resettled. For the help of immigrants to settle down in an area coincide the Indus River, the Refugee Rehabilitation Finance Corporation (RRFC)<sup>84</sup> with an approved capital of Rs 3 crores was set up in 1948.

The recently set up Governments of Pakistan and India made certain joint and collaborative plans for the clearing of eleven to twelve million individuals from the two sides of the outskirts. A Military Evacuation Organization (M.E.O) was set up on

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<sup>82</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 1.

<sup>83</sup> Appendix No. 09, The Ministry of Refugees and Rehabilitation, the Government of Pakistan, File No. B-50, National Documentation Wing, Islamabad, 1950, pp. 1.

<sup>84</sup> Pakistan 1953-54, Pakistan Publication, Karachi, pp. 32 and The Constituent Assembly (legislature) of Pakistan, debates 23<sup>rd</sup> February to 26<sup>th</sup> May, 1948, National Assembly of Pakistan, Islamabad, 1948, pp. 363 see also Thandi, I. T, *People on the Move: Punjabi Colonia, and Post-Colonial Migration*. Karachi: Oxford University Press, 2004, pp. 72.

time, much more than the common organization of the Punjab, in an underlying phase of redesign and horrifyingly hesitant of human and other recourses.<sup>85</sup>

Both the Migrants i.e. Muslims and non-Muslims moved to their new homes leaving their moveable and relentless property in Pakistan and India. The common inconveniences in India and Pakistan made a gigantic political issue.<sup>86</sup> The quantity of evacuees for whose survival and resettlement was the duty of the two Governments. In such manner the High Commission of United Kingdom in both dominions likewise played her job and contributed in the resettlement of displaced people who were agriculturist and dependent on the water for their livelihood.<sup>87</sup>

As indicated by the Governmental plan, those exiles who had proprietorship or inhabitation rights in East Punjab and certain other "endorsed zones" in India would get place where there is equivalent "create esteem" out of the evacuee lands, up to 250 acres of land, with a cut of five percent in their claims over this limit and a maximum limit of 450 acres of land. For the usage of this plan it was important to exchange records between the territories concerned with the goal that the cases of candidates may be legitimately checked. Voluminous records must be duplicated out on the two sides. The Punjab got around 16,000 town *jamabandis*<sup>88</sup> from India in this

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<sup>85</sup> Letter from U.K High Commission in India to Secretary of State for Commonwealth Relations, Communal disturbance in India, File No. DO 142/24, TNA, UK, 1947, pp. 1.

<sup>86</sup> The Punjab, A Review of the First Three Years (August 1947 to August 1950), File No. E1-8, Punjab Archives, Lahore, 1950, pp. 2-3.

<sup>87</sup> Pakistan 1962-63, Government of the Pakistan, Pakistan Publication, Karachi, 1964, pp. 92 see also India and Pakistan Refugee Relief, File No. T 220/102, The TNA, UK, 194-1949, pp. 1.

<sup>88</sup> Jamabandi is a term used to refer to land records in Pakistan and also in India. Jamabandi is Record of Rights (ROR) of a village. The Jamabandi Register contains name of owners area of land, shares of owners and other Rights. It also indicates cultivation, rent and revenue and other cases payable on land.



association. Money related Commissioner clarified that till the finish of 1949 on a normal each region in the West Punjab has gotten 700-800*jamabandis*.<sup>89</sup> The acres of these records were dealt efficiently to ensure the claims of applicants being justified. An aggregate number of around 10 *lakh* outcast land proprietors enlisted their cases. The number achieved the area of 11 *lakh* when the procedure was finished. Crafted by confirmation of their cases was continuing vivaciously.<sup>90</sup>

For the rural evacuee arrive, the name of the uprooted individual had been entered in a list called, Register in Form RL/II. Furthermore, a similar procedure had been received for urban property that guaranteed for confirmation sent to Lahore and the administration sent it to Indian government.<sup>91</sup> The two governments confirmed with guarantee to uproot people asserted by them. In order to check, the property either urban or rural had been apportioned on transitory grounds and after confirmation; the administration distributed the property for the permanent settlement. Exiles widows and vagrants, other than those whose spouse and guardians were individually were killed in unsettling influences at the season of partition in 1947 had additionally been took into account the brief assignments.<sup>92</sup>

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<sup>89</sup> File No. 15462, Proceedings of the conference of commissioners, settlement officers and other officers Incharge resettlement on land, held on the 17<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup> March 1949, Punjab Archives, Lahore, 1949, pp. 12.

<sup>90</sup> Summary of the work had done in connection with resettlement of refugees on land in the Punjab, Part XVI, 1<sup>st</sup> January to 30 June 1956, File No. E-33, Punjab Archives, Lahore, 1956, pp. 3 see also summary of the work done in connection with resettlement of refugees on land in the Punjab, part XVII, 1<sup>st</sup> July to 31<sup>st</sup> December 1956, File No. 10981, Punjab Archives, Lahore, 1956, pp. 4.

<sup>91</sup> Summary of the work had done in connection with resettlement of refugees on land in the Punjab, Part XIII, 1<sup>st</sup> July to 31<sup>st</sup> December 1954, File No. E-33, Punjab Archives, Lahore, 1954, pp. 33 see also File No. 10979, summary of the work done in connection with resettlement of refugees on land in the Punjab, part XIII, 1<sup>st</sup> January to 30<sup>th</sup> June 1954, 1954, pp. 32.

<sup>92</sup> Refugees in India, File No. DO 142/437, TNA,UK, 1948-1949, pp. 1.

The aggregate zone of agrarian land claimed by Hindus and Sikhs in the Punjab was around 66 *lakhs* acres of land as per figures gathered for specific purposes previously Partition. Of this about *lakhs* of acres of land were under development, the rest being water logged, accordingly influenced or generally excessively mediocre, making it impossible to reimburse the expense of development. About farming area surrendered by Muslims on the opposite side of the outskirts, it has been assessed that Muslims possessed around 45 *lakhs* acres of land in East Punjab. Around five *lakh* acres of land were surrendered by them in the East Punjab State and somewhere in the range of three *lakh* acres of land in Alwar, Bharatpur and Bikanir, making up an approximate rough aggregate of 52 *lakh* acres of land.<sup>93</sup>

In this way, plans were contrived for the resettlement of outcasts ashore on a semi changeless premise, which would give these removed individuals a feeling that all is well with the world and legitimate enthusiasm for keeping up the richness of the soil and dependency on which they were to live in future. In order to settle the claims of immigrants in response to the same rich and fertile land around water as they have already left in India, proper management of land across Indus was required. It was viewed as that a man who left his farming area in East Punjab was increasingly esteemed than the agrarian land that dispensed to him in West Punjab.<sup>94</sup> To keep away from such case, the expression "Standard Acre" made and the rural land was issued based on "Standard Acre" scheme. It provides appropriate estimation of land which was dependent on proves provided in claim to the settlement of outcasts. It

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<sup>93</sup> Ibid.

<sup>94</sup> Letter No. 236-61/638-R(P) from Chief Settlement and Rehabilitation Commissioner, West Pakistan to The Colonization Officer, Thal Project Colony, Jauharabad with the subject —Produce Index Units of Hoshiarpur Tehsil of that district, File No. 2, Instructions file, Office of the Settlement & Rehabilitation Branch, Lahore, 1974, pp. 1.

was because of the water system framework, trimming example or some different factors, for example, cost of the creation in land and so on. So after the extraordinary confirmation, look into, sixteen *annas* of a unit was considered as "Standard Acre". In this esteem, two acres of land of terrains considered as one standard acre of land. This "Standard Acre" was diverse in each region.<sup>95</sup>

With these authoritative issues, the issue of immigrants' settlement, their basic needs, sustaining and recovery of agricultural land across water was a major controversy for the incipient legislature of Pakistan. The legislature was not built up appropriately till that time. For quick settlement of agrarian evacuees, Quaid-i-Azam Muhammad Ali Jinnah additionally administered the courses of action. Camps were sorted out in each locale to encourage the outcasts which gave garments and nourishment and so forth as they came in. The populace was additionally provided with facilities to approach offices near to them. A total of 12.5 million and 80 million rupees for the advancement and advance had been issued to Punjab government by the focal government. For the settlement of 80,000 exiles, forty two satellite towns were manufactured. To set up the business as well as agricultural products in order to settle down displaced immigrants, various recovery and small medium enterprise for easy loan were additionally opened.<sup>96</sup>

Quaid-i-Azam himself was extremely cognizant about the issues of outcasts. He delivered a discourse on 11 October 1947 to the Naval, Military and Air Force officers of Pakistan in Karachi as the masses in the Punjab have gotten their wake the

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<sup>95</sup> Refugees in India, File No. DO 142/437, TNA,UK, 1948-1949, pp. 1.

<sup>96</sup> Rehabilitation resettlement scheme and instruction issued there under, File No. 11611, Punjab Archive, Lahore, 1952, pp. 44-55.

goliath issue of the recuperation of an expansive number of unstuck individuals. This will force our energies and resources for the most extraordinary degree. It has made the inconveniences unavoidable in the working of another state as implied earlier, complex. It is safe to say that we will empower ourselves to be overwhelmed by the giganticness of the endeavor that is facing us and let our new-imagined state fonder under the callous and mischievous leaves behind our foes.<sup>97</sup>

Endeavors have been made to settle the displaced people by distributing houses, shops, business, production lines and land. In the Punjab exiles from the concurred regions were given support recompenses. The aggregate sum spent for shelters recovery by the Central Government amid the year 1949-50 is Rs. 24,36,600.<sup>98</sup>

Government was of feeling that for the convenience and recovery of displaced people from the Indian Dominion prompt advances be taken by the Government of Pakistan. Government constructed 5,000 houses at an advantageous place, fabricated 500 shops and gave advance credit for business reason.<sup>99</sup>

It appears that all the activity plan, foundations and authoritative measures were utilized to Punjab since Punjab alone obliged almost seventy five percent dislodged people and it was on the grounds that that a large portion of the viciousness happened in Punjab which concentrated of the two governments. The Refugee official guaranteed on July 1948 that Sindh had gotten just 30,000 evacuees from West

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<sup>97</sup> Refugees in Pakistan, File No. DO 142/438, TNA, UK, 1948-1949, pp. 1.

<sup>98</sup> The Constituent Assembly (Legislature) of Pakistan, Debates Volume I, 1950 13<sup>th</sup> March to 13<sup>th</sup> April, 1950, National Assembly of Pakistan, Islamabad, pp. 224 see also *Dawn* 22 March 1950, pp. 1.

<sup>99</sup> Constituent Assembly (Legislature) of Pakistan Debates, Monday 1<sup>st</sup> March 1948, File No. D-50, Punjab Archive, 1948, pp. 704.

Punjab out of 3, 00,000 which had been consented to be oblige, while NWFP (now Khyber Pakhtunkhwa) got just 30,000 out of 2, 00,000 that was a concurred figure and Refugee chief likewise recommended that the outcasts who were in abundance of their portion then the West Punjab pay for recovery of those exiles. Not exactly after a year, Punjab settled a sum of 46,43,000 displaced person out of 52,84,000 evacuees. It demonstrated that the two governments in Karachi and Lahore really embraced relocation as an official arrangement.<sup>100</sup>

It was chosen 10 October 1947 to compose an association to enroll the cases in regards to properties that *Muhajirin*<sup>101</sup> surrendered in the East Punjab. The Government issued a press note and said that we couldn't acknowledge any obligation if the property that lost by the uprooted people in East Pakistan in the event that it couldn't be brought under the notice of Government as quickly as time permits. A Registrar of claims had been delegated in the Rehabilitation Department and he got the cases through Deputy Commissioner of the region. At long last, for the Protection of Evacuee Property and Rehabilitation of exiles, the Act of 1958 for the uprooted people (pay and recovery) was passed.<sup>102</sup>

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<sup>100</sup> Treatment of Evacuee Property and Exchange of lands etc, File No. 29/XF/48-II, National Documentation Wing, Islamabad, 1948, pp. 50.

<sup>101</sup> The Muhajir people are Muslim immigrants, of multi-ethnic origin who migrated from India, after the independence of Pakistan, a significant number of Muslims came to Pakistan see also "The Evolution of Muhajir Politics and Identity", *Dawn*, 20 April 2014, pp. 11.

<sup>102</sup> Summary of the work done in connection with the resettlement of Refugees on land in Punjab, Part V, File No. ZA-31 & 10961, Punjab Archives, Lahore, 1951, pp. 1 see also Letter No. 3964-R(L), dated 17<sup>th</sup> April 1950 from Resettlement & Colonies, Department to The Thal Development Officer, Mianwali with the subject of Expansion of village abadis -allocation of abandoned land regarding. File No. 5, Instructions file, Office of the Settlement & Rehabilitation Branch, Lahore, 1974, pp. 1.

The Government of Pakistan attempted its best to restore the displaced people in their equivalent callings as they had a place with in East Punjab. In such manner, the Refugee Rehabilitation Finance Corporation (RRFC) was set up in 1953 (furnished with advances for the building up of their business, for example, ventures and so forth. Then again, in provincial regions, the restoration of displaced people was progressively fruitful on the grounds that it promptly allocated the farming arrive on perpetual or semi-lasting premise.<sup>103</sup> The exiles were likewise restored under 'Guzara Scheme'.<sup>104</sup> The people, who want to get temporary lasting distribution in a town other than where they hold transitory designations were to be treated as non-allottees. It was in any case, foreseen that some of them may alter their opinion and may get a kick out of the chance to be settled in the towns where they hold impermanent distributions. All together that there might be no deferral in settling the cases of such exiles, it was chosen to check and restore all the case types of the allottees of a town. The individual who want allocations in a similar town where they hold brief assignments and the rest of the case shapes together which the duplicates of the naqal fard-I-haoyiat were protected in authority till the temporary lasting resettlement of non-allottees.<sup>105</sup>

Already it was concurred that Sindh would intake immigrants for the purpose of settlement to an estimated figure of two Lakh, N.W.F.P, one Lakh, Baluchistan fifty

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<sup>103</sup> Thandi, I. T, *People on the Move: Punabi Colonia, and Post-Colonial Migration*. Karachi: Oxford University Press, 2004, pp. 72.

<sup>104</sup> Guzara Scheme is an allowance initially introduced in 1947 to the immigrants in order to cope up with their basic needs of life see also Long, Roger D., et al., eds. *State and Nation-Building in Pakistan: Beyond Islam and Security*. Routledge, 2015, pp. 15.

<sup>105</sup> Letter No. 193-R(L) dated 10<sup>th</sup> January, 1950 from Resettlement & Colonies Department to The Extra Assistant Settlement Officer, Incharge Settlement Shahpur. File No. 5 Instructions file, Office of the Settlement & Rehabilitation Branch, Lahore, 1974, pp. 1.

thousands and Bahawalpur State fifty thousands, however just a single lakh has really been taken by them. Another 3 lakhs can without much of a stretch be detracted from the West Punjab. An order issued that every territory ought to at any rate ingest the same number of exiles as had left every area. As indicated by the week after week explanation 37.1 *lakh* people have been invested in country zones up to the week finishing 29<sup>th</sup> May 1948 out of which 31.7 *lakh* had been agriculturists and 5.4 *lakh* non-agriculturists. Not too many non-agriculturists had been resettled on callings other than agribusiness in country regions. It can, along these lines, securely be expected that around 36 *lakh* people had been put ashore, assuming the dispersion of one section of land for every individual the parity territory accessible for resettlement comes to 4.3 *lakh* acres of land was as yet accessible for resettlement. In spite of the fact that the figure was empowering the truth was not really. This territory was for the most part the second rate region in trench watered tracts or the *barani* zone<sup>106</sup> of Rawalpindi and Mianwali regions, or the fringe territories in Sialkot and Lahore locale and comparable different regions which are not appealing to exiles by virtue of either absence of fruitfulness, water system, offices or circumstance.<sup>107</sup>

In the urban zones an acceptable arrangement of the issue of resettlement of displaced people was hampered by two unique troubles. One was that without any concurrence with the Indian experts on this point no arrangement of a semi-perpetual

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<sup>106</sup> Large areas of uncultivated land in the Indus River plain of the southern Punjab were irrigated by canals and populated by colonists drawn from other parts of the province, they were not irrigated naturally by means of any river but totally dependent upon rain water for irrigation see also Master Plan for Barani Area Development: Rainfed agriculture resources development, Development Alternatives, Incorporated, 1988, pp. 100.

<sup>107</sup> Pakistan Punjab Refugee Council, Proceedings of the conference of West Punjab Commissioners and Deputy Commissioners on Rehabilitations held on the 22 & 23 June 1948, File No. 15462, Punjab Archive, Lahore, 1948, pp. xvii.

transfer of evacuee property could be concocted in the Punjab and portions to displaced people still keep on being on an impermanent premise. As a result of this it was unrealistic to make a conviction that all is good among the outcasts or adequate enthusiasm among them in the fixes and support of their distributions. On the issue of transfer of evacuee property, transaction to Indian expert was additionally started.<sup>108</sup>

The other trouble was the awful blockage in providing housing accommodation convenience. Figures gathered amid the enumeration of 1951 in regard of specific towns demonstrated an expansion of 34 percent in the urban populace of the territory since 1941. This sudden expanded in populace joined by on huge scale building action amid the earlier decade. The modest number of new building built amid the unsettling influences of 1947 and all the more amid the surges of 1950. The incredible divergence between the interest for and the accessible supply of lodging convenience for portions occasioned a lot of burden to exiles. As a response to the horrible clog in the bigger towns of the Province the Urban Development Department, set up, took up the usage of three satellite town plans at Lyallpur, Multan and Lahore and one each at Sargodha, Gujranwala, Jhang, Montgomery, Rawalpindi and Sialkot.<sup>109</sup>

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<sup>108</sup> Negotiations between India and Pakistan on disposal of refugee property, File No. FO 371/106942, TNA,UK, 1953, pp. 1.

<sup>109</sup> The Punjab, A Review of the First Three Years (August 1947 to August 1950), File No. E1-8, Punjab Archives, Lahore, 1950, pp. 12.



As a goal of the second trouble, plans of building 13 satellite towns<sup>110</sup> in the Punjab were proposed and pushed through the phases of endorsement. The development of these towns at an aggregate expense of over Rs. 10 *crores* began. The Provincial Government acquired an allowance of Rs. 3 *crores* and an advance of Rs. 1 ½ *crore* from the Center for the reason. Service of Refugees was additionally conceded Rs. 1, 50,000 and Rs. 3,25,000 by the Governor-General amid the year finishing on the 31 May 1948 and 31 May 1949 to meet his consumptions.<sup>111</sup> These designs consider the assignment of around 10,000 destinations in the proposed satellite towns to nearly poor evacuees at low rates and concede of credits to them for development of houses. Work on four new townships in the Thal region<sup>112</sup> has effectively gained significant ground. Every one of these new towns gave settlement to 30,000 to 50,000 people.

The extent of the task of departure and restoration joined with its startling nature and the consequent nonattendance of status as for the state made issues substantially more troublesome. The new domain of Punjab was so far barely seven days old, when it went up against the vital slide in of the exuberant slide. It had scarcely managed the truth of section, seen by various Punjabis as an evacuation, when it was overpowered by the flood of untouchables. The earth of undermining vibe,

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<sup>110</sup> Satellite Town is a neighbourhood locality and a Union Council of Rawalpindi City of Rawalpindi District in Punjab, Pakistan. It is located close to the capital city Islamabad

<sup>111</sup> The Constituent Assembly (legislature) of Pakistan, debates 23<sup>rd</sup> February to 26<sup>th</sup> May, 1948, National Assembly of Pakistan, Islamabad, 1948, pp. 351.

<sup>112</sup> Thal is central section of the Sindh Sāgar Doāb (tract), Punjab province, Pakistan, lying between the Indus and the Jhelum and Chenāb rivers see also Reid, Hannah. *Climate Change and Human Development*. Zed Books Ltd., 2014, pp. 114.

uncertainty, insecurity and violence in which the dominant part of this happened opened up an abyss.<sup>113</sup>

Changeless agrarian resettlement took any longer, as it was needy at first on the trading of income records between the Indian and West Punjab regions and after that involved the assignment of the assessment of evacuee claims. This included procedures of confirmation, as well as the need to decide the near estimations of the abandoned properties. It was not until January 1949 that a meeting of the delegates of India and Pakistan held in Karachi drew up plans for the trading of land and other unfaltering properties records. The exclusive right of evacuees to exchange their properties by deal or some other way was perceived. Following are the assertion, “Uncommon Jamabandi” (income records of farming area) was traded between the two parts of the Punjab. The accompanying figure demonstrates the procedure of land portion to the Refugees.<sup>114</sup>

Different authoritative measures were received for quickening the pace of advancement. These patterns were kept under consideration for decades, but early hood of Pakistan faced more than enough burdens on the conflict of water resources for domestic as well as irrigation purposes. Soon after a couple of months after the birth of Pakistan it was plunged into a water war for its existence.

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<sup>113</sup> Aiyar, Swama, “August Anarchy”, The Partition Massacres in Punjab, 1947,” *South Asia: Journal of South Asian Studies*, 1995, pp. 35.

<sup>114</sup> By the end of January 1949, revenue records of 15,184 West Punjab villages had been handed over to the East Punjab government, and, in return, revenue records had been obtained from India of 14,449 villages of East Punjab and the East Punjab Princely States, and of 13 villages of Delhi areas. PSA, Resettlement of Refugees on Land in West Punjab, File No. E-33, Punjab Archives, Lahore, 1954, pp. 55.

### 3.5 Indo-Pak Water-War on Indus Basin

As indicated by the Indian Independence Act 1947, lawful comprehension was that the arrangement commitments identifying with domains contained in the Dominion of India and Pakistan would be compulsory just in connection to a third state and did not exclude two-sided Indo-Pakistani relations. Consequently, India conjured the rule of total regional sway identifying with its cases over the universal rivers that were flowing their course through its territory. Another norm had developed. The pertinent issue was the topic of state progression.

Since the Indian Independence Act 1947<sup>115</sup> included nothing about the status of the waterways and trenches, a halt assertion was closed between common legislatures of Indian and Pakistani Punjab on 18 December 1947, to be ended on 31 March 1948 with the finish of the financial year in the two nations, subject to advance augmentation. Then, two-sided relations were additionally stressed as the progressing struggle over Jammu and Kashmir took another turn since India carried its troops there on 26<sup>th</sup> October 1947 with an end goal to catch the royal state.<sup>116</sup>

Consequently, no transactions in regards to water strife were held or even endeavored. India on 1 April 1948, removed the Indus River flow of water to Pakistan from the Upper Bari Doab and Dipalpur channels frameworks. The expected impact of this activity was to deny the West Punjab of water at the basic time of sowing of the Kharif crops, preclude Lahore from securing its prime wellspring of civil water and affirm respectability rights over the power supply from

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<sup>115</sup> Indian Independence Act, 1947, File No. IOR: L/PO/6/122, The British Library, United Kingdom, 1947, pp. 1.

<sup>116</sup> M.J. Akbar, *Nehru, The Making of India*. London: Penguin Group, 1988, pp. 443-444.

a hydroelectric plant on the Upper Beas.<sup>117</sup> The clear reason appended to the cutting off water supplies was Indian desire to bring more frustrations in newly built state of Pakistan. Another conceivable Indian aim may have been constraining Pakistan to pull back its cases over Kashmir domain.

India's activity brought rapid outcomes. On 24<sup>th</sup> April the Prime Minister Nawabzada Liaquat Ali Khan<sup>118</sup> of Pakistan proposed a meeting to his Indian counterpart keeping in mind the end goal to address the issue and solicited him to reestablish the spill out of water ways interrupting Pakistan's irrigation widely. On first May the Pakistani chief transmitted his Indian partner: "Meanwhile thank you for all inconvenience you took in getting water supply restarted."<sup>119</sup>

### 3.5.1 Pre-Mediation Scenario

The Indus water question emerged from a blend of elements, which contributed constantly to the potential of contention. The land factor of the superimposed limit in Punjab combined with surface highlights, positions as the most elevated. In the event that India had not been granted the Muslim-lion's share zones of Punjab, containing the Madhopur<sup>120</sup> and Ferozepur headwork,<sup>121</sup> a water debate of such force could

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<sup>117</sup> Michel, *The Indus River*, pp. 196.

<sup>118</sup> Nawabzada Liaquat Ali Khan (October 1895 - 16 October 1951), widely known as Quaid-i-Millat (Leader of the Nation) and *Shaheed-e-Millat* (Martyr of the Nation) was one of the leading founding fathers of Pakistan see also Kazimi, Muhammad Reza. *Liaquat Ali Khan: His Life and Work*. Oxford University Press, 2003, pp. 58.

<sup>119</sup> K. Krishna Rao, "The Problem of the Indus and its Tributaries: An Alternative View," *The World Today*, 1958, pp. 270.

<sup>120</sup> On the Ravi River, the earliest project built was the Madhopur Headworks, in 1902. It is a run-of-the river project (no storage envisaged) to divert flows through the Upper Bari Doab Canal (also known as Central Bari Doab Canal) to provide irrigation in the command area of the then unified India see also Van Puymbroeck, Rudolf V., ed. *Conflict and Cooperation on South Asia's International Rivers: A Legal Perspective*. The World Bank, 2003, pp. 314.

never have emerged amongst India and Pakistan. The relative area and surface qualities of the Kashmir domain, containing the essential catchment territories of the considerable number of waterways of the Indus framework, combined with the total reliance of Pakistan on the water assets, rank very on the contention potential scale, since they urged India to take control of the headwaters. In catching the particular parts of the Kashmir domain (talked about in detail in the following section) India increased both upper riparian status and lasting methods for struggle age to frighten Pakistan.<sup>122</sup>

The household situation is connected, to a limited extent, to the factor of populace thickness and, on account of Pakistan, positions high as a contention factor, since the settlement of Muslim transients from East Punjab was a tough assignment. The Indian activity of removing the water system waters to Pakistan made a starvation circumstance and upset the effectively delicate respective relations.<sup>123</sup> Land utilize designs in the Indus Basin exclusively rely on waterway water, inferable from the dominantly dry nature of this agrarian area. Any advancement designs including upstream water assets have a high potential for strife. The factor of atmosphere and water supply does not rank especially very since the time the question started in 1947, a broad water system framework had just been set up for a long and the waterway water supply was not considered lacking. Notwithstanding, this circumstance has changed over the time as water shortage has expanded in the

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<sup>121</sup> The Ferozepur Head works is the last point of control in India at River Satluj see also Mahajan, Gautam. *Ground Water: Surveys and Investigation*. APH Publishing, 2009, pp. 19.

<sup>122</sup> India/Pakistan political relations: the Kashmir dispute and Indus water treaty, File No. DO 196/139, TNA,UK, 1962, pp. 1.

<sup>123</sup> India/Pakistan political relations: the Kashmir dispute and Indus water treaty, File No. DO 196/142, TNA,UK, 1962-1963, pp. 1.

framework. The surface highlights in the Kashmir domain positively give usability, along these lines one would anticipate that this factor will rank significantly. Outside Pressures are low on this rundown; truth be told, for this situation, they might be viewed as a positive contributory factor towards compromise administration continuum.<sup>124</sup>

### **3.5.2 The Delhi Agreement May 1948**

On 1 April 1948, the day after the Tribunal ceased to exist, the East Punjab cut off the supplies of water going through the Ferozepur headworks to Dipalpur waterway and Bahawalpur state distributaries and through Madhopur headwork to the Pakistani parts of Lahore and Main parts of the CBDC<sup>125</sup>. Millions of human beings in Pakistan were faced with the prospect of starvation. Thousands of cattle had to be slaughtered or driven to distant areas. She could not cut off all the river supplies because she had not the means to do so. Of this, Sir Patrick Spens, Chairman of the Arbitral Tribunal, has stated

—remember very well suggesting whether it was not desirable that some order should be made about the continued flow of water. Neither the Attorney-General of India nor the Attorney-General of Pakistan would hear of us saying one single word about the flow of water, but were invited by both the Attorney-General to come to our decision on the basis that there would be non-interference whatsoever with the then existing flow of water and the award which my colleagues made, in which I had no part, they made on

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<sup>124</sup> India/Pakistan Political Relations: the Kashmir Dispute and Indus Water Treaty, File No. DO 196/141, TNA,UK, 1962, pp. 1.

<sup>125</sup> The Indus River System Dispute, File No. DO 35/2698 Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for financing irrigation and hydro-electric works, TNA,UK, 1951-1952, pp. 1.

that basis. Our awards were published at the end of March 1948. I am going to say nothing more about it except that I was very much upset that almost within a day or two there was a grave interference with the flow of water on the basis of which our awards had been made.”<sup>126</sup>

For Pakistan, the matter of prime significance was that the water coursing through these waterways had been the life saver for West Punjab, while India had numerous streams to help its farming and a lot of its region got enough rain, making it less subject to the water system from the Punjab waterways. In addition, the city of Lahore was denied not just of principle wellspring of metropolitan water rather electric supply was likewise cut off from Mandi hydroelectric power plant.<sup>127</sup>

Pakistan understood its weakness and outrageous defenselessness as the headwaters of every one of these waterways were in Indian area along these lines the results of conceivable forceful expectations on India's part before long posed a potential threat before Pakistan.<sup>128</sup> Pakistan instantly asked for arrangement. An appointment driven by Ghulam Muhammad,<sup>129</sup> the then government fund priest and two clergymen from

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<sup>126</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 5.

<sup>127</sup> Extract from Inward Telegram No. 164 to Commonwealth Relation Office (CRO) from U.K High Commissioner in Pakistan, File No. DO 142/231, TNA, UK, 1948-1950 see also Gulhati, *Indus Waters Treaty...*, pp. 60.

<sup>128</sup> Inward Telegram No. 3526 (secret) to Commonwealth Relation Office (CRO) from Acting U.K High Commissioner in India following was the text of principle passages of Pandit Nehru's speech in Delhi on 2 October 1948 on occasions of Gandhi's birthday as reported in Hindustan Times of 3 October 1948. The argument was that rivers passing through Pakistan had their sources in Kashmir and if they remembered in Indian hands the course of their rivers might be diverted. It was fantastic idea. Would India take the rivers to the sky? If not today six months or a year hence normal life would be restored and trade between Kashmir and Pakistan would flourish as before. It was in this perspective that Pakistan people should see the question of Kashmir. Their leaders, they must realize were misleading them with false slogans File No. DO 142/231, TNA, UK, 1948-1950.

<sup>129</sup> Sir Malik Ghulam Muhammad was a Pakistani financier who served as the third Governor-General of Pakistan, appointed in this capacity in 1951 until being dismissed in 1955 due to health conditions.

Punjab, Shoukat Hayat Khan<sup>130</sup> and Mumtaz Doltana,<sup>131</sup> were sent to Delhi in the start of May 1948. India demanded that it would not reestablish system of river water until the point when Pakistan recognized that it had no privilege to the waters starting from the Indian regions.<sup>132</sup>

Joint control<sup>133</sup> being out of question, a Standstill Agreement,<sup>134</sup> to last till 31 March 1948 was drafted in December 1948. This was followed by an Inter-Dominion Agreement also know as Delhi agreement on 4 May 1948. This agreement enabled Pakistan to get, for the time being, water supplies for the Pakistan part of the Upper Bari Doab Canal (UBDC) and the Dipalpur Canal.<sup>135</sup> The Delhi Agreement, incidentally reestablished water to the CBDC and the Dipalpur channels, allowing the East Punjab government to progressively decrease the supply to these waterways, in this way giving the West Punjab government time to discover elective sources.

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<sup>130</sup> Sardar Shaukat Hayat Khan (September 1915 – September 1998) was an influential politician, military officer, and Pakistan Movement activist who played a major role in the organising of the Muslim League in the British-controlled Punjab see also Zamindar, Vazira Fazila-Yacoobali. *The long Partition and the Making of Modern South Asia: Refugees, Boundaries, Histories*. Columbia University Press, 2007, pp. 177.

<sup>131</sup> Mian Mumtaz Daulatana (February 1916- January 1995) was a Punjabi politician who supported the Pakistan Movement in British India, and was the second Chief Minister of West Punjab in Pakistan see also Korson, J. Henry, ed. *Contemporary Problems of Pakistan*. Vol. 15. Brill Archive, 1974, pp. 15.

<sup>132</sup> Ali, Chaudhri Muhammad, *The Emergence of Pakistan*, New York: Columbia University Press, 1967, pp. 320.

<sup>133</sup> A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Those parties are called joint operators.

<sup>134</sup> An agreement to maintain the present state of affairs, especially one made between two countries in which a debt owed by one to the other is held in abeyance for a specified period see also Gupta, Ed KR, ed. *India-Pakistan Relations with Special Reference to Kashmir*. Vol. 4. Atlantic Publishers & Dist, 2006, pp. 172.

<sup>135</sup> Indus River System and Its Tributaries, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.



East Punjab additionally requested seigniorage charges<sup>136</sup> to which West Punjab government concurred on a basic level yet the argument about the estimation of these charges stayed uncertain and Pakistan asked for to refer the case to the ICJ (ICJ) for discretion. Pakistan guaranteed that the assertion was transitory in any case and subject to promote arrangement as well.<sup>137</sup> With India's refusal to present the contradiction to the ICJ, an impasse had emerged. Ghulam Mohammad, the then finance minister of Pakistan, had engaged Lord Mountbatten, the then India's Governor-General, who counseled Prime Minister Pandit Jawaharlal Nehru. Consequently, ~~a~~ statement was then placed before Ghulam Mohammad and he was asked to sign it without changing a word or a comma-a condition for restoring the flow of water”.<sup>138</sup>

It is significant that India's affirmation of not interfering with the water course without giving Pakistan time to tap 'elective sources' did not determine a due date by which Pakistan could do as such. The section 4 prominently disregarded the lawful perspective, here Pakistan surrendered, "in a down to earth soul", that India may in the end use every one of the waters in the waterways, since neither a period restrict

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<sup>136</sup> Seigniorage is the difference between the value of currency/money and the cost of producing it. It is essentially the profit earned by the government by printing currency see also Aisen, Mr Ari, and Mr Francisco José Veiga. *The Political Economy of Seigniorage*. No. 5-175. International Monetary Fund, 2005, pp. 10.

<sup>137</sup> File No. V-147, Reports of expert committees in connection with the partition of the Punjab Province on the division of financial assets and liabilities, Punjab archives, Lahore, 1948, pp. 1 see also Agendas of the meetings of the Punjab partition committee from the 1<sup>st</sup> July to 11<sup>th</sup> August 1947, File No. V-143(1), Punjab Archives, Lahore, 1947, pp. 6 and Record of decisions of the meetings of the Punjab Partition committee from the 1<sup>st</sup> July to 11<sup>th</sup> August 1947, File No. 126, Punjab Archives, Lahore, 1947, pp. 8.

<sup>138</sup> File No. V-147, Reports of expert committees in connection with the partition of the Punjab Province on the division of financial assets and liabilities, Punjab archives, Lahore, 1948, pp. 1 see also Agendas of the meetings of the Punjab partition committee from the 1<sup>st</sup> July to 11<sup>th</sup> August 1947, File No. V-143(1), Punjab Archives, Lahore, 1947, pp. 6 and Record of decisions of the meetings of the Punjab Partition committee from the 1<sup>st</sup> July to 11<sup>th</sup> August 1947, File No. 126, Punjab Archives, Lahore, 1947, pp. 8.

nor a timetable was accommodated the "logically reducing its supply." One could likewise inquire the significance of a "sensible time." It would be conceivable to comprehend by this passage that Pakistan may later on raise "the subject of law." By "instantly" paying East Punjab for the water, as depicted in section 6, Pakistan allowed the translation it recognized that India's upper riparian position forced no commitment on India towards Pakistan. This was obviously an "impromptu" plan which Pakistan may disavow later on, however afresh the time factor was inconclusive. Passage 6 recommends that the Agreement was expected to check time, with subtle elements, including legitimate ramifications, to be worked out later.<sup>139</sup>

In aggregate, there was not really any affirmation of riparian rights for Pakistan despite later compositions by Pakistani sympathizers. The Agreement should be assessed with regards to winning states of that time. Being the lower riparian, Pakistan was compelled to ask for the rebuilding of water. Shy of war revelation, Pakistan held a negative haggling position. This record for the flurry with which the agreement was marked seemed to be absolutely troublesome for Pakistan. From Pakistan's perspective, there was no particular arrangement in the matter of when transactions ought to be continued or for to what extent the Agreement was to tie. At this basic point, Pakistan likewise activated its powers in Kashmir and a formal India-Pakistan war began in May 1948. A nifty gritty portrayal has been given in the following part while featuring the linkages amongst water and war in India-Pakistan relations.<sup>140</sup>

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<sup>139</sup> Indus River System and Its Tributaries, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

<sup>140</sup> Swami, Praveen. *India, Pakistan and the Secret Jihad: The Covert War in Kashmir, 1947-2004*. Routledge, 2006, pp. 18.

The Agreement did not contain an expiry date rather it called for further reciprocal discourse for conclusive settlement of the issue. Furthermore, India viewed it as “International Agreement” and Pakistan's claim that it was temporary, invalid and signed ‘under compulsion’ or duress.<sup>141</sup> Moreover, this agreement referring to just a few canals, as comprehended by Pakistan, lamentably denied Pakistan of its rights to worldwide waters of three eastern streams and set up India's entitlement to these waters.<sup>142</sup> Obviously, the direness of the circumstance made much disarray in the brains of Pakistani negotiators. They drew wrong translation of the word “canal” and felt that India just requested transportation charges and sharing expenses for the upkeep of these trenches till Pakistan hunt down elective sources (develop new head works and connection trenches) to meet setback in the stream Ravi and Sutlej. By the by, the Delhi Agreement made a circumstance having long haul ramifications for Pakistan.<sup>143</sup>

Later the sets of negotiation committees and various suggestions keep on rolling between the two countries India and Pakistan. As initiated on 5 October 1949 in response to India's communication a negotiation committee was setup for “exploring possibilities of a settlement of the dispute”. This committee contains three members from each country i.e. Chaudhari Muhammad Ali, Secretary General Government of Pakistan, Pir Ibrahim and H. A. Majid, Chief Engineer Irrigation and Chief Secretary West Pakistan respectively were from Pakistan's contingent. From Indian side Mr. A.N Khosla, Chairman Central Irrigation, Power and Navigation Commission, B.K.

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<sup>141</sup> Ali, Chaudhri Muhammad, *The Emergence of Pakistan*, New York: Columbia University Press, 1967, pp. 321.

<sup>142</sup> Pakistan Foreign Minister Statement, File No. DO 142/231, TNA, UK, 1948-1950, pp. 1.

<sup>143</sup> Muhammad Nasrullah, *Wullar Barrage Issue*, 1991, pp. 65.

Gokhale, Secretary Minister of Mines and Works and M.R. Sachdev, Chief Secretary East Punjab and another member Gulhati provided additional support and assistance to the committee.

In order to resolve the stored water conservation of surplus flood flows, Pakistan proposed storage dam on four rivers namely Ravi, Beas, Sutlej and Chenab. This proposal was offered on 27-29 March 1950 at Karachi during the Negotiating Committee Meeting. It was also suggested that this stored water would be consumed in accordance with the unitization agreement on both sides. Likewise, the cost of plan would be distributed in accordance with the benefits driven by each province. However, India proposed an alternative plan; River Sutlej with the total flow of water should be left an exclusive use of India on which Bhakra Dam was being contracted. Subject to various adjustments in the favor of India, Pakistan can use the waters of rivers Beas, Chenab and Ravi to meet their water carvings.<sup>144</sup>

In case of any shortfall in West Punjab a link canal could be built from River Chenab and it can be used exclusively by Pakistan. On River Chenab to meet the remaining shortages a storage dam could be built which will be used for future irrigation expansion. It was decided that the finding from both sides were to be considered thoroughly and a decision would be made in the next Negotiating Committee meeting at Delhi in 1950. It was highly appreciated plan that Pakistan could ever clinch from the Upper Riparian-India. It should be accepted without any delay but unfortunately this decision was held pending for the next meeting.<sup>145</sup> Late in May

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<sup>144</sup> Extract from Inward Telegram No. 164 to Commonwealth Relation Office (CRO) from U.K High Commissioner in Pakistan, File No. DO 142/231, TNA, UK, 1948-1950, pp. 1.

<sup>145</sup> Pakistan Foreign Minister Statement, File No. DO 142/231, TNA, UK, 1948-1950, pp. 1.

1950 the committee met at Delhi, India. Leaving the Pakistani delegation in wonder India had totally changed its stand. Rather than accepting one of the two proposals that were previously under consideration India totally refused to talk out the plan that presented at Karachi. Here, a new proposal was ready to be displayed. Now, India extended its demand that was previously confined to River Sutlej (as offered in Karachi Plan) now Ravi and Beas rivers were also claimed for her use. An additional demand for 10,000 cusecs by the help of a link canal from Chenab through a tunnel built at Maru was also claimed. This was rejected adversely by Pakistan, thus the proceedings of meeting resulted in vain.<sup>146</sup>

### **3.5.3 Involvement of ICJ**

Soon it was revealed that the chances of bilateral agreement under such political distrust were not possible. Pakistan gave the suggestion to refer the difference to ICJ but India refused. As Pakistan and India both were the member of British Commonwealth, Pakistan was unable to take the case unilaterally to ICJ. India gave another proposal to refer legal issues for adjudicated not to ICJ but to an impartial tribunal in September 1950. Actually, India wanted to be reviewed by a court comprising of two Indian and two Pakistani judges. However, Pakistan suggested an impartial chairman. Neither India agreed to this suggestion not to another court with and impartial chairman. Thus, all the negotiations felt to be discontinued it was a suspicion that India was applying tactics to gain time to work on here new irrigation canals. India was afraid of an international intervention at that time so it gained time by establishing a fait accompli and launched crash program constituting a new irrigational series of projects as described in the following table.

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<sup>146</sup> Indus River System and Its Tributaries, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

Table 3.2

*Mock Water Projects initiated by India on Eastern Rivers*

<b>Project</b>	<b>Description</b>
Bhakra Canal	To irrigate new lands in Rajisthan desert and stored water of raised Bhakra Dam commissioned on 8 July 1954.
Bhakra Dam	It was under construction since 1946 on upper Sutlej River and completed in 1958. In order to trap entire river flow its storage capacity was double from 3.21 to 6.03 M.A.F.
Ravi Beas Link	By diverting west Punjab CBD canal water share Harike Barrage was constructed that deliver 6000 cusses to River Sutlej
Ferozepore Feeder	To feed Bikaner and Eastern Canals it discharged 15000 cusecs from Harike Barrage.
Rajisthan Canal	In order to irrigate new lands in Rajisthan desert it discharges 15000 cusecs from Harike Barrage.
New Channels	Further extensions to various new lands in East Punjab nice distributed channels of CBDC were used for water diversions: it was the denial of water share by India since April 1948.

Source:- Bashir A. Malik, *Indus Water Treaty in Retrospect*, Lahore, A.M. Shaakoori, 2005, pp. 110-111.

After the meeting of negotiation in May 1950 at Delhi a stalemate continued in canal water talks, there was a hangover at Pakistani side with India's intransigence. With the passage of time the anxiety fever grew high without any viable settlement. Meanwhile, across the border tension in Kashmir was also rising.<sup>147</sup> Pakistan found no alternative but to seek help from other avenues. Pakistan planned to take her complaint to UN Security Council in 1951, a ray of hope appeared from an unexpected via. Mr. Kuldip Nayar, a respectable Indian journalist stated as follows:-

—In 1951, when Pakistan was on the point of bringing the dispute before the Security Council and initiative came from the International bank for

<sup>147</sup> Bashir A. Malik, *Indus Water Treaty in Retrospect*, Lahore, A.M. Shaakoori, 2005, pp. 110-111.

reconstruction and development (World Bank). It offered its good offices to help solve canal water dispute between India and Pakistan”.<sup>148</sup>

Hence, World Bank intervention was prompted by Lilienthal who offered proposal for the development of Indus System dispute settlement.

### **3.6 Water Crisis in Pakistan**

On the other hand the situation in Pakistan was that every year approximately 100,000 acres go out of cultivation in West Pakistan, because of the concentration and rise of salts to the root zone. In the former Punjab alone some 8,00,000 acres have so far gone out of cultivation. West Pakistan carried out by the Photographic Survey Corporation of Canada Ltd., Toronto under the Colombo Plan, shows that about 40,000 square miles or 2.5 million acres of cultivatable area in West Pakistan are severely affected by salts. As is true of all alluvial valleys in arid climates, deposits of salts exist all over the Indus River areas to varying degrees. The solution of this evil, as is now well established, lies in the adequate application of irrigation water. At the moment irrigation applications in Pakistan are a fraction of what is needed according to known scientific standards. The dependable flow supplies in the rivers having been already exhausted, Pakistan has under taken the Mangla Dam Project on the Jhelum in the hope to be able to initiate a well laid programme of reclamation and development in both West Pakistan and Azad Kashmir. The need for curtain and reclamation alone in 25 M.A.F.<sup>149</sup> Many more storages were needed to solve Pakistan’s problems of meeting food shortages and employment of her

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<sup>148</sup> –Kuldip Nayar, To Iron out the kinks”, *Dawn* 17 May 2003, pp. 4.

<sup>149</sup> Million Acre Foot (M.A.F). A unit of volume commonly used in reference to large-scale water resources see also Weinberg, Marca. *Water use Conflicts in the West: Implications of Reforming the Bureau of Reclamation's Water Supply Policies*. Diane Pub Co, 1997, pp. 46

increasing population. However, not only the supplies are limited but also the storage sites.<sup>150</sup>

Deficiencies in the Control Bari Doab system during the important months of Kharif, 1952 (i.e. from April 1 to September 30) have been equal to one-third of the due share. These figures are based on Indian official gauge readings at the Madhopur Head-works on the Ravi River. India has simply appropriated this water for increased irrigation in India at the expense of Pakistan. An even more critical situation arises from the greater deficiencies amounting to more than one-half of the due share) which began in late September and continued through October, 1952. These are the months when wheat is sown in the Punjab and the shortages of water will be directly reflected in a diminution in the wheat harvest in April/May, 1953.<sup>151</sup>

In respect of the Sutlej River, during May and June, 1952, important months for the Kharif Crop, supplies to the Sutlej Valley canals in Pakistan have averaged about 50 per cent of the supplies received regularly for a score of years before Partition. Besides the wheat harvest, these deficiencies in supplies of water will further result in a reduced cotton crop. During the Rabi (winter) season of 1950- 1<sup>st</sup> October to 31<sup>st</sup> March- the irrigated area in the Punjab (Pakistan) was reduced 26.5 per cent from the preceding year due to reduction in the water supply reaching Pakistan. While refusing to allow the water dispute to be decided by an impartial court, India has

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<sup>150</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 1.

<sup>151</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office London, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.



denied any water to 11 canals which received supplies at the time of partition and has reduced flows in three other canals. These were the 11 canals which have been cut off completely by India: Eastern Ganga Distributaries of the Bahawalpur State Canal; Wagah Distributaries; Amritsar Basarke Distributary; Dada Distributary; Sukkar Distributary; Khairi Distributary; Sahake Miner; Thepur Miner; Gilpan Miner; Kasur Miner; and Maehek Minor. There recently has been short supply in Pull Distributaries, Kahali Distributary and Rai Miner.<sup>152</sup>

The India Government also announced the conversion of a non-perennial canal above the Ferozepore Head-works into a perennial canal. That will mean increased reduction in supplies of water for existing Rabi (winter) uses in Pakistan. Construction of the great storage reservoir at Bhakra on the Sutlej is proceeding at an accelerated pace.<sup>153</sup> This dam will take the entire flow of the Sutlej River, including even that during the monsoon season.<sup>154</sup> The following table gives the Acreage to be irrigated in India with Water from the Indus Basin Rivers.

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<sup>152</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office London, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

<sup>153</sup> A report of great significance appeared in the South India paper –Hindu”, about the Bhakra Dam. The report was that Pakistan objects strongly to the construction of the Bhakra Dam and Pakistan will raise this issue at the next Indo-Pakistan Conference on the East Punjab Canal Water Dispute, letter Letter No. 559/2 dated 3<sup>rd</sup> August 1949, from Eastern House, New Delhi to United Kingdom Trade Commissioner, Karachi. by the construction of the Bhakra dam, reduce summer supplies in the Sutlej to a degree sufficient to affect the flow into the Sind of the river for their supplies). File No. DO 142/231, TNA, UK, 1948-1950, pp. 1.

<sup>154</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office London, File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

Table 3.3

*Acreeage to be Irrigated in India with Water from the Indus Basin Rivers (Acres-Cumulative)*<sup>155</sup>

Years	From Bhakra Nangal (Sutlej)	Other New Irrigation in East Punjab (Ravi, Beas, other Sutlej)	Total new Irrigation
1951-52	90,000	139,000	229,000
1952-53	150,000	180,000	330,000
1953-54	420,000	414,000	834,000
1954-55	1,120,000	515,000	1,635,000
1955-56	1,360,000	619,000	1,979,000
On completion	3,915,000	676,000	4,591,000

Source: File No. DO 35/6648, The National Archives, United Kingdom, 1952-1953, pp. 2.

It is clearly depicted from the above mentioned table that with the construction of new head-works at Harike, below the confluence of the Bias and the Sutlej Rivers, the Government of India may abandon the Ferzepore Head-works. This would stop supply to the following large canals which irrigate a total area of 5,658,446 acres in Pakistan and are relied upon even for the drinking water of the population. Keeping in view Dipalpur Canal, Pakpattan Canal, Mailsi Canal, Bahawalpur State Distributary, Eastern Sadioja Canal, Fardwah Canal, Bahwal Canal and Qaim Canal. Those canals have a total Kharif (summer) discharge of 33,232 cusecs and a Rabi (winter) discharge of 11,356 cusecs.<sup>156</sup>

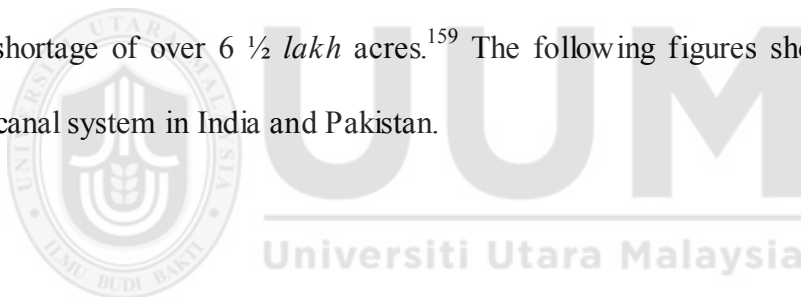
In 1953 the food situation gone worse<sup>157</sup> and the most important cause of food shortage has been shortage of water. Khawaja Nazimuddin the Prime Minister of

<sup>155</sup> Ibid.

<sup>156</sup> Indus River System and its Tributaries File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

<sup>157</sup> High Commissioner's telegrams 617 dated 10<sup>th</sup> April, 1953 and 643 dated 14<sup>th</sup> April 1953 and Economic Adviser's printed dispatch 201/23/52 dated 16<sup>th</sup> April 1953, Indus River waters dispute and danger of war between India and Pakistan File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

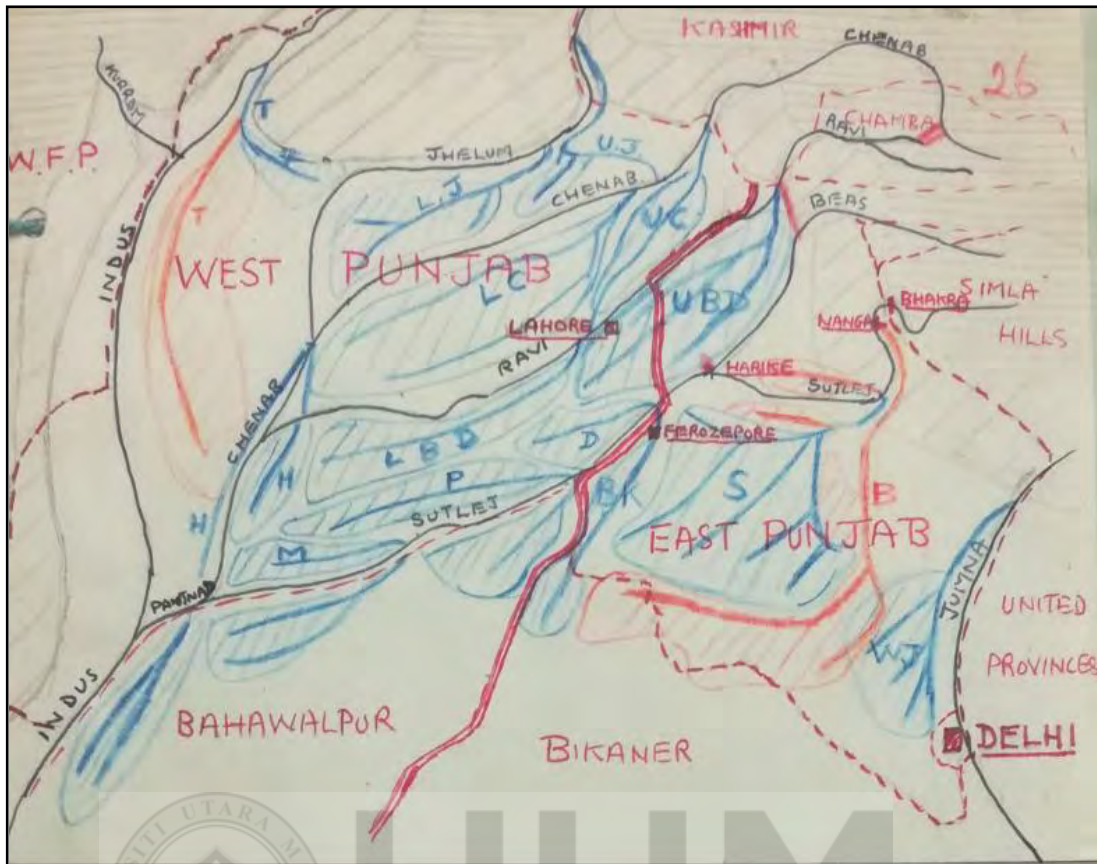
Pakistan addressing a Press Conference asked that Pakistan must import a minimum of 1 ½ million tons of wheat during the coming year if the food situation is to be mastered in widespread famine or distress is to be prevented. This started with the failure of the monsoon<sup>158</sup> in West Pakistan in 1951, which together with the shortage of water in the rivers and the canals adversely affected the yield of Kharif food grains in West Pakistan. As a result, the demand for wheat increased and it was with some difficulty that the country was able to pull through without resorting to food imports during that year. At the time of Rabi sowing in 1951, however, there was again very serious shortage of water. This resulted again principally from failure of rains. As a result, according to the final forecast, there was a reduction in the area under wheat in West Pakistan from 1,07,88,200 acres, in the previous year, to 1,01,21,900 acres, i.e. a shortage of over 6 ½ *lakh* acres.<sup>159</sup> The following figures show the name of water canal system in India and Pakistan.



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<sup>158</sup> Monsoon is traditionally defined as a seasonal reversing wind accompanied by corresponding changes in precipitation, but is now used to describe seasonal changes in atmospheric circulation and precipitation associated with the asymmetric heating of land and sea see also Wang, Bin, *The Asian Monsoon*. Springer Science & Business Media, 2006, pp. 154.

<sup>159</sup> Forthrightly Summaries of the Ministry of Finance, File No. 28CF56 Volume IV, National Documentation Wing, Islamabad, 1956, pp. 50.



### Boundaries

Domain	=====
State and Province	-----
Boundary of West and East Punjab	=====

### Name of Canals system

<b>WJ</b>	West Jumna	<b>B</b>	Bhakra (Nagal)
<b>S</b>	Sirhind	<b>UC</b>	Upper Chanab
<b>BK</b>	Bikran	<b>LC</b>	Lower Chanab
<b>UBD</b>	Upper Bari Doab	<b>UJ</b>	Upper Jhelum
<b>D</b>	Dilpur	<b>LJ</b>	Lower Jhelum
<b>LBD</b>	Lower Bari Doab	<b>T</b>	Thal
<b>P</b>	Pakpatan	<b>P</b>	Punjab
<b>H</b>	Hawali		
<b>M</b>	Mailsi		

Figure 3.3. Name of Canal system in India and Pakistan, 1947.

Source:- Punjab Canal Dispute, Supplementary Note and Summary. File No. DO 142/231, The National Archives, United Kingdom, 1948-1950, pp. 2.

Then again, largely due to shortage of water at the appropriate time, the yield per acre was also poor. According to the final forecast, total wheat production was thus of the order of 29,88,000 tons in 1952 as against 39,33,000 tons in the previous year. There was thus 9 ½ *lakh* tons less wheat available for consumption during the wheat year May 1952- April 1953- a disquieting situation. Of this shortage as much as 6,20,000 tons is attributable to the canal irrigated area and 2,18,000 tons to the non irrigated area of the Punjab and Bahawalpur.<sup>160</sup>

Khawaja Nazimuddin,<sup>161</sup> Prime Minister of Pakistan, addressing a press conference said; we must import a minimum of 1,500,000 tons of wheat during the coming wheat year (April-May, 1953 to March-April 1954) if the food situation is to be mastered and widespread famine or distress prevented. I was greatly shocked and grieved to hear that, in parts of the canal irrigated area which had hitherto constituted the granary of the Punjab, people had been driven to living on wild vegetation. This must not happen again.<sup>162</sup>

—Since it is beyond our present resources to import 1,500,000 tons of wheat, we have decided to seek aid from the United States in this matter. I have no doubt that, as always in such humanitarian tasks, the response of that great and friendly country will be both prompt

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<sup>160</sup> Handout 1605 from Press Information Department, Government of Pakistan, Indus River waters dispute and danger of war between India and Pakistan File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

<sup>161</sup> Sir Khawaja Nazimuddin, KCIE, CIE was a Bengali politician, conservative figure, and one of the leading founding fathers of Pakistan. He is noted as being the first Bengali leader of Pakistan who led the country as Prime Minister, as well as the second Governor-General see also Binder, Leonard, *Religion and Politics in Pakistan*. University of California Press, 1963, pp. 297.

<sup>162</sup> —Famine Threat in Pakistan”, *Times* 10 April 1953 pp. 12 see also File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

and generous. It is most essential that we start obtaining these supplies within the next three months.<sup>163</sup>

After attributing the shortage of wheat partly to lack of rains, he said: —A substantial part, however was a result of supplies of water in India-controlled canals, particularly during the Rabi sowing of 1952, having been considerably lower than what even the water shortage resulting from natural causes would have justified.” The food shortage was ascribed to other causes also, such as diversion of some of the area previously under wheat to cash crops when the cultivator found that these were more profitable damage by locusts, hoarding and smuggling.<sup>164</sup>

### 3.7 Conclusion

In the period following the 1948 Delhi Agreement, while between territory talks proceeded on the Sutlej River debate, India and Pakistan were additionally building up their water assets. The two nations had connected to the World Bank for advancement credits. Regardless of the obvious monetary suitability of these undertakings, the Bank needed to deny the credits as the activities wanted to utilize the debated Sutlej River. As pressures kept on rising, India and Pakistan's focused advancement of the Sutlej River compromised to impede financial improvement as well as turn into a potential flashpoint, the World Bank offered its 'great workplaces' in September 1951. As opposed to desires, the two India and Pakistan acknowledged the offer. Pakistan brought up that the Bank's proposition would 'genuinely bargain

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<sup>163</sup> —Famine Threat in Pakistan”, Times 10 April 1953 pp. 12 see also File No. DO 35/6648, TNA, UK, 1952-1953, pp. 1.

<sup>164</sup> Forthrightly Summaries of the Ministry of Finance, File No. 28CF56 Volume IV, National Documentation Wing, Islamabad, 1956, pp. 50.

the Pakistan position if the discussions fizzled'. The Bank's offer depended on three standards. In the first place, that the Indus bowl had enough water for the two nations. Furthermore, that in settling the Sutlej River debate, the basin would be treated as a solitary unit inferring all the waterways were to be kept under discussion. Eventually the discussions over past grievances would set aside and hold a political core interest rather than the technical one.

The Indus Mediations initiated at the Bank's headquarters at Washington DC in May 1952. In October 1953, after field trips for information gathering, the Indian and Pakistani assignments presented their plans for the complete advancement of the Indus bowl. To address the loopholes between these plans, the World Bank displayed its very own arrangement in February 1954. The Bank's 1954 arrangement proposed to partition the Indus bowl. Pakistan would get the three western streams (the Chenab, Jhelum and the Indus) and around 80% of the aggregate surface waters and India would get the three eastern waterways (the Sutlej, Beas and Ravi) or roughly 20% of the Indus waters. The framework expected to isolate the bowl would be paid in order to get benefits in accordance with beneficiary pays principle. Pakistan felt the 1954 Plan left it lacking water to address its issues. Since Pakistan couldn't manage, politically, to give away water nor did it have the funds to assemble storage capacities singularly, it denied the 1954 Plan. A blend of geo-graphical as well as financial concerns getting from the potential loss of the eastern streams and political precariousness made Pakistan widely conscious in its arrangements.

Pakistan attempted hard to influence the World Bank that it required storage capacity to address its issues and having the 1954 Plan corrected with the 1956 Aide-Memoire

which conceived storage spaces on the western streams for Pakistan. While India had acknowledged the 1954 Plan, it questioned the Aide-Memoire on the grounds that it was worried about bringing about extra money related commitments to Pakistan. Further arguments were issued in relation to the actual text of negotiation thus it was suggested to have adhoc agreement under which India was held liable to supply water sources to Pakistan for the coming six months to one year. A series of agreements were marked, every one of which were discussed independently, beginning on 1 April 1955 and enduring until 31 March 1960. The main time frame for which India and Pakistan were not able to concede to an impromptu assentation was 1 October 1957-30 September 1958. Following a rebellion in October 1958, the Government of Pakistan unequivocally acknowledged the 1954 Plan (the division of the bowl) and the 1956 Aide-Memoire (storerooms on the western waterways) in December 1958. In spite of the fact that India had officially acknowledged these reports, it took two years to draft the settlement. The IWT was marked on 19 September 1960 by India, Pakistan and the World Bank, further it was provided with financial assistance by the friendly nations in January 1961. India got the three eastern streams (the Sutlej, Beas and Ravi) or 20% of the bowl's waters and Pakistan got the staying 80% or the three western waterways (the Chenab, Jhelum and Indus).



## CHAPTER FOUR

### WORLD BANK, INDIA AND PAKISTAN

#### 4.1 Introduction

During the early hood of newly built India and Pakistan states thrust of water became the mandatory requisite to run the countries. This need led to the competitive development of the Sutlej River from both sides which raised the level of tensions and it ultimately continued to raise threat notonly to obstruct socio-economic development but also become a potential flashpoint. The complexity of Indo-Pakistan relations pulled in US contribution, in reference to its policy of containment of communism it was looking for more allies. Its delegate, in 1951, Lilienthal, former head of the multi-state Tennessee Valley Authority, visited both India and Pakistan and recorded his observations in an article which appeared in the August 1951 issue of the –Collier’s” Magazine.<sup>1</sup>

He called the canal water dispute –pure dynamite Punjab powder keg” and warned that –peace in the Indian subcontinent is not in sight with these inflammables lying around”. Lilienthal proposals were received by the World Bank in 1951 and the World Bank formally offered its great workplaces for the settlement discussions on 6 September 1951. Both India and Pakistan accepted the help. President of World Bank also clarified Indian idea of –third party arbitration” and made a very clear discrimination between the functional and political aspects of the Indus dispute. Pakistan pointed out that the Bank's proposal would seriously compromise the

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<sup>1</sup>Another –Korea” in the Making by David E. Lilienthal”, *Collier’s Magazine*, 4 August 1951.

Pakistan position if the talks failed. Three principals were the guidelines of Bank's offer. Firstly, the Indus Basin had immense water resources for meeting the agricultural and domestic needs of both countries. Secondly, all the rivers were to be discussed in resolving the Sutlej River conflict, the basin would be treated as a whole single unit. Finally, that past grievances would be put aside during negotiations and the focus will retain a technical in dimension rather than political dissection.

Thus in Washington DC, at the Bank's headquarters in May 1952 Indus Mediations started. Detailed field trips for data collection were conducted in October 1953. Pakistani and Indian delegations were welcomed to submit their comprehensive plans for the progressive development of the IRB. There was a wide gap between both the plans. In order to address the gap between both plans, in February 1954, the World Bank suggested ultimately suggested its own plan. A combination of financial issues deriving from the potential loss of the waters of Eastern Rivers, political instability and geography made Pakistan extremely cautious about the further negotiations. Finally, Pakistan succeeded in realizing the World Bank that it needed more storage facilities to fulfill its needs, thus the 1954 Plan was amended with the 1956 Aide-Memoire which envisaged storage facilities on the Western Rivers for support of Pakistan. As India had accepted the 1954 Plan, it was concerned about bearing additional financial obligations to Pakistan so it objected to the Aide-Memoire and presented its own plan. According to the Bank's 1954 plan it decided to divide the Indus Basin. This plan was further polished to meet the needs of both the countries and it was finalized under the name of "Indus Water Treaty" in 1960.

## 4.2 Circumstances Leading to International Intervention

Delhi agreement also known as the ‘Joint Statement’ was signed by Pakistan in 1948 as mentioned earlier, in a state of un-satisfaction and it not only objected the statement but also the environment that lead to sign this agreement. However, it realized Pakistan that ‘the Joint Statement’ restored water to Pakistan but at heavy cost. Firstly, in order to transport water through India, Pakistan was to pay a large amount of money to India. Secondly, as per agreement India was permitted to cut short the supply of water to Pakistan gradually.<sup>2</sup> This led Pakistan in great dissatisfaction though it had signed the agreement, but was not satisfied with its provisions therein. On the other side, India considered this statement an international agreement and was satisfied and completely denied Pakistan’s position that the agreement was signed under heavy pressure or it was invalid in its provisions.

Problems with Joint Statement (Delhi Agreement as India called it) started at both sides almost immediately. Firstly, India considered its water to be its own, since there would appear to be no rule of international law imposing any burden on an upper riparian<sup>3</sup> state for the benefit of a state lower down the river. As an example, it was argued in Delhi that United States was not prevented to build the Boulder Dam<sup>4</sup>

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<sup>2</sup> Inward Telegram to Commonwealth Relations Office No. 303, From U.K High Commission in India to U.K High Commission in Pakistan, Washington, U.K delegation parts, Canal Water Dispute, File No. DO 35/2698, Development of the Water Resources of the Indus Basin: request by India and Pakistan to the IBRD for Financing Irrigation and Hydro-Electric Works, TNA, UK, 1951-1952, pp. 1.

<sup>3</sup> A riparian zone or riparian area is the interface between land and a river or stream. Riparian is also the proper nomenclature for one of the fifteen terrestrial biomes of the Earth. Plant habitats and communities along the river margins and banks are called riparian vegetation, characterized by hydrophilic plants. –Upper And Lower Riparian”, *The Express Tribune*, 10 July 2013, pp. 5.

<sup>4</sup> Boulder Dam is also known as Hoover Dam is a concrete arch-gravity dam in the Black Canyon of the Colorado River, on the border between the U.S. states of Nevada and Arizona. It was constructed between 1931 and 1936 during the Great Depression and was dedicated on September 30, 1935, by President Franklin D. Roosevelt. Its construction was the result of a massive effort involving

because Mexico was adversely affected. And if there were dispute in such cases, the usual way of settling them was by bilateral agreements or by bilateral commissions; there was therefore no reason to go to third parties for arbitration as the Pakistanis suggested. Delhi had on various occasions offered Karachi a commission composed of an equal number of representatives from each side.<sup>5</sup>

Secondly, although India considered that it had this unrestricted right, it entered into an agreement with Pakistan in 1948 by which it undertook to reduce the supply of water to Pakistan only progressively, so that Pakistan could develop alternative sources meanwhile. The Indians claim that they had kept this agreement, but that Pakistan repudiated it in 1950 at Karachi, as India said, stopped paying the disputed amounts for seigniorage charges<sup>6</sup> and the capital costs of certain works which it had promised to deposit with the Indian Reserve Bank. India was moreover, prepared to accept arbitration on the validity of this agreement although an arbitrator might well find the relevant clauses difficult to interpret; they were in past.<sup>7</sup>

Thirdly, India had, in fact, not acted on its rights under the agreement. There was only two canal systems in dispute the Central Bari Doab from the Ravi and the

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thousands of workers, and cost over one hundred lives. Originally known as Boulder Dam from 1933, it was officially renamed Hoover Dam, for President Herbert Hoover, by a joint resolution of Congress in 1947 see also "Reclaiming Managing Water in the West" [www.usbr.gov/lc/hooverdam/](http://www.usbr.gov/lc/hooverdam/) retrieved on 21 December 2018.

<sup>5</sup> Zawahri, Neda. "Third Party Mediation of International River Disputes: Lessons From the Indus River." *International Negotiation* 14.2, 2009, pp. 281-310.

<sup>6</sup> Seigniorage is the difference between the value of currency/money and the cost of producing it. It is essentially the profit earned by the government by printing currency. Easterly, William Russell, Paolo Mauro, and Klaus Schmidt-Hebbel. *Money Demand and Seigniorage-Maximizing Inflation*. Vol. 1049, World Bank Publications, 1992, pp. 160.

<sup>7</sup> Mann, Vijepal Singh. *Troubled Waters of Punjab*, Allied Publishers, 2003, pp. 231.

Dipalpur from the Sutlej. India had built no new canal works so far to use Ravi water and the works which will use Sutlej water, the Harike and the Bakra-Nangal were not ready; the Harike weir and canals would be finished in 1954, the Bhakra dam perhaps in 1959. The cut in water was purely the result of the drought which occurred last year in both Punjabs and which over the period from September to December in 1959 reduced the flow of the Ravi to 57 per cent of normal and the flow of the Sutlej to 55 per cent. Since the total flow was thus reduced by drought the flow to Pakistan was also reduced in proportion.<sup>8</sup>

The Indians admit, however, that the areas in Pakistan, especially in Bahawalpur, had suffered more because they were farther away from the head-works and had lost more of the water through seepage. But they assert that the ill effects have been aggravated by two purely Pakistani factors. There had been a considerable switch in Pakistan from wheat to cotton; and cotton needs water for maturing just when the wheat should get it for sowing. And whereas the Sikhs who before partition held so much of the land in the Pakistani canal colonies were first class farmers of irrigated land many of the Muslims refugees from India who had laborers or else were used only to dry farming.

Finally, the Indians claim that it was them, not the Pakistanis, who had more cause for complaint. Five million refugees fled from west to east Punjab at partition and they had now to be supported in what was previously an under developed area. Before India was divided, the British preferred to undertake irrigation works in west

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<sup>8</sup> Canal Water Dispute, File No. DO 35/2698, Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for Financing Irrigation and Hydro-Electric Works, The National Archives (TNA), United Kingdom (UK), 1951-1952, pp. 3.

Punjab and Sindh, where they could be partly paid for by selling Crown land, rather than in what is now the Indian Punjab where land was mostly privately owned. Taking the Indus Basin as a whole, the population and the cultivable area are only slightly larger in Pakistan than in Indian: 22 million people and 40 million acres.<sup>9</sup> But Pakistan has 18 million irrigated acres and 66 million acre feet of irrigation water against India's 5 million acres and only 9 million acre feet.<sup>10</sup>

The under stressed and highly political controversy ultimately developed a deadlock between the two countries due the conflicting interpretations of the provisions and disputed views of the Joint Statement. No discussions or negotiations further proceeded for a long time over the issue of water. This state of cold war remained up to the year 1951.

#### **4.3 Involvement of World Bank**

The World Bank was set up in late 1940's under the name of International Bank for Reconstruction and Development (IBRD).<sup>11</sup> It turned out a promise of something better for the two India and Pakistan as both were independently drawn closer to the bank for their individual water conflict resolution. Luckily, the bank was searching for such monetary endeavors which could build up and later improve its notoriety, so as to guarantee that it could bring capital up in the universal money related markets.

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<sup>9</sup> Indus Water Plan, File No. DO 35/8596, Arrangements for Publicizing UK participation in Indus Waters scheme (Including Ceremonial Signing of Treaty), TNA, UK, 1960, pp. 5.

<sup>10</sup> –Delhi and the Drought’ column in *Economist*, 18 April 1955, pp. 5.

<sup>11</sup> A well- known international monetary institution that offers loans to developing and middle-income emerging countries is The International Bank for Reconstruction and Development (IBRD). It is among first five member institutions that compose the World Bank Group, having its headquarter in Washington, D.C. United States. –International Bank for Reconstruction and Development’ <https://www.worldbank.org/en/who-we-are/ibrd> retrieved on 21 December 2018.

The complexity of Indo-Pakistan relations pulled in US contribution. The reason behind American enthusiasm in Indo-Pak water conflict was in reference to its policy of containment of communism and was looking for more allies. Its delegate, Lilienthal, a United States delegate, anticipated India as offering for "the United States and democracy an opportunity".<sup>12</sup>

The Indian Prime Minister, Nehru, had warmly welcomed Lilienthal to visit India in October 1949. Lilienthal saw that the water conflict must be settled first with the goal that relations may get quiet settled for inception of dialogues on Kashmir issue. He called attention to that Pakistan may win fight in court against India yet such judgment would not act as a settler for food inadequacy issue of Indian subcontinent nor it would keep the misuse of the Indus waters falling unused into the Indian Ocean. In any case, he additionally cautioned that disputants were then near to wage a war. He also proclaimed that the topic of water rights can be better tended to by the professional engineers of the two nations on useful grounds with the specialized and probably monetary help of the World Bank.<sup>13</sup>

He encouraged that entire Indus waterway framework must be created as a unit like seven state Tennessee Valley Authority<sup>14</sup> framework back in the US and considered three standards fundamental to the Indus dispute settlement:

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<sup>12</sup> David Eli Lilienthal, *The Journals of David E. Lilienthal: Volume III, Venturesome Years 1950-1955*, New York and London: Harper and Row Publishers, 1966, pp. 51.

<sup>13</sup> South-East Asia Department, File No. FO 371/10218, Indus Water Dispute, TNA, UK, 1960, pp. 8.

<sup>14</sup> The Tennessee Valley Authority (TVA) is federally owned corporation in the United States created by congressional charter on May 18, 1933 to provide navigation flood control electricity generation, fertilizer manufacturing, and economic development to the Tennessee Valley, a region particularly affected by the Great Depression. The enterprise was a result of the efforts of

1. The disputants ought to perceive that there was sufficient water in the Indus Basin for their current and future uses.
2. The Sutlej River waterway alone would not be adequate for settlement of Indus dispute, consequently, the waters of each of the six waterways of the Indus framework ought to be appropriated.
3. Utilitarian point of view ought to be the best methodology for settlement.

These were the early agendas given by Lilienthal. Later he made more arguments towards Indo-Pak dispute by making the following proposal –The starting point should be, then to set to rest Pakistan’s fears of deprivation and a return to desert. Her present use of water should be confirmed by India, provided she works together with India in a joint use of this truly international river basin on an engineering basis that would also assure India’s future use as well. Later, India proposed that engineers investigate for six months. If they did not complete the assignment, still further periods for investigation should be allowed. Pakistan was not opposed to such investigation, provided that settlement of the real controversy was not delayed. Finally, in a letter dated the 12 September 1950, the Prime Minister of India agreed in principle to adjudication of the dispute without waiting until the proposed commission of engineers had completed their investigations.<sup>15</sup>

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Senator George W. Norris of Nebraska. TVA was envisioned not only as a provider, but also as a regional economic development agency that would use federal experts and electricity to more quickly modernize the region's economy and society. TVA's service area covers most of Tennessee, portions of Alabama, Mississippi, and Kentucky, and small slices of Georgia, North Carolina, and Virginia. It was the first large regional planning agency of the federal government and remains the largest. Under the leadership of David Lilienthal "Mr. TVA", the TVA became a model for America's efforts to help modernize agrarian societies in the developing world. <https://www.tva.gov/> retrieved on 21 December 2018.

<sup>15</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office London, File No. DO 35/6648, Indus River Waters Dispute and Danger of War Between India and Pakistan, TNA, UK, 1952-1953, pp. 1.



India proposed that instead of the ICJ the parties should set up a new tribunal of four judges, two from each country. When Pakistan pointed out that the elimination of the accustomed impartial chairman invited a stalemate, India suggested that those questions which were deadlocked should be the subject of new negotiations; and if these negotiations again failed, the dispute might be referred to a second tribunal. When Pakistan inquired whether the second tribunal would have the necessary composition to be effective, India replied that she could not agree to that in advance.<sup>16</sup> In short, in spite of settling the legal dispute through the United Nations Court<sup>17</sup> established to settle such disputes, India proposes a tribunal so constituted as to invite deadlock and interminable delay. Notwithstanding these defects and in the hope that India would eventually agree to eliminate them, the Prime Minister of Pakistan Mr. Liaquat Ali Khan,<sup>18</sup> in his reply of 18<sup>th</sup> October 1950, informed Mr. Nehru that the Government of Pakistan ~~have~~ at all times been ready to go forward and we will give prompt consideration to any concrete proposal your Government is prepared to make.”

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<sup>16</sup> Inward Telegram to Commonwealth Relations Office No. 303, From U.K High Commission in India to U.K High Commission in Pakistan, Washington, U.K delegation parts, Canal Water Dispute, File No. DO 35/2698. Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for financing irrigation and hydro-electric works, TNA,UK, 1951-1952, pp. 2.

<sup>17</sup> United Nations Court is a body of The International Court of Justice (ICJ) which is the principal judicial organ of the UN. The Court has two functions: To settle, in accordance with international law, legal disputes submitted by States, and. To give advisory opinions on legal questions referred to it by authorized UNorgans and specialized agencies. Amr, Mohamed Sameh M. *The Role Of The International Court Of Justice As The Principal Judicial Organ Of The United Nations*. Vol. 40. Martinus Nijhoff Publishers, 2003, pp. 170.

<sup>18</sup> Nawabzada Liaquat Ali Khan (October 1895 - 16 October 1951) widely known as Quaid-i-Millat (Leader of the Nation) and *Shaheed-e-Millat* (Martyr of the Nation), was one of the leading founding fathers of Pakistan statesman, lawyer, and political theorist who became and served as the first Prime Minister of Pakistan; in addition, he also held cabinet portfolio as the first foreign, defense and the frontier regions minister from 1947 until his assassination in 1951. Prior to his assassination, Khan briefly tenured as the first finance minister in the interim government led by its Governor General Mountbatten, “Towards The Future”, *Dawn*, 25 December 1947, pp. 1.

Pakistan also informed India by a note of 18 October 1950, that she would give serious consideration to the proposal when put forward in the form of an agreement India was prepared to sign. India has refrained from putting her proposal in such form. The Government of Pakistan believed that the ICJ is best suited to resolve its dispute with India over irrigation water. Pakistan will accept, however, any tribunal for settling the dispute that has a chance of being impartial and effective, India has Pakistan's standing offer to do this.<sup>19</sup>

Lilienthal visited India in February 1951. After Lilienthal visited to the Indo-Pak Indian subcontinent he posed very eager to resolve the water related political conflict between India and Pakistan by exploring his own expertise on international water law to promote cordial relationships between rivalry countries India and Pakistan. According to his early planned program to visit the Indian subcontinent, Pakistan was not included. On the suggestion of an American journalist Mr. Walter Lippmann<sup>20</sup> who was famous for his political analysis, he included Pakistan in his trip. Liaqat Ali Khan described core political issues of geopolitics in Indian subcontinent including problem of Jammu and Kashmir during his visit to Pakistan. He also negotiated with Nehru the political dimensions of Indo-Pak as well as the US-India relations in the context of lack of understanding and unfriendliness.<sup>21</sup>

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<sup>19</sup> Letter No. S.W.1 No. 31(P/87) From the High Commissioner for the United Kingdom in Pakistan to The Secretary of State for Commonwealth Relations Office London, File No. DO 35/6648, Indus River Waters Dispute and Danger of War Between India and Pakistan, TNA, UK, 1952-1953, pp. 1.

<sup>20</sup> Walter Lippmann (September 23, 1889 - December 14, 1974) was an American writer, reporter, and political commentator famous for being among the first to introduce the concept of Cold War, coining the term "stereotype" in the modern psychological meaning, and critiquing media and democracy in his newspaper column and several books, most notably his 1922 book *Public Opinion* see also <https://spartacus-educational.com/USAlippmann.htm> retrieved on 21 December 2018.

<sup>21</sup> Bashir A. Malik, *Indus Water Treaty in Retrospect*, Lahore, A.M. Shaakoori, 2005, pp. 163.

Thus on his return from Indian subcontinent he wrote a politically-charged article, title as “Another Korea in the Making”.<sup>22</sup> In this article he notified that Indo-Pak relations are at the edge of war over the possession of Kashmir in which United States might be plunged to act as a mediator. Interestingly, Lilienthal proclaimed the cold war politics by the presence of Soviet Union and Communist China at the borders of Kashmir. He remarked that there is danger that war will break out any day is neither speculative nor alarmist. In Kashmir’s high mountain two armies face each other anger. Only three years ago these armies, composed of some of the toughest fighting men in the world were actually in a shooting war until a truce was arranged by the Security Council of the United Nations and the UN began its so far fruitless effort to settle the dispute”.<sup>23</sup>

These remarks were very alarming regarding the political scenario of India and Pakistan in the decade of 1950s because both the countries were newly born and Kashmir issue was the most intense conflict between India and Pakistan. Armies of both countries were diploid and a war was already fought for the occupation of Kashmir and that conflict was under UN Security Council. Indus Basin and Kashmir issue were considered the faces of one coin because as already discussed in previous chapters that Waters are coming down to Pakistan from headworks in Kashmir so both India and Pakistan were fighting since inception for the territory of Kashmir, highlighted by Lilienthal.

Lilienthal advanced further in his article “Another Korea” in the Making by saying;

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<sup>22</sup> “Another Korea in the Making by David E. Lilienthal”, *Collier's*, 4 August 1951, pp. 8. File No. FO 371/92893, Indus Water Dispute, TNA,UK, 1951, pp. 1.

<sup>23</sup> File No. FO 371/92893, Indus Water Dispute, TNA,UK, 1951, pp. 1.

India and Pakistan are today on the very razor's edge of a war that would directly involve more than 360,000,000 people, one sixth of the world's population and might well set fire to the whole Moslem world from the Arabian Sea to the Valley of the Nile. Because the United Nations has already deeply committed itself in this controversy, the outbreak of war would undoubtedly put the United States of America into another and even bigger "Korea". The direct issue was whether the historic region of part of India or of Pakistan. This is, however, no ordinary dispute over international boundaries. On one of this disputed region's frontiers lies Red China on another Red Tibet. Along another frontier is Soviet Russia."<sup>24</sup>

Lilienthal noted that an engineering solution would require new engineering works. He suggested that they be jointly finance perhaps with World Bank help. This suggestion attracted the attention of Mr. Eugene R. Black, President of the International Bank for Reconstruction and Development.<sup>25</sup> On 6 September 1951, Black wrote to the Prime Ministers of Pakistan and India inquiring whether their Governments are disposed to look with favor upon Lilienthal's proposal to meet the requirements of both countries for expanded irrigation through the cooperative construction and operation of storage dams and other facilities to be financed in part perhaps by this Bank.<sup>26</sup>

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<sup>24</sup> "Another Korea in the Making by David E. Lilienthal", *Collier's*, 4 August 1951, pp. 8.

<sup>25</sup> Eugene "Gene" Robert Black Sr. (1898-1992) was President of the World Bank from 1949 to 1963. Being president of the International Bank for reconstruction and development accompanied by his Economic and legal Advisers has spend two weeks in India, for the solution of Indus Basin dispute. File No. DO 35/2698, Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for financing irrigation and hydro-electric works, TNA, UK, 1951-1952, pp. 2. See also <http://www.worldbank.org/en/about/archives/history/past-presidents/eugene-robert-black> retrieved on 21 December 2018.

<sup>26</sup> Letter No. 3022 to Prime Minister of India and Prime Minister of Pakistan, File No. FO 371/92893, Indus Water Dispute, TNA, UK, 1951, pp. 2.

—should be most happy to recommend that the Bank lend its good offices in such directions as might be considered appropriate by the two Governments, make available qualified members of its staff and consider any financing proposals that might develop as a result of joint planning.”<sup>27</sup>

Both sides accepted the good offices of the Bank and on 13 March 1952. Black was able to confirm in identical letters to the Prime Ministers of the two countries that: -

—have found common understanding as to the bases on which we can go forward under the Lilienthal proposal. We all agree that the ultimate objective is to carry out specific engineering measures by which the supplies effectively available to each country will be increased substantially beyond what they have ever been while the cooperative work continues with the participation of the Bank neither side will take any action to diminish the supplies available to the other side for existing uses”.<sup>28</sup>

After having a positive gesture from both sides, India as well as Pakistan, Black explicitly outlined “Essential Principles” of the Lilienthal plan that might be followed for the resolution of dispute in his letter of 8 November 1951 to Khawja Nazimuddin,<sup>29</sup> the then prime minister of Pakistan and Nehru, the Indian Prime Minister.

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<sup>27</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958, pp. 7 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 7.

<sup>28</sup> Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 8.

<sup>29</sup> Unfortunately, Liaquat Ali Khan was assassinated on 16 October 1951 and Khawja Nazimuddin became the new Prime Minister of Pakistan “The Mystery That Shrouds Liaquat Ali Khan's Murder”, *Dawn*, 16 October 2015, pp. 1.

1. The water resources of the Indus Basin are enough for the existing and future needs of the both countries;
2. The development of the water resources should be done jointly by India and Pakistan to promote economic development of the Indus Basin viewed as a single unit;
3. To solve the problems of development and utility of the water resources of the Indus Basin, pure technical approach should be adopted, without considering the past negotiations, grievances and claims of the parties.<sup>30</sup>

Furthermore, Black also suggested that a working party comprised of a highly qualified engineers from the both countries with a Bank's representative, should be made to start the process of negotiations and to prepare a comprehensive plan for the most effective utilization of the water resources of Indus Basin.

#### **4.3.1 Indus Basin Working Party**

The Indus Basin Working Party, consisting of engineers designated by India and Pakistan and their advisors assisted by the Bank Representative and consultants worked for almost two years to prepare a comprehensive plan for the utilization of the waters of the Indus System. Over a year was spent in compiling and analyzing data and in a field trip of more than 9,000 miles in the Indian subcontinent.<sup>31</sup> Meanwhile India started making additional withdrawals in contravention of the standstill agreement of 13<sup>th</sup> March 1952 and the shortage in Pakistan's supplies became so serious that Pakistan had to place her complaint before Black in London in February 1953. Discussions by Black with the two countries resulted in the

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<sup>30</sup> Alam, U. Z, Questioning the Water Wars Rationale: A Case Study of the Indus Water Treaty. *The Geographical Journal*, 2002, pp.342 see also Biswas, A. K., Indus Water Treaty: The Negotiation Process. *Water International* , 1992, pp. 205.

<sup>31</sup> "Indus Basin Party Touring Pakistan", *The Civil & Military Gazette*, 7 January 1953, pp. 5.

appointment of Special Commissioners who were to watch the distribution of supplies and exchange of data.

Subsequently discussions have produced substantial concessions, but these have not been enough to bring about an agreement and the margin of difference between the two plans remains wide. In rough approximation, the two plans (as modified by recent concessions in 1950's) provide for the following division of usable supplies of water:<sup>32</sup>

Table 4.1

*Indian and Pakistani Plan*

<b>Indian Plan</b>	
India	All of the Eastern rivers and 7% of the Western rivers
Pakistan	None of Eastern rivers and 93% of the Western rivers
<b>Pakistan Plan</b>	
India	30% of the Eastern rivers and none of the Western rivers
Pakistan	70% of the Eastern rivers and all of the Western rivers

Source:- The Punjab Archives, Lahore, File No. ZA-1804, 1960, pp. 25.

Indian plan supported all of the eastern Rivers and 7% of the western rivers for the use of India. For Pakistan it suggested none of eastern rivers and 93% of the western rivers only. Whereas Pakistani plan suggested 30% of the eastern rivers and none of western rivers for the use of India. For Pakistan it suggested 70% of eastern rivers and all western rivers.<sup>33</sup>

<sup>32</sup> Inward Telegram No. 1342 (secret) to Commonwealth Relation Office (CRO) from U.K high commissioner in Pakistan to U.K high commissioner in India, File No. DO 121/222, TNA, UK, 1954, pp. 1.

<sup>33</sup> Indus Basin Dispute - Indus Basin Irrigation Water Problem - Correspondence 01, Indus Basin Irrigation Water Problem Working Draft of Introductory Memorandum on Preparation of Workable Plan under the Good Offices of the International Bank, Folder ID: 1787772, The World Bank Group Archives, 1954-1954, pp. 12-13.

In the absence of a clearly drawn new developmental plan, there was no prospect of further progress in the Working Party. Before considering what step should next be taken, it would be useful to analyze the reasons that have so far prevented agreements. What hampered further progress in the Working Party was not a matter of engineering complexity, but rather a combination of three basic difficulties which had so far prevented the Working Party from reaching the heart of the problem—a fair division of the waters between the two countries.<sup>34</sup>

The first difficulty lay in the fact that water supplies and storage potentialities were inadequate to the needs for the basin. The Indus was one of the world's greatest river systems. With proper development by engineering works, it was capable of providing substantially more irrigation to each country than had ever been enjoyed. But even after full development, there would not be enough water to supply all the needs of the area. This meant that there could be no ideal plan which would fully satisfy both sides. Any plan must involve a large element of compromise under which each country would have to forego some of the irrigation uses that it would wish to develop if adequate supplies and storage were available.<sup>35</sup> This means that there can be no ideal plan which will fully satisfy both sides. Any plan must involve a large element of compromise under which each country will have to forego some of the irrigation uses that it would wish to develop if adequate supplies and storage were available.

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<sup>34</sup> Inward Telegram No. 243 to Commonwealth Relation Office (CRO) from Delhi to Karachi, Washington Indus Water Dispute, File No. DO 196/137, India/Pakistan Political Relations: the Kashmir Dispute and Indus Water Treaty, TNA, UK, 1961, pp. 1.

<sup>35</sup> Indus Water Dispute, File No. DO 196/142, India/Pakistan Political Relations: the Kashmir Dispute and Indus Water Treaty, TNA, UK, 1962-1963, pp. 3



The second difficulty was that although the Working Party was planning on the basis of the development of the Indus Basin as an economic unit, two sovereign states were involved. This greatly limits the practical potentialities of planning. A comprehensive plan could achieve maximum efficiency, economy and usefulness when it was developed and administered by single authority. Under such an authority, decisions could be made promptly; plans could be readily changed to meet new circumstances and accommodations made to meet emergencies.<sup>36</sup>

When to sovereign authorities were concerned, it was difficult to use resources to the greatest advantage. Problems must be solved by negotiation and agreement rather than force. Minor questions of planning and operational detail must be referred to high authority and dealt with, perhaps, through diplomatic channels. Moreover, the two countries might follow different development policies, or might have unequal resources available for development. All these factors made agreement difficult. Furthermore, any comprehensive plan must be framed with this limitation in mind.<sup>37</sup>

The third difficulty, the most serious of all was about the content of plans put forward by the two sides differ fundamentally in concept. An essential part of the Pakistan concept was that existing usage of water must be continued from existing sources at that time. Moreover “existing uses”, in the Pakistan plan, include not only the amounts of water that had actually been put to use in the past, but also allocations

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<sup>36</sup> Inward Telegram No. 263 to Commonwealth Relation Office (CRO) from U.K high commissioner in Pakistan to U.K high commissioner in India, Washington and New York. File No. DO 196/139, India/Pakistan Political Relations: the Kashmir Dispute and Indus Water Treaty, TNA, UK, 1962, pp. 1.

<sup>37</sup> Indus Water Dispute, File No. DO 196/141, India/Pakistan Political Relations: The Kashmir Dispute and Indus Water Treaty, TNA, UK, 1962, pp. 5

of water which had been sanctioned prior to partition, even though the necessary supplies have not been available for use. This concept protects Pakistan's actual and potential uses on the Eastern River and reserves most of the water in the Western Rivers for use in Pakistan.

The corresponding concept of the Indian plan, on the other hand was that although existing uses must be continued. This concept permitted the water in the eastern rivers which was used in Pakistan to be released for use in India and replaced by water from the Western rivers. This basic divergence of concept together with the other two difficulties mentioned above effectively blocked progress towards a settlement. As long as it permitted that there was no prospect that further discussions would be proved fruitful.<sup>38</sup>

Meanwhile India started making additional withdrawals in contravention of the Standstill Agreement of 13 March 1952 and the shortage in Pakistan's supplies became so serious that Pakistan had to place her complaint before Black in London in February 1953. Discussions by Black with the two countries resulted in the appointment of Special Commissioners who were to watch the distribution of supplies and exchange of data.

The Indus Basin Working Party met in Washington in September 1953 and started working towards a Common Plan, a strategy that is acceptable to both parties. No common approach could, however, be agreed upon and at the suggestion of the Bank

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<sup>38</sup> Inward Telegram No. 263 to Commonwealth Relation Office (CRO) from U.K high commissioner in Pakistan to U.K high commissioner in India, Washington and New York. Dispute, File No. DO 196/139, India/Pakistan Political Relations: the Kashmir Dispute and Indus Water Treaty, TNA, UK, 1962, pp. 1.

representative, each designee proposed an outline of a comprehensive plan. These plans again differed widely in concept and in substance. The Indians proposed a reallocation of waters including the water already committed to irrigation. They wanted the basin boundaries to be extended to recognized non-riparian areas some of which could be commanded by the Jamna and others which were not productive. Pakistan offered sharing of the uncommitted surplus on an equitable basis to be determined by the good officers. Subsequent discussions produced concessions but the gap left was still too large for an agreement to be reached.<sup>39</sup>

#### **4.3.2 Bank's Proposal**

The Bank, therefore, reached the conclusion that “it would be unrealistic” in the existing circumstances to work out plan “on the basis of the development of the Indus Basin as an economic unit”. It discarded the Lilienthal approach and recommended, in the Bank Proposal of 5 February 1954, that the irrigation systems of the two countries should be developed independently. To accomplish the entire flow of the western rivers (Indus, Jhelum and Chenab) would be available for the exclusive use and benefit of Pakistan and for development by Pakistan, except for the insignificant volume of Jhelum flow presently used in Kashmir.<sup>40</sup> The entire flow of the eastern rivers (Ravi, Beas and Sutlej) would be available for the exclusive use and benefit of India and for development by India, except that for a specified transitional period India would continue to supply from these rivers in accordance with an agreed schedule, the historic withdrawals from these rivers in Pakistan. The

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<sup>39</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958, pp. 8 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 8.

<sup>40</sup> Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 8.

proposal rested on the premise that under this division, from the flow supply of the western rivers, Pakistan could supply her historic withdrawals and could bring most of the Sutlej Valley Canals up to allocation.<sup>41</sup> She could also meet the requirements of projects in progress on the Indus.<sup>42</sup>

The proposition gave that India would pay to the expense of substitution works in extent to the advantages inferred by it. "Along these lines, the expense of a waterway in Pakistan of the limit required to supplant supplies from India would be borne by India; yet in the event that Pakistan choose, to its greatest advantage to build the limit used in past for such substitution the expense would be shared proportionately by the two nations". Under the Bank Proposal it was important for India to keep on providing the Pakistani trenches until the point when the vital works are finished by Pakistan for exchange of provisions from the Western streams. The Bank generally evaluated the time construction for channels which it thought around then were expected to impact substitution, to be five years. Yet, it necessitated that development timetable and time plan for genuine exchange of provisions "must be arranged agreeably and consented to by the two nations". The Bank proposition additionally required that "A proper methodology would be set up for mediating debate concerning the designation of expenses".<sup>43</sup>

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<sup>41</sup> "Delhi Observer's View", *The Times of India*, 24 July 1954, pp. 5.

<sup>42</sup> Indus Water Treaty, File No. FO 371/112325, Dispute between Pakistan and India over the Canal Waters of the Indus River Basin, 1954, pp. 5.

<sup>43</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 8.

An autonomous building examination of the Bank Proposal was completed by Pakistan from Tipton<sup>44</sup> counseling engineer knowledgeable in issues managing the compelling use of water system supplies and their fair allocation between the states and countries. It uncovered that the Bank Proposal did not meet the standard of decency as perceived in global law, neglected to fairly allot the Indus water and went in opposition to the guideline which permitted utilization of water assets so as most adequately to advance improvement. His examinations uncovered that Pakistan would be antagonistically influenced certain territories would be for all time denied of water supplies; notable withdrawals couldn't be kept up; pre-partition arranged utilizations would be attacked; and Pakistan's future advancement potential would be genuinely reduced. Tipton affirmed that the general benchmarks of decency were all around perceived and their application to the Indus Basin implied that for any arrangement to be reasonable it must perceive and ensure notable uses in the two nations, perceive and secure distributions made before Indian partition to frameworks in progress, perceive and ensure against infringement by new improvement arranged after partition those utilizations arranged before segment that allot any new waters, that can be made accessible from surpluses as per the rule of fair allocation".<sup>45</sup>

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<sup>44</sup> Royce J. Tipton (1893-1967) Colorado civil engineer designed numerous large water infrastructure projects in the U.S. West and around the world during his fifty-year career. As an accomplished and respected consultant, he helped negotiate several interstate water compacts and international treaties. Materials in the collection concern water planning projects conducted by Tipton in the United States, South America, the Middle East, and South Asia. Materials are almost entirely reports prepared by Tipton and his firms, though conference and government publications, slides, a film, and several plaques are also present see also <https://lib2.colostate.edu/archives/findingaids/water/writ.html> retrieved on 21 December 2018.

<sup>45</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 9.

The Bank proposal had neglected to do Tipton considered the suppositions made by the Bank as “invalid on a fundamental level an unjust in result”. Both India and Pakistan acknowledged the Bank Proposal, as the premise of understanding, India subject to the condition that the assertion should defend existing utilizations inside the State of Jammu and Kashmir and future nearby improvements in that which would include generally in huge immoderate employments and Pakistan subject to the understanding given by the Bank to the Foreign Minister of Pakistan and conveyed to India that “with provisions of the western Pakistan would, in the Bank’s view, be empower to keep up the utilizations verifiably provided from the eastern rivers and bring a large portion of the Sutlej Valley trenches up to a sum equal to allotments, without attacking the provisions required to keep up the authentic withdrawals on the western River or the provisions required for ventures in advancement on those waterways, including Thal<sup>46</sup> and Kotri.<sup>47</sup> It was additionally clarified that there would be generous extra supplies at Gudu<sup>48</sup> and Sukkur<sup>49</sup> which would be accessible for arranged utilizations.<sup>50</sup> India would bear

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<sup>46</sup> The Thal desert is situated in Punjab, Pakistan. The vast expanse is located between the Jhelum and Sindh rivers near the Pothohar Plateau, with a total length from north to south 190 miles. File No. FO 925/2183, TNA, UK, 1881, pp. 5

<sup>47</sup> Kotri a small city and the headquarters of the Kotri taluka of Jamshoro district of Sindh province in Pakistan. It is on the right bank of the Indus River see also –An Overview on the Small City of Sindh: Kotri, <https://www.sindhidunya.com/an-overview-on-the-small-city-of-sindh-kotri/> retrieved on 21 December 2018.

<sup>48</sup> Guddu is a town in Sindh, Pakistan located about 10 km from Kashmore in the district of Kashmore, 650 km north of Karachi later a barrage was constructed namely Guddu Barrage on the Indus River near Kashmore in the Sindh province of Pakistan. President Iskander Mirza laid the foundation-stone of Guddu Barrage on 2 February 1957. The barrage was completed in 1962 at a cost of 474.8 million rupees and inaugurated by Field Marshal Ayub Khan in 1962. –Site Near Bahawalpur Proposed”, *The Pakistan Times*, 6 October 1949, pp. 6.

<sup>49</sup> Sukkur is a city in the Pakistani province of Sindh along the western bank of the Indus River, directly across from the historic city of Rohri. Sukkur is the third largest city in Sindh after Karachi and Hyderabad, and is 14th most populous city in Pakistan and Sukkur Barrage is a barrage on the River Indus near the city of Sukkur in the Sindh province of Pakistan. Herani, Gobind M. "A

the expense of the important attempts to the degree of the advantage to be gotten by her there from under courses of action which would guarantee Pakistan of installment as the work advance". The Bank was to utilize its great workplaces to achieve acknowledgment of sensible changes if such a useful arrangement in view of stream of Western Rivers couldn't be readied.<sup>51</sup>

### 4.3.3 Aide Memoire

The Bank drew in Messrs a legitimate firm of Engineers, to aid the examination of the amplex of water supplies for an arrangement under the Bank Proposal. Following year and a half of concentrates in a joint effort with Pakistani and Indian engineers the Bank achieved the end contained in the Bank's Aide Memoire of 21 May 1956 that no valuable reason for existing was probably going to be served "by proceeding to commit the helpful work to an endeavor to get assertion of the two Delegations on the issues emerging out of passage 2 and section 3 of the Terms of Reference." It, be that as it may, gave its finding on whether any —alteration" in the Bank Proposal of February 1954 was required. In the light of concentrates made by its advisors, taking certain accepted employments of undertakings in Pakistan, significantly not as much as what Pakistan had asserted in Pakistan, impressively not as much as what Pakistan had guaranteed and were sensibly required by the activities, it reason that in the wake

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Comparison Of Demographic, Social And Economic Conditions Of Tharparkar With Canal Barrage Area Sindh (1988-2000): An Introduction." 2002, pp. 1-50.

<sup>50</sup> Inward Telegram No. 1170 (secret) to Commonwealth Relation Office (CRO) from U.K high commissioner in Pakistan to U.K high commissioner in India and Inward Telegram No. 1441 (secret) to Commonwealth Relation Office (CRO) from U.K high commissioner in Pakistan to U.K high commissioner in India, File No. DO 121/222, TNA, UK, 1954, pp. 1.

<sup>51</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958, pp. 10 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 10.

of considering the potential outcomes of the exchange of stream supplies of the Indus, Jhelum and Chenab by an arrangement of connection channels.<sup>52</sup>

- 1 There would be no lack in Kharif, aside from intermittent 10 days time spans in April and September in incidental years.
- 2 There would be steady surpluses in Kharif, noteworthy in amount, length and recurrence.
- 3 There would be steady deficiency in Rabi, every so often starting in late September or stretching out into early April of a degree, term and recurrence which the Bank Group couldn't view as "mediocre".

The Bank consequently -

"Feels that a modification, in its proposal of February 1954 is called for. This alteration should, in the Bank's view, guarantee to Pakistan "opportune" water adequate to take out the lack alluded to in passage 6 (c) (iii). In the Aide Memoire the Bank thought about different types of modification however visualized a total division of the streams, as the best means for a settlement in which case the change was to be in the idea of capacity on the Western waterways. Aide gives that "The arrangement to actualize the Bank Proposal as balanced, will, in this way, in the Bank's view be founded on the rule that to meet the "Passage 2 Uses" stream of the Western Rivers (Indus and Jhelum and Chenab) ought to be abused to the most extreme conceivable degree and that the base advances ought to be made on Pakistan's constrained stockpiling limit. In the Bank's view, cost of this arrangement of works ought to be the premise of the count of India's monetary risk."

The statement of bank enabled India, with the choice of proceeding with conveyances from eastern streams in order to dispose of the deficiencies revealed and accordingly decrease her budgetary commitment.<sup>53</sup> Both the Governments, while

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<sup>52</sup> Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 11.

<sup>53</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 12.



tolerating the continuation of agreeable work under forced conditions. The Bank, in any case, lamented that there was "no probability of guaranteeing duration of agreeable work on the premise plot by the Government of India, or on the premise laid out by Government of Pakistan, in their individual answers". The Bank, in this way, prescribed in their letter of 30th July 1956 that "both the Governments ought to will proceed with the helpful work with the protest of working out with the help of the Bank, a settlement of the inquiry acceptable to both the Governments based on the Bank Proposal of 5 February 1954 and of Aide Memoire of 21 May 1956".<sup>54</sup>

This proposal of the Bank was acknowledged by both the Governments unequivocally. Accordingly the two sides were asked by the Bank to put in their arrangement of works of plans. This was appropriately done. Pakistan's arrangement, worked out in interview with a firm of specialists in U.S.A was evaluated to cost \$1,250 million, of which was to be included the expense of task, support devaluation furthermore the expense of works devaluation and furthermore the expense of works that will in the end be required, in light of comparable stream advancements in U.S.A, because of changes in the administrations of the waterways. A large portion of this expense, under the applicable standards of the Bank Proposal and the Aide Memoire, will be begging to be proven wrong to India. The Indian arrangement is said to have been evaluated to cost about \$170 millions just, which it is reputed, India proposes to share based on fifty percent. It is additionally comprehended that

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<sup>54</sup> Ibid., pp. 55.

the arrangement which has not been worked out past the barest layout did not fit in with the Bank Proposal and the Aide Memoire.<sup>55</sup>

While evaluations of the Pakistan plan were being worked out, the Bank gave over to Pakistan delegation two elective arrangements of works and asked for the Pakistan appointment to gauge their expense of development. These works were evaluated to cost \$ 937 to \$967 million individually. These rundowns were additionally given to the Indians. The Bank, be that as it may, did not formally introduce them to the two Delegations as was comprehended to be initially customized.<sup>56</sup> It was normal that the Bank would turn out with its very own arrangement. The Bank proposed certain Head of Agreement which incorporated an arrangement that distinction as to an arrangement to execute the bank Proposal and the Aide Memoire ought to be put to discretion based on the two archives.<sup>57</sup>

The first reaction to these recommendations from both nations was supported with reservations. Pakistan had since acknowledged the proposition for discretion, in this way, readied to present all purposes of distinction to assertion, to be settled based on these reports. She had additionally made the offer to present the whole debate to the purview of the ICJ India then again has expressed that particular inquiries to be consented between the two gatherings could be submitted to mediation on the

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<sup>55</sup> Record of a Conversation with Mr. W.A.B. Iliff on 22 December 1956, File No. FO 371/123678, Dispute over Indus Waters between Pakistan and India, 1956, pp. 6.

<sup>56</sup> Washington Telegram No. 676 to Foreign office, File No. FO 371/123678, Dispute over Indus Waters between Pakistan and India, 1956, pp. 1.

<sup>57</sup> Kirmani, Syed S., and J-M. Guy, eds. *Fostering Riparian Cooperation in International River Basins: The World Bank at its Best in Development Diplomacy*. Vol. 335. World Bank Publications, 1997, pp. 290. See also Kirmani, Syed, and Robert Rangelev. *International Inland Waters: Concepts for a More Active World Bank Role*. The World Bank, 1994, pp. 12.

premise to work out for each situation. Pakistan was of the conclusion that it would be unimaginable for the gatherings to concur either with regard to the inquiry to be submitted to assertion or to the essential on which mediation ought to continue for each situation and, in this way, considers India's acknowledgment of the proposition is lacking an in successful.<sup>58</sup>

Understanding had been come to in March 1952 accommodating to keep the provisions for existing uses while the agreeable work proceeded with the cooperation of the Bank. In 1954 in any case India educated the Bank that it viewed itself as discharged from this understanding. Consequently, in June, 1955, this assertion was joined in adhoc consent to cover the period 1 April to 30 September 1955. Comparative adhoc assertions were gone after the periods from 1 October 1955 to 31 March 1956 and 1 April 1956 to 31 March 1957. These assertions were predictable with the idea that the administration of a universal waterway may not be changed without the assent of the invested individuals that any expanded Indian withdrawals ought to be identified with Pakistan's capacity to supply and that a portion of the provisions exchanged through links ought to be used by Pakistan to improve the provisions in the SVP as arranged before partition. A framework was set up under these assertions for trade of information and review of works by either side.<sup>59</sup>

The Bank party turned out and worked in the sub-mainland from October to December 1957 with a specific end goal to help consult for an impromptu assertion

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<sup>58</sup> International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958, pp. 16 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 16.

<sup>59</sup> Note of a meeting held at the Treasury on the 19<sup>th</sup> November with Mr. Bugene Black of the International Bank. File No. DO 35/8584, TNA, UK, 1956-1958, pp. 2.

for 1957-1958. Arrangements were directed in Karachi and Delhi and in the end the Bank party thought about that all purposes of contrast, aside from one were inside the scope of understanding.<sup>60</sup> The arrangements separated on India's refusal to pay for the expense of works done in Pakistan for her advantage. The Bank group was of idea that since 1948 India should be paid for the expense of works done in India for Pakistan's advantage.<sup>61</sup> Pakistan was on an edge for the restoration of the transactions based on the Bank Proposal and the Aide Memoire. India was probably going to oppose a continuation on this premise as she had not acknowledged the modifications proposed in the Aide Memoire. Mr. Iliff was notwithstanding, turning out to the Indian subcontinent right away with a specific end goal to orchestrate the recharging of the transactions.

The Balloki-Suleimanki and the Marala Ravi Link trenches were developed in Pakistan as per a planning endorsed plan with a specific end goal to enhance the provisions to Sutlej Valley Project. At the point when these connections were prepared, India requested that had ben utilized for giving substitution and Pakistan surrendered this case on an impermanent premise keeping in mind the end goal to advance a perpetual arrangement works before a general arrangement has been consented between the two nations. Once more, in any case, in a soul of helpfulness she is set up to begin on the development of works give greater substitution depending on the prerequisite that these works fit into an arrangement which Pakistan would build in the long run. The Bank has said the likelihood, casually, of

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<sup>60</sup> Note of a meeting in Mr. Crawley's Room at 11.30 on Thursday, 31 July 1958, File No. DO 35/8992, TNA, UK, 1956-1958, pp. 78.

<sup>61</sup> Intemational Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958. See also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 16.

cash from the Asia Fund being accessible this year for the development of such works.<sup>62</sup>

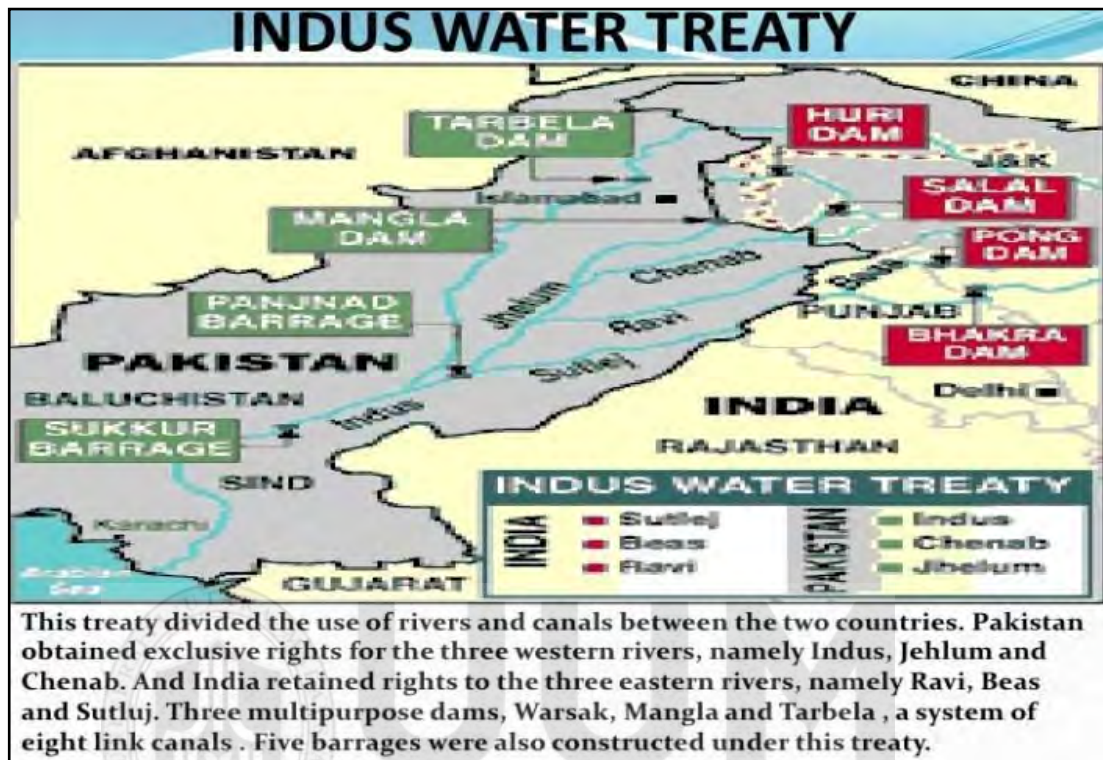


Figure 4.1. Indus Water Treaty, 1960.

Source:- Begum, Toheeda, "Indus Water Treaty & Emerging Water Issues," *Abasyn University Journal of Social Sciences*, 2011, pp. 45.

According to this figure it is highlighted that how the plan of World Bank clearly distribute the waters of eastern and western rivers among India and Pakistan. Three Western rivers water fully under use of Pakistan and three eastern rivers water to be consumed fully by India. Three dams and five barrages were purposed for construction.

<sup>62</sup> Inward Telegram No. 1342 (secret) to Commonwealth Relation Office (CRO) from U.K high commissioner in Pakistan to U.K high commissioner in India, File No. DO 121/222, TNA, UK, 1954 see also International Bank Negotiations on Indus Waters, File No. DO 35/8586, TNA, UK, 1957-1958 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 18.

#### 4.4 India Pakistan Suggestions on World Bank Proposals

In accordance with 21 May 1956 Aide-Memoir and 5 February 1954 bank's proposal both Pakistan and India agreed to work cooperatively under their good offices. Another session of talks started in Delhi, London, Karachi and Washington, but failed to produce tangible results. On the other hand in February 1957 Mr. Hussain Shaheed Suhrawardy<sup>63</sup> became the new Prime Minister of Pakistan. He was determined contemporary of Nehru and a number of other Hindu politicians during the struggle of independence. He adopted a very clear stance with full concern and conviction on Pakistan's water rights. So the shift in Indus Basin water issue at governmental level changed with his arrival at the helm of affairs. He issued a series of statement that how India is taking advantage in usurping Pakistan's water shares was a matter of serious containment and became life and death case for millions in Pakistan. He also threatened to bring the issue to UN Security Council. Feeling the heat in change in Pakistani foreign policy another new approach set off by the Bank in summer 1957. To keep the dialogue rolling on the leader bank group, Mr. William B. Iliff decided to come to Indian subcontinent. His aim was to sort out the best suitable and secure agreement of the two governments on “Head of agreement” viz:

1. An acceptable set of principle that well suited both the governments.
2. To setup a well design framework and suitable procedure for resolving all the matter of principles or settlement to resolves the differences of both the parties. It decided to create a three member commission comprising of one nominee from each governmental and a neutral chairman. The decisions will be the

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<sup>63</sup> Hussain Shaheed Suhrawardy, (8 September 1892-5 December 1963) was a politician and a lawyer who served as the fifth Prime Minister of Pakistan, appointed in this capacity on 12 September 1956 until resigning on 17 October 1957, *“The Political Victimization of Huseyn Shaheed Suhrawardy”* Dawn, 21 July 2015, pp. 1.

binding upon the parties and it was the duty of this commission to resolve all the differences and give an even distribution of water resources.<sup>64</sup>

Iliff came to Lahore after conducting the talks with Government of India in Delhi on 10 June 1957. He met various senior government officials in Pakistan i.e. Mushtaq Gurmani:<sup>65</sup> Governor West Punjab, Amjad Ali:<sup>66</sup> Pakistan's Finance Minister and Suhrawardy: Pakistan's Prime Minister with other provincial and central officers. A prevailing environment and distress of India was felt by him. He was not unaware of Indian mischief on 1<sup>st</sup> April 1948, when the water line to west Punjab was suddenly cut off by India. So Iliff realized that Pakistani concerns were justified. It was made clear to Iliff during the talks at Lahore, Pakistan that:<sup>67</sup>

1. For replacement of eastern River water given to India no storage on River Chenab would be agreeable to Pakistan.
2. No water storage at Mangla Dam on Jhelum for the purpose of replacement would be acceptable to Pakistan.
3. Payment for replacement works would be preferably in "utilizable currencies" or in exchangeable form but not in Pakistani or Indian rupees.
4. In the overall framework of the master plan the replacement plan must be drawn up accordingly, if otherwise the risk for development constructions would be at high stake, as happened with already built links canals with Pakistan which were used for the purpose of replacement supplies.

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<sup>64</sup> Bashir A. Malik, *Indus Water Treaty...*, pp. 147.

<sup>65</sup> Nawab Mushtaq Ahmed Gurmani (1905–1981) was a Pakistani politician. In his role as Minister without Portfolio, he signed the Karachi Agreement of 1949 that established a ceasefire line between Pakistani and Indian areas of Kashmir, which later became known as the Line of Control. In 1951, he served as the Executive for Kashmir Affairs and Northern Areas and also served as Interior Minister of Pakistan from 1951 till 1954. Soomro, Pir Bukhsh, "Nawab Mushtaq Ahmad Gurmani's Role in the Politics of Pakistan," *Pakistan Journal of History & Culture*, 2006, pp. 61-86.

<sup>66</sup> Syed Amjad Ali (5 July 1907 – 5 March 1997) was a Pakistani politician during the British Raj and a civil servant who served as Finance Minister of Pakistan from 1955 to 1958 and as Pakistani Ambassador to the United States from 1953 to 1955, "Syed Amjad Ali, 89 of Pakistan Envoy to Washington and U.N." by Wolfgang Saxon, *The New York Times*, 17 March 1997, pp. 5.

<sup>67</sup> Bashir A. Malik, *Indus Water Treaty ...*, pp. 148.

5. In the Kashmir state new uses for water should be quantitatively fixed.
6. There must be a complete replacement work plans to fulfill historic withdrawals, sailab (flood), river gains rivers channel deterioration and river gains and losses under the new flow conditions.
7. India must pay the maintenance and operational expenses and depreciations with the passage of time of replacement work to be built in Pakistan.

Pakistan's adopted bold and unprecedented stand on Indus issue. These above seven point agenda of Suhrawardy were considered as Magna Carta for the canal water issue by Pakistan. Lo and behold! By the dismay on 7 October 1958, Suhrawardy gone on his unflinching stand on Indus water issue he has paid because it was not in favour of the powers who were pro Indian behind the scene.<sup>68</sup>

General Ayub Khan<sup>69</sup> Commander-in-Chief of Pakistan army staged a coup d'état on 27 October 1958. He assumed head of state and government with full powers. He was brought in for his pro west leanings as it was commonly believed at that time.<sup>70</sup> The stance of Ayub Khan disposed towards a compromise rather than a conflict with India on canal water dispute. Previously Pakistan had avoided the acceptance of Aide-Memoire and other bank's proposals but with Ayub Khan their acceptance was

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<sup>68</sup> Bashir A. Malik, *Indus Water Treaty* ..., pp. 147.

<sup>69</sup> Mohammad Ayub Khan (14 May 1907 - 19 April 1974) was a Pakistani military dictator and the second President of Pakistan who forcibly by help of army force, assumed the presidency from first President through coup in 1958, the first successful coup d'état of the country. Khan, Mohammad Ayub. *Friends Not Masters: A Political Autobiography*. Oxford University Press, 1967, pp. 34.

<sup>70</sup> Bashir A. Malik, *Indus Water Treaty*..., pp. 150.



a foregone conclusion. Mueenuddin<sup>71</sup> on 2 December 1958 sent a letter to Iliff stating that

–Government do now accept without condition or reservation the Bank proposal of 5 February 1954 and the Aide-Memoire of 21 May 1958 as the continuing basis for reaching a co-operative solution of Indus waters question with the assistance of the bank”

According to this statement the bank proposal which was in February 1954 appeared very shocking and unacceptable to Pakistani delegation and it was said that Pakistan will not accept these suggestions but in year 1958 due to martial law imposition in Pakistan it was declared by the Government of Pakistan that it will accept the World Bank proposal without any condition to conclude a co-operative solution for the dispute of Indus Basin. Hence on 2 December 1958 it was accepted unconditionally. Mr. A.N. Khosla<sup>72</sup> former leader of Indian Water Delegation made a casual remark on Pakistan –surrender” of three rivers. Once a Chief Engineer of West Punjab irrigation department who was one of his former colleague meet him per chance in the transit lounge of international airport where both of them were waiting for their respective flights, Khosla chided him by saying –We asked for one river. How come you gave us three?”<sup>73</sup>

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<sup>71</sup> Mr. G. Mueenuddin was the Secretary to the Government of Pakistan, Ministry of Fuel, Power and National Resources, –Water Talks Make Progress” *Dawn*, 15 August 2010, pp. 1.

<sup>72</sup> Ajudhia Nath Khosla (1892 – 1984) was an Indian engineer and politician. He was the Chairman of the Central Waterways Irrigation and Navigation Commission of India see also <https://www.revolvvy.com/page/Ajudhya-Nath-Khosla> retrieved on 21 December 2018, pp. 1.

<sup>73</sup> Bashir A. Malik, *Indus Water Treaty...*, pp. 147.

This remark was in reference to the plan presented by him in a Negotiating Committee meeting in March 1950 at Karachi. This suggestion raised by Indian representative claimed for an excessive use of only one river i-e Sutlej leaving Ravi and Beas for Pakistan. An attractive “sporting offer” during Working Party Meeting at Washington in 1953 was also offered by Khosla on 50:50 basis about sharing stored waters. But unfortunately both the offers were spurned by Pakistan leading to regret on the losses forever.

#### 4.5 Towards the Treaty

On 2 December 1958 Pakistan gave its unconditional acceptance on bank proposal to set the ball rolling in order to achieve the final settlement plan. Leading the “negotiations” to the formulation of IWT, behind the scene it appeared to be that the world “negotiations” is a misnomer in case of Pakistan. The interventions or proposals offered by Pakistan were merely a lip service. It seemed that treaty confirmed to India’s pattern to safeguard its interest, intents and purposes. Once India gained a secure leading position it stretched the negotiations over nineteen months; mostly to cater to India’s ever increasing demands. Finally IWT was drafted to settle down canal water dispute between India and Pakistan.<sup>74</sup> The treaty is a comprehensive and briefed document with twelve articles leaded by a short preamble. However, there are further elaborated annexure which are eight in number with four attached appendices, which turned out the treaty as a complex and lengthy document. The technicality of the treaty and engineered terms made it complex and prolix because the natures of annexure are sophisticated and technical.

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<sup>74</sup> “World Bank Plan Accepted as Basis”, *TheTimes*, 8 August 1960, pp. 3. See also Indus Basin Treaty, File no T 236/6258, TNA, UK, 1961, pp. 2.

Table 4.2

*Contents of the Treaty*

<b>Contents</b>	<b>Description</b>
Article I	Technical Terms and definitions
Article II	Eastern Rivers regarding postulates
Article III	Western Rivers regarding postulates
Article IV	Western and Eastern Rivers regarding postulates
Article V	Provisions regarding financial assistance
Article VI	Data exchange among both the parties
Article VII	Cooperation plans for future
Article VIII	Setting up permanent Indus commission on both sides
Article IX	Resolving Disputes and differences
Article X	Provisions in case of emergency
Article XI	Provisions in general
Article XII	Final Provisions
Annexure A	Notes exchange between Indian and Pakistani Governments
Annexure B	Use of various tributaries of River Ravi by Pakistan for agricultural purpose
Annexure C	Use of various tributaries of Western Rivers by India for agricultural purpose
Annexure D	Hydro-electric power generation on western rivers by India
Annexure E	Water Storage Plans on Western Rivers by India
Annexure F	Allocation of Neutral Experts from both sides
Annexure G	Setting up of Court of Arbitration
Annexure H	Future Transitional arrangements

Source:- The Punjab Archives, Lahore, 1960, File No. ZA-1804, pp. 36.

All the appendices and annexure were designed to safeguard the interest of India as well as Pakistan and make a final verdict over the dispute of sharing water resources after partition in 1947. In order to provide financial arrangements for the infrastructure designed to share the water resources, the World Bank created the

Indus Basin Development Fund (IBDF).<sup>75</sup> 895 million US Dollars fund was contributed by “friendly countries” of the UK, Canada, U.S.A, Australia, Germany and New Zealand. This financial assistance was provided to meet all the construction and replacement work drafted in Indus Basin Project (IBP).

#### **4.6 Indus Water Treaty 1960**

The IWT was signed by the President of Pakistan, Ayub Khan and the Prime Minister of India Jawahar Lal Nehru on 19 September 1960 at Karachi, the Preamble of the Treaty clearly states the objective of the Treaty formulation.<sup>76</sup>

“The Government of India and the Government of Pakistan, being equally desirous of attaining the most complete and satisfactory utilization of the waters of the Indus System of Rivers and recognizing the need, therefore, of fixing and delimiting, in a spirit of goodwill and friendship, the rights and obligations of each in relation to other concerning the use of these waters and of making provisions for the settlement, in a cooperative spirit, of all such questions as may hereafter arise in regard to the interpretation of application of the provisions agreed upon herein, have resolved to conclude a Treaty in furtherance of these objectives and for this purpose have named as their plenipotentiary”.<sup>77</sup>

This statement reflects the promotion of regional co-operation and promotion of welfare for the dispute resolution on the water crisis between India and

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<sup>75</sup> India Waters Dispute: Funding Agreement, File No. PREM 11/4305, TNA, UK, 1957-1963 see also Pakistan / India Indus Basin Development Fund Agreement, File No. DO 118/215, TNA, UK, 1960, pp. 3 see also Manual of Responsibility Indus Water Treaty 1960, Indus Water Commission, Lahore, 1960.

<sup>76</sup> Indus Basin Treaty, File No. T 236/6258, TNA, UK, 1961, pp. 4.

<sup>77</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 1

Pakistan. Both nations expressed their complete confidence on the settlement of water distribution pattern.

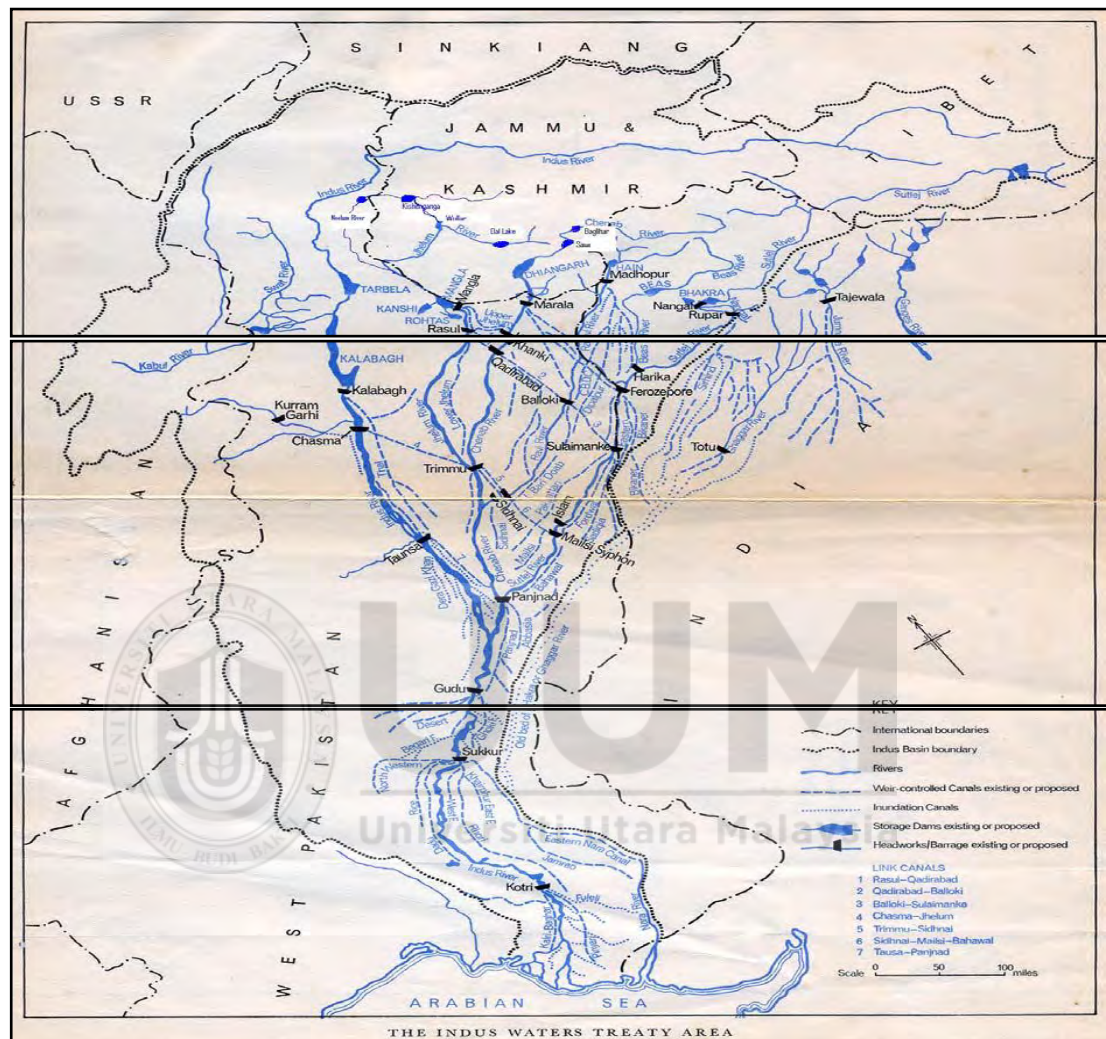


Figure 4.2. The Indus Water Treaty Area

Source:- Mohammad Ayub Khan, *Friends Not Masters: A Political Autobiography* Lahore, Karachi, Dacca: Oxford University Press, 1967, pp. 71

#### 4.7 Terms of Treaty

The Government of Pakistan and the Government of India found the treaty in the better interest for safeguarding the conflict arose in Indus Basin water sharing hence agreed upon the following Articles and Annexure.

*Article I: Definitions:* The Article-I explore all the terms and descriptions<sup>78</sup> used exclusively in the body of text comprising the Indus water treaty:-

–The terms –Article” and –Annexure” mean respectively an Article of and an Annexure to, this Treaty. The term –The Indus”, –The Jhelum”, –The Chenab”, –The Ravi”, –The Beas”, –The Sutlej”, means the named river (including Connecting Lakes, if any) and all its Tributaries. The term –Main” added after Indus, Jhelum, Chenab, Sutlej, Beas or Ravi means the main stem of the named river excluding its Tributaries, but including all channels and creeks of the main stem of that river and such Connecting Lakes as from part of the main stem itself.. The term –Eastern Rivers” mans the Sutlej, The Beas and The Ravi taken together. The term –Western Rivers” means The Indus, The Jhelum and The Chenab taken together...”<sup>79</sup>

Under Article I all the detailed description of terms used in IWT. An example of the use of various terms is mentioned above some other critical terms like –Transition Period”, –Commissioner”, –Non-Consumptive Use” etc are explained in detail under Article I of IWT. For further details see sixteen postulates of Article I of IWT.<sup>80</sup> See Appendix D.

Article II: Provisions Regarding Eastern Rivers : Waters of the Sutlej ,the Ravi and the Beas (Eastern Rivers) will solely be accessible for Indian use.<sup>81</sup>

As stated in body of text of Indus Water Treaty.

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<sup>78</sup> Bashir A. Malik, *Indus Water Treaty...*, pp. 217.

<sup>79</sup> Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5.

<sup>80</sup> Indus Basin Treaty, File No T 236/6258, TNA, UK, 1961, pp. 2.

<sup>81</sup> Nadeem Shafiq, *The Indus Waters Treaty, 1960 Text and Analysis*, Karachi: Fiction House, 2015, pp. 12.

—All the waters, while flowing in Pakistan, of any Tributary which, in its natural course, joins the Sutlej Main or the Ravi Main after these rivers have finally crossed into Pakistan shall be available for the unrestricted use of Pakistan: Provided however that this provision shall not be construed as giving Pakistan any claim or right to any releases by India in any such tributary. If Pakistan should deliver any of the waters of any such Tributary, which on the effective date joins the Ravi Main after this river has finally crossed into Pakistan, into a reach of the Ravi Main upstream of this crossing, India shall not make use of these waters; each Party agrees to establish such discharge observation stations and make such observations as may be necessary for the determination of the component of water available for the use of Pakistan on account of the aforesaid deliveries by Pakistan and Pakistan agrees to meet the cost of establishing the aforesaid discharge observation stations and making the aforesaid observations”.<sup>82</sup>

Except for Domestic and Non-Consumptive use, Pakistan will be under a commitment to let stream flow and will not allow any impedance with the waters of the Ravi Main and Sutlej Main to the maximum passage where these waterways stream in Pakistan and have not yet at last crossed into Pakistan.<sup>83</sup> All the waters, while streaming in Pakistan, or if any tributary which, in its normal course, joins the Sutlej Main or Ravi Main after these waterways have at last crossed into Pakistan will be accessible for the unrestricted utilization of Pakistan.<sup>84</sup>

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<sup>82</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA,UK, 1959-1960, pp. 3.

<sup>83</sup> Chandio, Bashir A., and Nuzhat Yasmin, eds. *Proceedings of the National Workshop on Water Resources Achievements and Issues in 20th Century and Challenges for the Next Millennium, Islamabad, Pakistan, 28-30 June 1999*. Pakistan Council of Research in Water Resources, 1999, pp. 224.

<sup>84</sup> Gulhati, Niranjan Das, *Indus Waters Treaty...*, pp. 201.

For further details regarding the provisions of Eastern Rivers see all the nine postulates of Article II contaminating the information of “Domestic Use and Non Consumptive use”, “Transition period”,<sup>85</sup> etc see Appendix D.

*Article III: Provisions Regarding Western Rivers:* Waters of the (Western Rivers) the Jhelum, Indus and the Chenab will be solely for use by Pakistan.<sup>86</sup>

As stated in body of text of Indus Water Treaty.

“Pakistan shall have the unrestricted use of all waters originating from sources other than the Eastern Rivers which are delivered by Pakistan into the Ravi or the Sutlej and India shall not make use of these waters. Each Party agrees to establish such discharge observation stations and make such observations as may be considered necessary by the Commission for the determination of the component of water available for the use of Pakistan on account of the aforesaid deliveries by Pakistan”.<sup>87</sup>

India will be under a commitment to let stream all the waters of the Western Rivers and will not allow any impedance with these waters, aside from the accompanying uses, confined (aside from as given in these items (c) (ii) of section 5 of Annexure C) on account of any one of the waterways, to the waste bowl thereof:

1. Domestic Use;
2. Non-Consumptive Use;
3. Agricultural Use, as set out in Annexure C; and

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<sup>85</sup> “Indus Water Treaty”, *The Times*, 20 September 1960, pp. 1.

<sup>86</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK 1959-1960, pp. 8.

<sup>87</sup> Wolf, Aaron T, “Conflict and Cooperation along Intemational Waterways,” *Water Policy*, 1998, pp. 255.



4. Hydropower Generation, as set out in Annexure D.<sup>88</sup> (see Appendix D)

*Article IV: Provisions Regarding Eastern Rivers and Western Rivers:*

1. In request to supply water for those regions in Pakistan which were being flooded by the Eastern Rivers on fifteenth August, 1947, an arrangement of substitution works would be constructed to exchange the waters supplies from Western Rivers and different hotspots for the channels in Pakistan which were reliant for water supplies on Eastern Rivers.
2. Either party will be allowed to release surges and different overabundance waters in the regular channels of the streams and neither one of the parties will have any case against other in regard of any harm caused by this type of use.
3. Each party consents to avert undue water contamination, to the extent practicable and consents to guarantee the treatment of any modern waste like industrial wastage or sewage, where important, in such a route as not tangibly to influence those uses.<sup>89</sup>

As stated in body of text of Indus Water Treaty.

~~Nothing~~ in this Treaty shall be construed as having the effect of preventing either Party from undertaking schemes of drainage, river training, conservation of soil against erosion and dredging, or from removal stones, gravel or sand from the beds of the rivers: Provided that [a] in executing any of the schemes mentioned above, each Party will avoid, as far as practicable, any material damage to the other Party; [b] any such scheme carried out by India on the Western Rivers shall not involve any use of water or any storage in addition to that provided under Article III; [c] except as provided in Paragraph [5] and Article VII [1] [b], India shall not take any action to increase the catchment area, beyond the area on the Effective Date, of any natural or artificial drainage or drain which crosses into Pakistan and shall not undertake such construction or remodeling of any drainage or drain which crosses or

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<sup>88</sup> Report and Recommendation of the President to the Executive Directors on the Proposed Tarbela Development Fund Agreement Pakistan, Report No. P-590, International Bank for Reconstruction and Development (IBRD), World Bank Document, 1968, pp. 6 see also Biswas, Asit K, ~~Indus Water Treaty: the Negotiating Process,~~ *Water International*, 1992, pp. 205 and ~~Text of Indus Basin Loan Agreement~~, *Dawn*, 20 September 1960, pp. 5.

<sup>89</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK 1959-1960, pp. 5.

falls into a drainage or drain which crosses as might cause material damage in Pakistan or entail the construction of a new drain or enlargement of an existing drainage or drain in Pakistan; and [d] should Pakistan desire to increase the catchment area, beyond the area on the Effective Date, of any natural or artificial drainage or drain, which receives drainage waters from India, or, except in an emergency, to pour any waters into it in excess of the quantities received by it as on the Effective Date, Pakistan shall, before undertaking any work for these purposes, increase the capacity of that drainage or drain to the extent necessary so as not to impair its efficacy for dealing with drainage waters received from India as on the Effective Date.”<sup>90</sup>

Under Article IV regarding the provisions of Eastern and Western Rivers there are fifteen postulates containing all the minor details about the concerns of each party. It over hauls ~~“Portions of the Drainages”~~ like ~~“Hudiara Drain”~~, ~~“Kasur Nala”~~ etc also have the description of ~~“Use of Water for Industrial Purposes”~~ under article II(2), II(3), III (2) which are immensely technical in nature.<sup>91</sup> (See Appendix D)

*Article V: Financial Provisions:* As referred to article IV (1) there is a complete change of irrigation canal system and its replacement works in Pakistan as it was on 15 August 1947 Western Rivers and its sources, it was depended on the Western

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<sup>90</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK 1959-1960, pp. 4. See also Miner, Mary, et al, ~~“Water Sharing Between India And Pakistan: A Critical Evaluation Of The Indus Water Treaty,”~~ *Water International*, 2009, pp. 210 and ~~“Indus Water Treaty”~~, *The Times*, 20 September 1960, pp. 1.

<sup>91</sup> Pitman, G. T, ~~“The Role of the World Bank in Enhancing Cooperation and Resolving Conflict on International Watercourses: The Case of the Indus Basin”~~, 1998, pp. 155-165. See also ~~“World Bank announcement: Text ”~~, *Dawn*, 20 September 1960, pp. 5.

River water supplies. In order to meet the cost of new replacement frameworks India agreed to make a fix contribution of 62,060,000 pounds sterling.<sup>92</sup>

As stated in body of text of Indus Water Treaty.

—H, at the request of Pakistan, the Transition Period is extended in accordance with the provisions of Article II [6] and of Part 8 of Annexure H, the Bank shall pay to India out of the Indus Basin Development Fund the appropriate amount specified in the Table below:-

<i>Period of Aggregate Extension of Transition Period</i>	<i>Payment to India</i>
One year	£Stg. 3,125,000
Two years	£Stg. 6,406,250
Three years	£Stg. 9,850,000” <sup>93</sup>

There are seven postulates under the financial provisions provided to Pakistan for the replacement from the western rivers and other sources to shake off the dependency upon eastern rivers. For details (see Appendix D).<sup>94</sup>

*Article IV: Exchange of Data:* In order to maintain the transparency of IWT, it was decided that there would be a periodic exchange of data regarding the rivers flow, utilizations and water discharge among both the courtiers. Article VI (1) limits each

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<sup>92</sup> Fazal Akbar Committee Report Vol. I, Report of the Chairman, Indus Water Appointment Committee Vol. I, Government of Pakistan, Punjab Irrigation and Power Department, Lahore, 1971, pp. 114.

<sup>93</sup> India, Pakistan and Intemational Bank for Reconstruction and Development, Report No. 6032, Govemnet of India, 1962, pp. 10-12.

<sup>94</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 9.

state to share information identified with the day by day usage of water flowing into rivers and usage of its ultimate utilization.<sup>95</sup>

As stated in body of text of Indus Water Treaty.

–The following data with respect to the flow in and utilization of the waters of, the rivers shall be exchanged regularly between the Parties:-

[a] Daily (or as observed or estimated less frequently) gauge and discharge data relating to flow of the rivers at all observations sites.

[b] Daily extractions for or releases from reservoirs.

[c] Daily withdrawals at the heads of all canals operated by government or by a government agency (hereinafter in this Article called canals), including link canals.

[d] Daily escapades from all canals, including link canals.

[e] Daily deliveries from link canals”.<sup>96</sup>

Only two postulates come under exchange of data, the statistical details of river flow are exchanged on daily basis with all inclusions. (See appendix D)

*Article VII: Future Co-operation:* The IWT perceives an incredible enthusiasm of the two nations in the greatest improvement of the Indus Basin and in order to implement, requests for collaboration between both the states. In line with a state concerned, the two nations may participate to embrace some building works by shared assertions. For each situation, formal understandings will be required between

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<sup>95</sup> Ijaz, *Political and Legal...*, pp. 208.

<sup>96</sup> Subedi, Surya P. –Hydro-Diplomacy In South Asia: The Conclusion Of The Mahakali And Ganges River Treaties,” *American Journal of International Law*, 1999, pp. 953-962. See also Report and Recommendation of the President to the Executive Directors on the Proposed Tarbela Development Fund Agreement Pakistan, Report No. P-590, International Bank for Reconstruction and Development (IBRD), World Bank Document, 1968, pp. 6 See also Biswas, Asit K, –Indus Water Treaty: the Negotiating Process,” *Water International*, 1992, pp. 205 and –Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5.

the two states (Article VII, 1). Article VII (2) further expressed that in the event that either party have an arrangement to develop a building take a shot at any stream which in its judgment would antagonistically influence the interests of other state, it will inform concerned and will supply information significant to the work which would empower other state to comprehend the nature size and impacts of the work. In any case if a work would meddle in the waters of a stream and in judgment of the arranging state it would not influence other state substantially information important to the nature extent and impact of the work would be given on demand of the each other.<sup>97</sup>

As stated in body of text of Indus Water Treaty.

–The two Parties recognize that they have a common interest in the optimum development of the rivers and to that end they declare their intention to co-operate, by mutual agreement, to the fullest possible extent.”<sup>98</sup>

In particular:-

[a] Each Party, to the extent it considers practicable and on a agreement by the other Party to pay the costs to be incurred, will, at the request of the other Party, set up or install such hydrologic observation stations within the drainage basins of the rivers and set up or install such meteorological observation stations relating thereto and carry out such observations thereat, as may be requested and will supply the data so obtained.<sup>99</sup>

[b] Each Party, to the extent it considers practicable and on agreement by the other Party to pay costs to be incurred, will, at the request of the other

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<sup>97</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 10.

<sup>98</sup> Ahmad, Nazir, –Ground Water Resources of Pakistan,” *Ground Water Resources of Pakistan*, 1974, pp. 115.

<sup>99</sup> –Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5.

Party, carry out such new drainage works as may be required in connection with new drainage works of the other Party.

[c] At the request of either Party, the two Parties may, by mutual agreement, cooperate in undertaking engineering works on the rivers. The formal arrangements, in each case, shall be as agreed upon between the Parties.”<sup>100</sup>

Article VIII: The Permanent Indus Commission (PIC) has been comprised under the Article VIII of the IWT for the foundation of agreeable courses of action to execute arrangements of the Treaty. It comprise of two Commissioners, every one of them is delegated by India and Pakistan individually. They should be professional engineers of high expertise, professionally skilled in water use and hydrology. The principal destinations of the commission were to advance participation between the states in the fields of water improvement to investigate matters referred to it for its thought to settle questions emerging about the understanding and implementation of the treaty and to organize visits for review. For the execution of the treaty the commission has communicate and work as a source of correspondence between the two parties. It meets one tine in a year on the other hand in India and Pakistan and presents its reports to the particular governments before first of June every year. It likewise meets on the demand of either commissioner.<sup>101</sup>

In order to resolve any conflict between the states an agreement was notified in favor of the Commission that comprises of two Commissioners. They need to concur or

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<sup>100</sup> India, Pakistan and Intemational Bank for Reconstruction and Development, Report No. 6032, Government of India, 1962, pp. 10. See also Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 11.

<sup>101</sup> –Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5. See also The World Bank Group Archives, 1959-1960, pp. 290 and Wolf, Aaron T, –Conflict and Cooperation along International Waterways,” *Water Policy*, 1998, pp. 250.

differ on a specific issue on the grounds that there is no procedure of casting a ballot included. The Commissioners can be helped by their counselors in a state and there are no confinements on the quantities of consultants required to help. To play out their capacities in a safe domain, every administration consented to accord same benefits and invulnerabilities to the Commissioner of the other party as are concurred to the delegates of the United Nations.<sup>102</sup>

As stated in body of text of Indus Water Treaty.

—The purpose and maintain co-operative arrangements for the implementation of this Treaty, to promote co-operation between the Parties in the development of the waters of the rivers and, in particular,

- [a] to study and report to the two Governments on any problem relating to the development of the waters of the rivers which may be jointly referred to the Commission by the two Governments: in the event that a reference is made by one Government alone, the Commissioner of the other Government shall obtain the authorization of his Government before he proceeds the act on the reference;
- [b] To make every effort to settle promptly, in accordance with the provisions of Article IX [1], any question arising there under;
- [c] to undertake, once in every five years, a general tour of inspection of the rivers for ascertaining the facts connected with various developments and works on the rivers;
- [d] To undertake promptly, at the request of either Commissioner, a tour of inspection of such works or sites on the rivers as may be considered necessary by him for ascertaining the facts connected with those works
- [e] to take, during the Transition Period, such steps as may be necessary or sites; and for the implementation of the provisions of Annexure H”<sup>103</sup>.

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<sup>102</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 12.

<sup>103</sup> Report and Recommendation of the President to the Executive Directors on the Proposed Tarbela Development Fund Agreement Pakistan, Report No. P-590, International Bank for Reconstruction and  
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There are ten postulates to express the working, capacity and scope of Permanent Indus Commission. It is also mentioned under this postulates that there should be an annual meeting to resolves minor conflict and exchange the matter of concern among both the countries. For details (see Appendix D)

*Article IX: Settlement of Differences and Disputes:* The basic principal that “peaceful settlement of dispute” between or among the co-bowl countries by serene means that it requires settlement of contentions over the administration and division of waters of a universal watercourse, in the event that countries concerned are neglected to achieve a final dispute settlement by arranging negotiations.<sup>104</sup> IWT gives a mind boggling component to question goals through Article IX with Annexures F and G. In first case, all the conflicts are analyzed by the Permanent Indus Commission., two methodology have been recommended relying upon the idea of the debate; the question of specialized nature and debate of genuine nature.<sup>105</sup>

As stated in body of text of Indus Water Treaty.

—A Court of Arbitration shall be established to resolve the dispute in the manner provided by Annexure G  
[a] upon agreement between the Parties to do so; or

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Development (IBRD), World Bank Document, 1968, pp. 6. See also Biswas, Asit K, “Indus Water Treaty: the Negotiating Process,” *Water International*, 1992, pp. 205 and “Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5.

<sup>104</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 12.

<sup>105</sup> Fazal Akbar Committee Report Vol. I, Report of the Chairman, Indus Water Appointment Committee Vol. I, Government of Pakistan, Punjab Irrigation and Power Department, Lahore, 1971, pp. 116. See also Wirsing, Robert G. and Christopher Jaspardo, “River Rivalry: Water Disputes, Resource Insecurity and Diplomatic Deadlock in South Asia,” *Water Policy*, 2007, pp. 231-251.



[b] at the request of either Party, if, after negotiations have begun pursuant to Paragraph [4], in its opinion the dispute is not likely to be resolved by negotiation or mediation; or

[c] at the request of either Party, if, after the expiry of one month following receipt by the other Government of the invitation referred to in Paragraph [4], that Party comes to the conclusion that the other Government is unduly delaying the negotiations.”<sup>106</sup>

Article IX with Annexure F and G, gives a question settlement component. The “conflicts” will be considered by the PIC “contrasts” will be settled by the (ICA). The International Court of Arbitration will involve seven individuals; each of the states will assign two individuals. In case they neglect to make an assertion at that point assigned people will choose them. The three impartial individuals are to be separately an individual met all requirements to be director of the ICA, a capable specialist and a universal attorney of extraordinary notoriety.<sup>107</sup> (see Appendix to Annexure G) It is likewise significant that the pertinent law for the ICA is to be pursued inside the preview of the IWT itself. As a matter of first importance, the case will be analyzed by the PIC, if Commission can't resolve it, the case will be sent to the Neutral Expert for settling on a choice and in the event that it again stays agitated, it will be settled by the ICA.<sup>108</sup>

On the other hand, a few sentiments of dissatisfaction are additionally prevailing in the two nations about the job and execution of PIC. As a few specialists are of the

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<sup>106</sup> Sahni, Hamir K, “The Politics of Water in South Asia: The Case of the Indus Waters Treaty,” *SAIS Review of International Affairs*, 2006, pp. 150 see also Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 13.

<sup>107</sup> “World Bank Announcement: Text”, *Dawn*, 20 September 1960, pp. 5.

<sup>108</sup> “Text of Indus Water Treaty”, *The Civil & Military Gazette*, 20 September 1960, pp. 11.

view that IWT has given an unpredictable component of debate settlement to the PIC and, accordingly it assumed a one-sided job in settlement of question and arrangement of observing. The agitated question and discussions over the water allotment of the Indus River System are seen of the insufficient job of the Commission.<sup>109</sup> It can without much of a stretch be comprehended by the rise of new clashes after the Treaty. (See appendix D)

*Article X: Emergency Provision:* That is an additional provision which is adopted as a precaution related to any emergency from both sides of borders. Time bound mentioned in treaty was 31 March 1965, prior to that date which Pakistan has taken as a deadline will be represented to Bank. In case of any ~~International Hostilities~~ that cause Pakistan into an odd situation and let it disable to continue the replacement work. In such circumstance any modification in the provisions of IWT are appropriate and advisable so there should be an extent of modifications in the text of IWT.<sup>110</sup>

As stated in body of text of Indus Water Treaty.

~~[a]~~ these hostilities are on a scale of which the consequences is that Pakistan is unable to obtain in time such materials and equipment as must be procured from abroad for the completion, by 31st March 1973, of the replacement element and

[b] since the Effective Date, Pakistan has taken all reasonable steps to obtain the said materials and equipment and, with such resources of

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<sup>109</sup> Hakim, I. *The Indus Water Treaty: An Institutional Mechanism for Addressing Regional Disparity*. United Kingdom: VDM Verlag Dr. Muller Publishing House LTD, 2010, pp. 6-7.

<sup>110</sup> India, Pakistan and International Bank for Reconstruction and Development, Report No. 6032, Government of India, 1962, pp. 10. See also Clift, Peter D., and Jerzy Blusztajn. "Reorganization of the Western Himalayan River System after Five Million Years Ago," *Nature*, 2005, pp. 1001.

materials and equipment as have been available to Pakistan both from within Pakistan and from abroad, has carried forward the construction of the replacement element with due diligence and all reasonable expedition, the Bank shall immediately notify each of the Parties accordingly”.<sup>111</sup>

The emergency provision under article X of IWT is taken in case of any political or geographical discrepancy leading it to an unavoidable dilemma. In order to make IWT more flexible and best suitable under stressful time this provision was framed. (See appendix D)

*Article XI: General Provisions:* The general provisions invoked in the IWT claimed an unbiased and strengthened support towards the legal rights and claims of both the parties towards each other.<sup>112</sup>

As stated in body of text of Indus Water Treaty.

–[a] this Treaty governs the rights and obligations of each Party in relation to the other with respect only to the use of the waters of the rivers and matters incidental thereto; and

[b] nothing contained in this Treaty and nothing arising out of the execution thereof, shall be construed as constituting a recognition or waiver (whether tacit, by implication or otherwise) of any rights or claims whatsoever of either of the Parties other than those rights or claims which are expressly recognized or waived in this Treaty. Each of the Parties agrees that it will not invoke this Treaty, anything contained therein, or anything arising out of the execution thereof, in support of any

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<sup>111</sup> –Text of Indus Water Treaty”, *The Civil & Military Gazette*, 20 September 1960, pp. 11. See also Pande, Kanchan, et al. –The Indus River System (India-Pakistan): Major-Ion Chemistry, Uranium and Strontium Isotopes”, *Chemical Geology*, 1994, pp. 245-259.

<sup>112</sup> Ahmad, Nazir, –Ground Water Resources of Pakistan”, *Ground Water Resources of Pakistan*, 1974, pp. 114.

of its own rights or claims whatsoever or in disputing any of the rights or claims whatsoever of the other Party, other than those rights or claims which are expressly recognized or waived in this Treaty”.<sup>113</sup>

In order to have a complete understanding regarding the rights and obligation of both the countries towards each other to remain IWT unaffected by anything this provision was drafted.<sup>114</sup> For details (see Appendix D).

*Article XII: Final Provisions:* Final provision contains the description of ~~“Preamble”~~, ~~“Articles”~~ and annexure A to H on which the treaty was drafted. The ratification, exchange, modifications terms of termination, witness etc are enclosed in the final provisions.<sup>115</sup>

As stated in body of text of Indus Water Treaty.

~~“1] This Treaty consists of the Preamble, the Articles hereof and Annexures A to H hereto and may be cited as “The Indus Waters Treaty 1960”.~~

[2] This Treaty shall be ratified and the ratifications thereof shall be exchanged in New Delhi. It shall enter into force upon the exchange of ratifications and will then effect retrospectively from the first of April 1960.

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<sup>113</sup> Ijaz, Political and Legal..., pp. 208 see also ~~“Indus Water Treaty Draft”~~, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 14.

<sup>114</sup> Chandio, Bashir A., and Nuzhat Yasmin, eds. *Proceedings of the National Workshop on Water Resources Achievements and Issues in 20th Century and Challenges for the Next Millennium, Islamabad, Pakistan, 28-30 June 1999*. Pakistan Council of Research in Water Resources, 1999, pp. 224.

<sup>115</sup> Report and Recommendation of the President to the Executive Directors on the Proposed Tarbela Development Fund Agreement Pakistan, Report No. P-590, International Bank for Reconstruction and Development (IBRD), World Bank Document, 1968, pp. 6.

[3] The provisions of this Treaty may from time to time be modified by a duly ratified treaty concluded for that purpose between the two Governments.

[4] The provisions of this Treaty, as modified under the provisions of Paragraph [3], shall continue in force until terminated by a duly ratified treaty concluded for that purpose between the two Governments.”<sup>116</sup>

The details of signatories in presences of witness are also defined under this article.

(See appendix D).

The World Bank's job identified with organization of the IRB is extremely significant. In reality, it played exceptionally dynamic and helpful job in the goals of the Indus waters clashes. Without having any political specialist, it assumed a significant job to unite a few countries with duties of budgetary assets. It was an incredible outsider consolation to the debate settlement effectively. This measure of debate goals proposes that helpful job of an outsider can turn out to be imperative in compromise.<sup>117</sup>

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<sup>116</sup> Indus Water Treaty Draft, File No. DO 35/8595, Indus Water Treaty, TNA, UK, 1959-1960, pp. 15.

<sup>117</sup> Biswas, A. K. *Indus Water Treaty...*, pp. 193.



Figure 4.3. Signing Ceremony of Indus Water Treaty.<sup>118</sup>

Source:- “Signing Ceremony of Indus Water Treaty”, *Dawn*, 20 September 1960, pp. 1.

#### 4.8 Conclusion

India and Pakistan ought to have gone to war over the Indus bowl. Keeping in view the water needs, focusing the utilization and Pakistan's total reliance upon the bowl further more expansive request including a development of issues including Kashmir were encouraged by the two nations. World Bank gave the solution that three eastern rivers (the Beas, Sutlej and Ravi) would be received by India or approximately around 20% of the Indus waters and the three western rivers (the Jhelum, Chenab and the Indus) would be received by Pakistan and approximately 80% of the total surface waters. Pakistan was not satisfied with the 1954 Plan. Since Pakistan could not afford the international political pressure, neither did it have the finances to build storage capacities unilaterally nor it was in position to give away water, it finally refused the 1954 plan.

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<sup>118</sup> The historic Indus Water Treaty between Pakistan and India was signed at President's House, Karachi. Signing the Treaty (L to R) Mr. Jawaharlal Nehru, Prime Minister of India, President Mohammad Ayub Khan of Pakistan and Mr. W.A.B. Iliff, Vice President of the World Bank.

The IWT was signed on 19 September 1960 by India, Pakistan and the World Bank and ratified later in January 1961. With the monster workforces of the World Bank, India and Pakistan arranged the Indus Waters Treaty over a time of nine years, stamping it in September 1960. The primary brightening for this Indo-Pakistan facilitated exertion depends upon the records that the Treaty passed on with it in the Indus Basin Development Fund. Decision enlightenment is that India and Pakistan appreciated light of how it was water insightful. In other words joint exertion was depended upon to safe-screen the nations' entire arrangement access to shared water. Regardless, the nature of the Indo-Pakistan participation was shaped by the more wide strains between the two nations. Along these lines, it was particularly about consumption of water and did not over hauls the political dilemmas.

India and Pakistan did not take up arms over the Indus waters, negotiations went long and tiresome. There was a wide gap between the both countries regarding the suggestions on water sharing of Indus Basin. The reason depends upon three transcendent building pieces claiming to own the resources of water, a more expansive clash over the constructional frameworks and opposing open articulations. The World Bank's job identified with organization of the IRB is extremely significant. In reality, it played exceptionally dynamic and helpful job in the goals of the Indus waters clashes. Without having any political specialist, it assumed a significant job to unite a few countries with duties of budgetary assets. It was an incredible outsider consolation to the debate settlement effectively. This measure of debate goals proposes that helpful job of an outsider can turn out to be imperative in compromise.

## **CHAPTER FIVE**

### **WORLD BANK AND INDUS WATER TREATY 1960**

#### **5.1 Introduction**

The Indus Basin Water Treaty is viewed as an exceptionally intricate instrument of water the board. Its principal approach was the advancement of the Indus Basin by expanding the amount of water accessible to the both riparian states, the India and Pakistan and to allocate the water assets on fair premise between them. It is the most itemized treaty in perspective of its focus and goals. The treaty is interesting it might be said that it basically separates streams of the Indus framework and does not distribute the amount of accessible water between the riparian states. This division of waterways of Indus Basin has limitized the clashing requests of the states concern and would have connected the rule of impartial distribution. Another great aspect of the Indus Basin Water Treaty is that it is just a water distribution assertion which was co-marked by the outsider, the World Bank. The Bank interceded and helped two states to achieve an understanding. Moreover, IWT not just gave an instrument of debate settlement between the riparian countries however it likewise changed the water struggle into eternal harmony participation and advancement.

The first half of this chapter is coded with the reactions from India, Pakistan and outside the Indian subcontinent. Though there was a warm welcome from both India and Pakistan. However, not everyone was so optimistic in approach. Various criticisms raised on the India's payments to Pakistan in order to maintain the new constructional works for a transition period of 10 years, during which India will supply the eastern rivers waters to Pakistan that was charged by remarking 'taking little care of India's needs and requirements of water, especially in Rajasthan'. In



Pakistan due to a very offensive attitude of Ayub Khan no political leader dare to speak a single word against IWT, the only political leader who was that courageous to comment on IWT in such a heavy load of political stress was sister of Quaid-i-Azam(founder of Pakistan) Ms. Fatima Jinnah who claimed treaty as ‘lack of determination to fight for our water rights on which our prosperity, progress and future depends’. Rest on all sides the warmest appreciation not only of Great Britain and the Commonwealth’s financial contributions to the Indus Waters Scheme but also visualized a ray of hope for a ‘new chapter of friendship’ among two countries.

Financial burdens as well as the best use of technical guidance from both the countries were addressed by the IWT and a course of events for change was likewise included. It was finalized on nineteenth of September 1960 and redressed by the two governments in January 1961 in Delhi. It was retroactive from April 1, 1960. It contains twelve articles and with its preface and eight far reaching annexure including reference sections. The Indus Waters Agreement was signed in Karachi on September 19<sup>th</sup> at a very impressive ceremony. After discussing the matter at length with India and Pakistan it was generally presumed that the prospects for some preliminary move towards some reconciliation on Kashmir were brighter than they have ever been. The treaty with the difficult problem of the uses of the waters of the rivers of the Indus Basin upon which some 50 million people depend directly or indirectly for their livelihood. These rivers are the Indus itself, the Jhelum, the Chenab, the Ravi, the Sutlej and the Beas. Under this plan, now embodied in the Treaty, Pakistan had to construct over a period of transition, transmission canals and storage works which would enable water from the three Western rivers to be used to meet the irrigation needs previously met from the waters of the three eastern Rivers.

## 5.2 World Bank Role in Suggesting Indus Water Treaty

India and Pakistan had both connected to the World Bank for advances to develop their water system works. The Bank, unfit to reserve extends on the contested Sutlej River was eager to help the nations in settling their debate. In this way, after an underlying inciting, the World Bank offered its great workplaces. India and Pakistan acknowledged its intercession and this denoted the beginning of the Indus Basin intervention process.<sup>1</sup> Mediation was followed by two aspects that are by a wide margin the most imperative to the long term accomplishment of the procedure. Right off the bat that the members have all joined the procedure intentionally to help the disputants investigate methods for settling their disparities. The disputants, thusly, have consented to enable a mediating body to help them as they continued looking for an answer. Besides, the capacity of the intercession procedure is essentially to help the correspondence procedure between the disputants. Use of force to implement the solution prescribed by a given arrangement upon the contention by utilization of political impact was not the appreciable outcome. However it was rested with both the disputants to either accept or reject the outcome of this mediation. They will choose through arguments and make valid compromises in order to reach a valid outcome suitable for both the parties.<sup>2</sup>

All the aspects of mediation were politically of a great concern but the latter one is visualized with a great supreme value mainly for two reasons being international watercourse dispute. Firstly the political scenario of the two states holds a central

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<sup>1</sup> –World Bank Plan Accepted as Basis”, *TheTimes (London)*, 8 August 1960, pp. 3 see also Indus Basin Treaty, T 236/6258, The National Archives (TNA), United Kingdom (UK), 1961, pp. 2.

<sup>2</sup> Princen, Thomas. "Mediation by a Transnational Organization: The Case of the Vatican." *Mediation in International Relations*. Palgrave Macmillan, London, 1992, pp. 149-175 see also Memorandum on the Indus Basin Water Dispute, File No. ZA-1804, Punjab Archives, Lahore, 1958, pp. 1.

position beside technical and financial aspects of the agreement. Internationally when disputes are settled through mediation with in a political context is impacted by elements that happen far from the war zone and discussion table. Thusly, the disputants should most likely suit one another by accommodating each other, yet in addition their own personal interests and factions. Accordingly, by leaving the basic leadership control with the disputants they can change the result to make any understanding politically feasible.<sup>3</sup>

The second purpose behind leaving the basic leadership control with the disputants is that after any understanding is marked and the intercession is finished, the understanding should be executed and kept up. This infers the disputants will have some type of post-understanding relationship.<sup>4</sup> In the event that the debate settlement procedure was especially ill-disposed at that point understanding may have been come to the detriment of this relationship which is as significant if not more.

This isn't to propose that intercession leaves the questioning nations as one another's nearest partner, yet it does in any event not compound the pre-intervention strains. This would infer that the post-understanding relationship has a superior shot of encouraging the execution and upkeep of the understanding. The middle person's job, accordingly is to help interchanges between the disputants. Help can happen in various ways. For instance: [i] the third party (mediator) may act to explain issues between the disputants that have turned out to be confounded during the contest. [ii]

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<sup>3</sup> Merrills, John Graham. *International Dispute Settlement*. Cambridge University Press, 2017, pp. 123 see also India Waters Dispute: Funding Agreement, PREM 11/4305, TNA, UK, 1957-1963, pp. 3 see also Pakistan / India Indus Basin Development Fund Agreement, DO 118/215, TNA, UK, 1960, pp. 3.

<sup>4</sup> Mitchell, Christopher Roger, and Michael Banks. *Handbook of Conflict Resolution: The Analytical Problem Solving Approach*. Pinter Publishers, 1996, pp. 457.

The third party (mediator) may introduce thoughts or recommendations in the interest of one disputant, to the next disputant(s). This circumstance may emerge if the disputant feels that its position would debilitate on the off chance that it supposedly was putting forth choices to strife. [iii] The go between can likewise be utilized by the disputants to disclose to a residential group of spectators the explanations behind conforming to a specific result. This is particularly helpful if such consistence repudiates the past positions taken freely. The disputants can essentially accuse the middle person, proposing that they had requested such consistence.<sup>5</sup>

This underlines the way that the ultimate responsibility regarding an effective result not rests exclusively with the mediator, yet with the disputants. In case of disputants are not agreed to relinquish cherished and built up positions opposite each other in the dispute, at that point the intervention is probably not going to bring about a settlement.<sup>6</sup> To emphasize, by what method can a go between help interchanges when the disputants are not imparting? The demeanor of India and Pakistan in the Indus Basin dialogs features this point. The World Bank was not there to drag an understanding out of the two nations, yet to enable them to achieve a worthy understanding.<sup>7</sup>

World Bank association in the Indus Basin water dispute originates before the idea of good workplaces in 1951. India and Pakistan had both independently moved toward

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<sup>5</sup> Moore, Christopher W. *Alternative Dispute Resolution Series: Corps of Engineers Uses Mediation to Settle Hydropower Dispute*. No. IWR-91-ADR-CS-6. Army Engineer Inst For Water Resources Alexandria Va, 1991, pp. 493.

<sup>6</sup> BenDor, Todd K., and Jürgen Scheffran. *Agent-Based Modeling of Environmental Conflict and Cooperation*. CRC Press, 2018, pp.128.

<sup>7</sup> Princen, Thomas. *Intermediaries in International Conflict*. Princeton University Press, 2014, pp. 56. See also Nadeem Shafiq, *The Indus Waters Treaty, 1960 Text and Analysis*, Karachi: Fiction House, 2015, pp. 12.

the Bank for credits to develop works using the River Sutlej's water. Yet, the Bank had needed to deny these advance applications, independent of their monetary reasonability and legitimacy; on the grounds that in question was the utilization of contested water. The ensuing formal inclusion in the question of the Bank was the consequence of baffled advance applications and various different elements that fit the foundation's plan at the time. It took a very long time to move from the underlying acknowledgment by India and Pakistan of the Bank's great workplaces to the genuine beginning of the intervention. The explanation behind this deferral was the need to deal with the methodology of the arranging procedure.

At the end of the day each gathering's plan must be met to an acceptable degree. India and Pakistan needed to guarantee that interest in the multilateral talks would neither set a trend nor submit them to any endeavors that may negatively influence their dealing positions. The World Bank tried rehashed endeavors to console the two disputants that interest in these talks would not start any trend nor submit them to any unsuitable results. The issues around which the contest focused went to the basic challenge for what seemed by all accounts to be a fixed measure of water. India needed to utilize the water moving through its domain to build up its own water system employments. Anyway India lying upstream of Pakistan would in the process fitting water that provided existing uses in Pakistan.

The downstream riparian was subsequently worried about the following harm to its uses and coming about impact upon its agrarian yield. As the dialogs advanced another issue went to the fore with respect to the monetary obligation of every disputant. The hesitance of India and Pakistan to move from their positions stemmed incompletely from nerves with respect to tolerating any huge monetary obligation

and from inside political challenges. In any case, through hounded steadiness and investigation of various alternatives the World Bank had the option to squirrel away little understandings as they came. Notwithstanding, the last understanding that prompted the Indus Waters Treaty was just conceivable after a quantum jump in Pakistani disposition opposite the current proposition.<sup>8</sup>

The World Bank had an especially troublesome errand as a go between both parties being mediator. Its essential job was to help India and Pakistan in their correspondences with one another. Be that as it may, however a lot of discussion occurred, with India and Pakistan talking at one another, next to no 'tuning in' went with the procedure. This was an element of the two-sided dealings that had occurred before the Bank interceded and it was reproduced in the intervened talks.<sup>9</sup>

For instance, India had clarified that it was eager to pay for a substitution plan of works, yet would just consent to the base of expenses that means to the minimum of costs. While Pakistan drew up self important plans that accommodated the essential substitution fills in as well as establishes the framework for its advancement advantages. Thusly, Pakistan was determined that it would not acknowledge an arrangement where India could 'meddle' with the waters of the western waterways, despite the fact that it would do as such in Indian occupied Jammu and Kashmir. However India proposed not one but rather two plans which included utilizing the

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<sup>8</sup> Kumar, Girja, and B. C. Tewari. "India and World Affairs: An Annual Bibliography, 1958." *International Studies* 1.3, 1959, pp. 320-349.

<sup>9</sup> Chandio, Bashir A., and Nuzhat Yasmin, eds. Proceedings of the National Workshop on Water Resources Achievements and Issues in 20th Century and Challenges for the Next Millennium, Islamabad, Pakistan, 28-30 June 1999, Pakistan Council of Research in Water Resources, 1999, pp. 224.

waters of the Chenab River.<sup>10</sup> India and Pakistan seemed to approach the investigation of alternatives as though they were hanging off a rung of a climbing outline. They would possibly move from their position if the rung ahead was one they preferred. However, having moved, they would again be hesitant to give up their position and would hold a determined grasp. Accordingly, achieving understanding demonstrated to be troublesome. Not exclusively were the general rules that developed tested and consulted before being acknowledged, yet so were the moment subtleties of the procedure information accumulation and elucidation.<sup>11</sup>

The World Bank was to repeat during the later phases of the discussions that there was no specialized impediment to forestall the goals of the debate. What was viewed by the Bank as accepting advancement were tensions about the money related risk every disputant had over the other and political challenges that kept government officials from supposedly compromising with an adversary. This was especially the situation with Pakistan. Political insecurity inside the nation debilitated the officeholder legislators from settling on any choices that had broad outcomes with respect to the waters supporting the national integrity.<sup>12</sup>

The superseding and persevering subject all through the process of mediation was the dread of starting a trend that the other party could then use to further their potential benefit. In any case, it was not simply a dispute among India and Pakistan. Within boundaries the internal forces also affect the national interest particularly in Pakistan,

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<sup>10</sup> Bindschedler, Rudolf L., and Rudolf Bernhardt, eds. *Encyclopedia of Public International Law*. Vol. 6. North Holland, 1983, pp. 962-964. See also Khan, F. K, *Pakistan: Geography, Economy and People*. Karachi: Oxford University Press, 2004, pp. 193.

<sup>11</sup> Malik, B. A, *Indus Water Treaty in Retropect*. Lahore: Brite Books, 2005, pp. 73.

<sup>12</sup> Wright, R. P. *The Ancient Indus: Urbanism, Economy and Society*. New York: Cambridge University Press, 2010, pp. 92.

impacted the Pakistani appointment's bartering position. Different segments additionally existed for instance the Pakistani delegates nominated to be its presenters did not really concur with the position being taken by its Government. Consequently, understand that the gatherings are not stone monuments and may have had extra issues arranging on account of their inside divisions.<sup>13</sup>

### **5.3 Contextual Analysis of Indus Water Treaty**

IWT has designed in all respect and scenarios to safeguard the water rights of Pakistan and India and to prevent any member from abusing and extending the balance of power in the region. The Indus Basin Water Treaty is viewed as an exceptionally intricate instrument of water the board. Its principal approach was the advancement of the Indus Basin by expanding the amount of water accessible to the both riparian states, the India and Pakistan and to allocate the water assets on fair premise between them. Taint it is the most itemized treaty in perspective of its points and goals.<sup>14</sup> The Treaty is interesting it might be said that it basically separates streams of the Indus framework and does not distribute the amount of accessible water between the riparian states. This division of the waterways of Indus Basin has limited the clashing requests of the states concerned and would have connected the rule of impartial distribution. Another huge part of the Indus Basin Water Treaty is that it is just a water distribution assertion which was co-marked by the outsider, the World Bank. The Bank interceded and helped two states to achieve an understanding.<sup>15</sup> Moreover, IWT not just gave an instrument of debate settlement

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<sup>13</sup> Morris, Jan. *The World Bank: A Prospect*. Faber & Faber, 1963, pp. 59. See also Gill, S. A., Indus River and the Irrigation System in Pakistan. *Journal of south Asian Studies*, 2005, pp. 7.

<sup>14</sup> Salman, S. M, & Uperty, k, *Conflict and Cooperation on South Asia's International Rivers*, Washington, DC: The World Bank, 2002, pp. 48.

<sup>15</sup> Arora, R. K, *The Indus Water Treaty Regime*. New Delhi: Mohit Publications, 2007, pp. 9.



between the riparian countries however it likewise changed the world of water struggle into the world of harmony, participation and advancement.<sup>16</sup>

Indus Basin Water Treaty has standard and useful qualities as it contains arrangements to execute a system in regards to the organization and institutional set up and to deal with the water assets of the bowl, notwithstanding the extensive tenets of Indus River routine.<sup>17</sup> The treaty isn't just a unique and novel archive which expands the measure of accessible water assets for the riparian nations, yet it likewise appeases the clashing stands of the two countries over the water rights. The treaty additionally characterizes rights and commitments of the two nations over water usage of the Indus River System.

Preceding the treaty, the two states were demanding their water shares as per the clashing methodologies of International law. Indian case depended on the hypothesis of 'Outright Territorial Sovereignty or Harmon Doctrine' which says that each riparian state has a flat out ideal to utilize regular assets inside its domain, as it regards fit without concerning a harm or damage of its activity to the next co-riparian. On the opposite side Pakistan's case depended on the conventions of 'Earlier Appropriation or Historic Use' and 'Not to Cause Significant Harm' which secure the privilege of earlier usage.<sup>18</sup> Leaving aside the legitimate rule the bargain gives an

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<sup>16</sup> Mittal, Devika, and Amit Ranjan. "India-Pakistan: Contours of Relationship". *Space and Culture, India*, 2016, pp. 6-18.

<sup>17</sup> Salman, S. M, *The Baglihar Difference and its Resolution Process-a-Triumph for the Indus Water Treaty: Paper No. 8448*, Washington D. C, The World Bank, 2007, pp. 106-110.

<sup>18</sup> Gosain, A. K, and A. Singh, "Water Rights in Indian Transboundary Watercourses," *Jalvigyan Sameeksha (Hydrology Review)*, Indian National Committee on Hydrology (INCOH), 2004, pp. 41-52.

answer that depends on the standards of building and financial matters.<sup>19</sup> Rather than separating the waters of the Indus System, it divided the waterways of Indus System among India and Pakistan which gave them sovereign command over the waters and controls of water supply inside their limits, exposed to constrained use gave to the next state.<sup>20</sup>

Financial burdens as well as the best use of technical guidance from both the countries were addressed by the IWT and a course of events for change was likewise included. It was finalized on nineteenth of September 1960 and redressed by the two governments in January 1961 in Delhi. It was retroactive from April 1, 1960. It contains 12 articles and with its preface and eight far reaching annexure, including reference sections.<sup>21</sup>

### **5.3.1 The Contextual Uniqueness of Indus Water Treaty**

It can be well justified by the fact that the treaty completely over hauls the time and seasons with detail of amount and timing of water that should be flown from western rivers. For example, in Treaty as stated in paragraph 18 under Annexure E.<sup>22</sup>

–The annual filling of Conservation Storage and the initial filling below the Dead Storage Level, at any site, shall be carried out at such times and in accordance with such rules as may be agreed upon between the

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<sup>19</sup> Salman, *Conflict and Cooperation...*, pp. 48.

<sup>20</sup> Ibid., pp. 50.

<sup>21</sup> Saeed, Fahad, Abid Qaiyum Suleri, and Kashif Majeed Salik. *Planning For Floods: Now or Never*. Sustainable Development Policy Institute, 2014, pp. 432.

<sup>22</sup> –Indus Water Treaty”, T 236/6528, TNA, U.K, 1961, pp. 1-10.

Commissioners. In case the Commissioners are unable to reach agreement, India may carry out the filling as follows:

1. If site is on the Indus, between 1<sup>st</sup> July and 20<sup>th</sup> August;
2. If the site is on The Jhelum, between 21<sup>st</sup> June and 20<sup>th</sup> August; and
3. If the site is on the Chenab, between 21<sup>st</sup> June and 31<sup>st</sup> August such rate as not to reduce on account of this filling, the flow in the Chenab Main above Merala to less than 55,000 cusecs.”<sup>23</sup>

It is clearly specified that in case of any dispute arise between the two commissioners of India and Pakistan regarding the conservation storage and timing of the annual filling below the dead storage level. This accept of treaty was also highlighted by Ramaswamy Iyer who made the following criticism.<sup>24</sup>

—The first reason is the density of the technical details in the treaty, which provide ample opportunities for differenced among engineers. It is interesting to compare this treaty with Mahakali treaty between India and Nepal or the Ganges treaty between India and Bangladesh. The latter two are non-technical documents that are easy to understand even for non-engineers. On the other hand while the main part of Indus treaty is fairly slim and not too dense, the devil is in the detail: the treat is accompanied by Annexure and appendices of the highly technical and opaque nature. It is these Annexure and appendices that determine the overall the character of treaty. Factiously speaking, one could say this is not a treaty between two governments, but a treaty between two set of engineers. The engineers on the two sides can have a field day disagreeing on the

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<sup>23</sup> Ranade, Ashwini, —On Variability of Hydrological, Wet Season, Seasonal Rainfall and Rainwater Potential of the River Basins of India (1813–2006),” *Hydrol Res*, 2008, pp. 79-108.

<sup>24</sup> Ijaz, Political and legal..., pp. 187 see also Ramaswamy Iyer, —Indus Treaty‘ a Different View”, <http://www. Upscportal.com/civilevic/bog> Indus treaty ramaswamy-r-iyer retrieved on 3 January 2019.

meaning of and precise application of the various technical features and criteria that the Annexure and appendices contain... the treaty provides a happy hunting ground for technical disagreements.”<sup>25</sup>

About the complexity and prolixity of treaty Iliff relates a notable interesting incident to demonstrate how obscure the treaty was. As disclosed by him in transcript of interview, oral history program, just before the signing the treaty Nehru came to see him and he told that while reading the treaty last night one particular section was gone through by him which made him very confused, he asked Iliff to explain it to him here Iliff replied that it reminded him of an amusing story regarding the famous poet Robert Browning. This story stated that one night Browning was enjoying a dinner party where he met a very versatile young lady who was sitting next to him and she was a great fan and admirer of his works. She inquired him if he can explain to her the meaning of a specific passage in his famous poem which is very obscure, entitled ‘Sordello’. Browning replied: ~~my~~ dear, when Sordello was written only God and Robert Browning knew what it meant and now only God knows.” Here Iliff narrates the same incident to Nehru by saying ~~I~~ am afraid, I find myself almost in the same situation with regard to this passage in the treaty.”<sup>26</sup>

Another unique feature of treaty that should be worth mentioning is the status of ‘World Bank’. Apart from the two opponents India and Pakistan, World Bank is also a party to IWT. Interestingly IWT is perhaps the only international water treaty to

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<sup>25</sup> Iyer, Ramaswamy R. *Towards Water Wisdom: Limits, Justice, Harmony*. Sage Publications India, 2007, pp. 63.

<sup>26</sup> The World Bank/IFC archives, Oral History Research Office, Columbia University, 1961, pp. 55-56.

which World Bank is a party. The Arbitration Court<sup>27</sup> in the Kishenganga case<sup>28</sup> recognized the very positive mediatory role of World Bank and paid tribute to it in following words.

–The Court considers it appropriate to note the extraordinary contribution of the World Bank to the conception, mediation, negotiations, drafting and financing of the IWT, an instrument vital to the life and well-being of hundreds of millions of people of India and Pakistan. The conclusion of the Indus Waters Treaty in 1960, in which the leaders and staff of the World Bank lent vital support to the parties was remains a great achievement of international cooperation.”<sup>29</sup>

Hence it is necessary to mention that being a party to treaty does not imply that Bank will apprehend the same legal judicial status as contained by India and Pakistan because the obligation entitled to the World Bank bound it only to article V as well as X which provide financial support and rarely provide emergency provisions: and the role of the neutral experts as the court of arbitration for transitional arrangement

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<sup>27</sup> For the resolution of international commercial disputes, the International Court of Arbitration is a well reputed institution. The International Court of Arbitration is part of the International Chamber of Commerce. <https://iccwbo.org/dispute-resolution-services/icc-international-court-arbitration/> retrieved on 5 January 2019.

<sup>28</sup> The dispute revolves around a hydroelectric power plant on the Kishenganga River, which is a tributary of the Jhelum and is known as the Neelum in Pakistan. The Court of Arbitration, to which the dispute was originally referred in 2010, found in its first interim order that the dam component of KHEP (Kishenganga Hydroelectric Project) would “eventually enable India to exercise a certain degree of control over the volume of water that will reach Pakistan” and ordered a temporary halt to construction, “Kishenganga Dispute”, *Dawn*, 23 May 2018, pp. 12 see also In the matter of the Indus Waters Kishenganga arbitration before the court of arbitration constituted in accordance with the Indus Waters Treaty 1960 between the Government of India and the Government of Pakistan signed on 19 September 1960 between the Islamic Republic of Pakistan and the Republic of India, Indus Water Commission, Lahore, 2013.

<sup>29</sup> Gardiner, Richard K, *Treaty Interpretation*, Oxford University Press, USA, 2015, pp. 58.

were specified in annexure F, G and H. so it mean the bank at present is legally bound by only annexure F and G which deal with adjudicative provisions.<sup>30</sup>

A vibrant aspect of Treaty that makes it an ideal dispute resolver is that in this Treaty the focus in on partitioning the water resources and not on water sharing treaty. It divides the Indus River and allocates three eastern rivers to India and three western rivers to Pakistan. This scheme of rivers allocation provides consummated Partition. In this respect this treaty is most unique from the other treaties related to global drainage basins because by one way or other they have to share waters of common rivers among riparian states but the treaty divides the shares between India and Pakistan. it is clearly stated in the treaty in Article II,<sup>31</sup> ‘Provisions Regarding Eastern Rivers’, ‘All the waters of eastern rivers shall be available for the unrestricted used of India, except as otherwise expressly provided in this Article’, similarly it allocates all the waters of western rivers ‘for unrestricted used’ to Pakistan. India and Pakistan both are under obligation that they will not interrupt the flow on Indian or Pakistani territory except for domestic cretin limited agricultural uses, non-consumptive uses as well as for any hydro electric power generation. Thus this aspect of treaty perhaps makes it the most successful water conflict resolvers in the absence of an armed conflict between the two rivalry countries.<sup>32</sup>

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<sup>30</sup> Kliot, Nurit, Deborah Shmueli, and Uri Shamir, ‘Development of Institutional Frameworks for the Management of Trans-boundary Water Resources,’ *International Journal of Global Environmental Issues*, 2001, pp. 306-328.

<sup>31</sup> Indus Water Treaty, DO 35/8595, TNA, U.K, 1959-1960, pp. 1-10.

<sup>32</sup> Indus Water Treaty, Annexure E Para 7, T 236/6528, TNA, U.K, 1961, pp. 6.

### 5.3.2 Indian and Pakistani Rights Safeguard

The IWT was designed with the intention to carry all the provisions that could safeguard all the concerns and rights on the water sharing resources. Thus, it is suggested in treaty that each party agrees that no material change (through non-conceptive use) would be taken to account that interrupt the flow of water in any channel effecting other party. Similarly, it clearly stipulates that it is liability on both the parties while drafting any scheme for flood control or flood protection, they will avoid making any material damage to each other. In this context India was strictly warned to carry out any physical scheme on western rivers that comes under violation of article III,<sup>33</sup> It is claimed as a moral obligation to both parties use their best endeavors in maintaining the natural channels of rivers that can harm and cause any material damage to other party.<sup>34</sup>

Another binding on IWT is borrowed from global trans-boundary environmental assessment that was initially introduced by Stockholm Declaration on Human Development in 1972. This binding is regarding the undue pollution of the waters in Indus Basin and it restrict the parties to make reasonable measures before they are applying any sewage or industrial waste flows into the waters of rivers. Though it seemed that there was no material effect on its usage, thus keeping in view the global concerns treaty lays down the customary practices in similar situations.<sup>35</sup>

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<sup>33</sup> –Indus Water Treaty: Text”, *The News*, 20 September 1960, pp. 5.

<sup>34</sup> Pitman, G. T, –The Role of the World Bank in Enhancing Cooperation and Resolving Conflict on International Watercourses: The Case of the Indus Basin,” 1998, pp. 155-65.

<sup>35</sup> Michel, Aloys Arthur, *The Indus Rivers...*, pp. 121.

‘Undue Pollution’ was the term used in IWT in order to prescribe all the questions under pollution; it can be clearly notified that the use of undue pollution is utterly vague term in criterion of reasonableness. It could be mentioned that proper justice to a global concern like pollution was not sufficiently paid due attention. Keeping in view the enormous and rapid growth of industrialization, population and urbanization the resultant pollution was not addressed appropriately in IWT. Another important aspect regarding the geographical location of Pakistan is deemed hilarious that being lower riparian state Pakistan will have to face all the pollutants coming downstream from upper riparian stream India which will create a permanent tension between the two rivalry countries India and Pakistan. In the absence of any clear guideline regarding any conflict arise the parties would have to sort out the best possible solution either by literally or through the adjudicative process.<sup>36</sup>

If the pollution issue involving the treaty is appeared before an arbitration tribunal, the decision will suppose to be taken keeping in view the on-going environmental standard as the clean environment has involved as a guiding principle of *jus cogens* or a peremptory norm in international community, which can be clearly demonstrated in a wide number of court decisions.<sup>37</sup>

Another provision regarding treaty was the prohibition of India from constructing any storage on western rivers except for the provided exception mentioned clearly in treaty.<sup>38</sup> Regarding the allocation of eastern rivers to India the Treaty proclaimed for

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<sup>36</sup> Concannon, Brian E. “The Indus Waters Treaty: Three Decades of Success, Yet, Will It Endure,” *The Georgetown International Environmental Law Review* Volume II, 1989, pp. 73.

<sup>37</sup> Ijaz, Political and legal..., pp. 190

<sup>38</sup> Indus Water Treaty, Annexure D and E, T 236/6528, TNA, U.K, 1961, pp. 8-10.



a period termed as “Transition Period” during which an enormous replacement work was to be done by Pakistan on western rivers for the facilitation of India. This Transition Period shall commence from 1st April 1960 and it deemed to be ended on 31st March 1970. If there be an extension to this Transition Period, the bank will be the sole responsible to pay out of Indus Basin Development Fund through an amount specified in Treaty.<sup>39</sup> India was under obligation of IWT to release the water of eastern rivers in accordance with the Annexure H provisions.<sup>40</sup> Due to legal bindings Pakistan was forced to complete all the replacement works prescribed within given time period mentioned in IWT. To new multi-purpose dams namely Terbala and Mangla, with an efficient system of eight new canals, remodeling of existing canals, five barrages and a gated siphon was to be built by Pakistan.<sup>41</sup>

IWT is a complex and intrinsic document which deals widely with contraction, design and working cooperation of advanced hydroelectric plants to be built by India on western rivers. The handling of the criterion regarding new constructional design for run-of-river plant was dealt in detail by IWT. As an outcome of Baglihar and Kishenganga cases the criterion related to gated spillway was specified with full importance. The full provision of Treaty regarding this very important and sensitive issue is “If the conditions at the site of a plant make a gated spillway necessary, the bottom level of the gates in normal closed position shall be located at the highest level consistent with sound and economical design and with satisfactory operation of

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<sup>39</sup> “Indus Water Treaty: Text”, *Dawn*, 20 September 1960, pp. 5.

<sup>40</sup> Indus Water Treaty, Annexure H, DO 35/8595, TNA, U.K, 1959-1960, pp. 9-10.

<sup>41</sup> Force, IDSA Task. “Water Security for India: The External Dynamics,” *New Delhi: Institute of Defense and Analysis*, 2010, pp. 31.

the works.”<sup>42</sup> Regarding this provision it is a compulsion on India to communicate Pakistan about the necessary information regarding the design of a plant which confirms to be laid down to satisfy the River works connect with the plants where up gradation deemed necessary six months prior to the start of new construction on associated Rives. In response to the communication submitted by India in this regard Pakistan on its part is under obligation to submit a written response within three months of the receipt of the relevant information so that any objection with regard to new constructional frame work should be dealt timely.

If in case there is any disagreement in relation to the proposed plant design and it does not fall under the implication of IWT then said dispute regarding the criterion mentioned in Treaty, then both the parties may consult to article IX (1) and (2) which is regarding the dispute settlement.<sup>43</sup> There is a complete description of storage works regarding which India is liable to make constructions on western rivers. It also mention clearly about the storage capacity of either single or multipurpose reservoirs that are entitled by India to be constructed on each river system.<sup>44</sup> Furthermore, it covers the procedure to make Pakistan satisfy regarding the constructional design of any plant, which is in turn a verbatim regeneration of Para 9-11 of Annexure D.<sup>45</sup>

These provisions regarding the Treaty are detailed and unambiguous in nature, still there implementation has not been smooth and error free. From Pakistani perspective

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<sup>42</sup> Indus Water Treaty, Annexure D Para 8(e), DO 35/8595, TNA, U.K, 1959-1960, pp. 7.

<sup>43</sup> Indus Water Treaty, Annexure D Para 9-11, Folder ID. 1788552, The World Bank Group Archives, 1959-1960, pp. 290.

<sup>44</sup> “Indus Water Treaty: Text”, *Dawn*, 20 September 1960, pp. 5.

<sup>45</sup> Indus Water Treaty, Annexure D, DO 35/8595, TNA, U.K, 1959-1960, pp. 12.

its very much in practice to accuse India regarding the constructional designs that superstitiously started new run-of River project on Western River without any prior information to Pakistan; Pakistan learns about these works either from his agencies deployed on information gathering or from the media; any information in accordance with the criterion mentioned in treaty is not supplied by India. For an instance the cases in point regarding constructional design of Kishenganga and Baglihar Dams, it implies, India used false and dilatory tactics to complete these dams so that fait accompli could be presented to Pakistan. The problem was highlighted to India in 2010 for the purpose of including water issue in the Composite Dialogue; it should not precede any implementation of any construction on western rivers until unless all the objections have been resolved from Pakistani perspective. However, India declaimed all these accusations and raised an accession on Pakistan regarding defaming and raising frivolous and unnecessary objections in order to stop India from progressing with projects in hand. Ramaswamy Iyer,<sup>46</sup> the leading Indian writer on the water issue and whose views are quite close to those of the Indian government, states:

—Pakistan's response to every bit of information given to it about proposed projects is completely negative; that its aim is not the fair and objective examination of the information supplied but the blocking of every project that India proposes; that what Pakistan wants to do is to prevent India from using the waters of the western rivers to the very limited extent allowed by the treaty; and that this is, in fact, a violation of the spirit of the treaty. However, such arguments, valid as they may be

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<sup>46</sup> Ramaswamy R Iyer is an honorary research professor at CPR. As an officer of the Indian Audit and Accounts Service, Mr Iyer served as secretary of water resources in the Government of India, in which capacity he was the initiator and principal draftsman of India's first National Water Policy in 1987. <http://www.cprindia.org/people/ramaswamy-r-iyer> retrieved on 24 December 2018.

not easy to establish and they might not command the immediate assent of an independent observer, whereas a complaint by a lower riparian that is being denied water by the upper riparian tends to find a sympathetic response.”<sup>47</sup>

In accordance with the non paper demand by Pakistan to resolves the objections and queries made on run-of-river Project initiated by India. Taking into account the grounds of treaty Iyer suggested these claims reasonable and he further argument the detailed technical information containing all the proceeding of planned projects should be disclosed clearly to fulfill contingent on Pakistan. But there should be the judgments based on logical questions in reference to architecture and design of projects with respect to IWT. The term –Satisfaction” used in Treaty to clarify the objections from both the parties should be very clear and logical, if once the set of questions is well answered another set of question should not be putted forward just to stall the projects.<sup>48</sup> Thus to support his standpoint he sighted Wullar Barrage case, where Pakistan has raised illogical objections to defer the work for decade of year.

The story behind the scene is not as simple as portrayed by Mr.Iyre according to him Pakistan leave no room left for any departure for the text and it results averse to India for building any structural design on Western River. This is a totally unjustified remark, as the objections on run of rivers projects are highly sensitive and it’s a legal

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<sup>47</sup> Iyer, Ramaswamy R, –Pakistan's Questionable Move on Water”, *Economic and Political Weekly*, 27 March 2010, pp. 11.

<sup>48</sup> Gulhati, Niranjan Das. *Indus Waters Treaty: An Exercise in International Mediation*, Allied Publishers, 1973, pp. 115.

right of Pakistan to have the complete description of the architectural design to present Pakistan with a *fait accompli*.<sup>49</sup>

The role of Pakistan's new Indus Commission is very supportive regarding the interpretation of India's run-of-river project on Western River. A clear exhibition is the case of Miyar Dam that India has planned to build in near future. Pakistan has not raised any objection against this planning on India's run-of-river project based on Western River. The reason for this pragmatic stance is the flexibility of Pakistan that it showed towards the construction of a dam that is not hindering the capacity of water flow for Pakistan being small. But the bone of contention is not the constructional design rather it's the arguments made on the sharing of relevant information that was imposed under Indus Water Provisions (annexure D and E).<sup>50</sup>

### 5.3.3 Miscellaneous Provisions

Indus Basin dispute was initialized on the pattern of distribution of water on behalf of sharing Indus Water Basin among India and Pakistan according to their utilization and land. Later with an intervention of World Bank mediation it was 'divided not shared'. Various international laws were kept in complete consideration to resolve this conflict and finally treaty recognized that the water need for both the countries should be satisfied by dividing the Indus rivers to fully cooperate with each other for the maximum utilization of water resources coming from these rivers.<sup>51</sup> To accomplish these provisions hydrological and meteorological observations stations within the

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<sup>49</sup> Subedi, Surya P. "Hydro-Diplomacy in South Asia: The Conclusion of the Mahakali and Ganges River Treaties," *American Journal of International Law*, 1999, pp. 953-962.

<sup>50</sup> Ijaz, Political and Legal..., pp. 192-193.

<sup>51</sup> Haines, Daniel, *Indus Divided: India...*, pp. 135.

Indus Basin will install and supply of data will be ensured to make the cooperation at the best. To make the cooperation on permanent basis a complete system of drainage works, payment of cost and cooperation to extend engineering works would be anticipated. In case of any conflict which effects other party materially the party planning it is advised to notifying in advance about their plans. In case any hindrance is felt by other party regarding the interference of work to affect it materially, still it is bound to supply data regarding magnitude nature and effect of work on other party's request.<sup>52</sup>

The treaty was entered on force by 1 April 1960 even though it was signed on 19 September 1960 and was ratified in December 1960.<sup>53</sup> IWT being an International Treaty was entered into force retroactively more than five months before it was signed and before the parties exchange the information of ratification it took more than nine months.<sup>54</sup> This feature seems very unusual because as per tradition a simple bilateral treaty enacts an act into force the very moment the two parties express their consent. It is ambiguous to visualize an International Treaty agreed on one date and in force on certain other date and eventually got rectification months later. This feature seems relatively questionable to meet the standard of an International Water Law.

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<sup>52</sup> Indus Water Treaty, Article VII, Government of Pakistan, Punjab Irrigation and Power Department, Lahore, pp. 14.

<sup>53</sup> Indus Water Treaty, Article XII para 2, Folder ID. 1788552, The World Bank Group Archives, 1959-1960, pp. 290.

<sup>54</sup> Bedjaoui, Mohammed, ed, *International Law: Achievements and Prospects*. Martinus Nijhoff Publishers, 1991, pp. 139.

For more than half a century the treaty has been in force. Many dimensions have revealed many deficiencies with some acknowledgment from both sides. Many areas where the needs of cooperation are indentified are being explored under IWT like: environmental issue, watershed management ecological an environmental necessities regarding the flows in eastern rivers, a swift and timely dispute settlement mechanism, climate change on glaciers and establishment of a working group to analyze this climatic change, new working groups to establish the data sharing and management. In order to incorporate these key areas in recent past a civil society activists group of academic water experts retired bureaucrats etc. met at unofficial level to identify and improve the provisions of treaty by initiating a dialogue process termed as ‘\_Track II Diplomacy’.<sup>55</sup>

#### **5.4 World Bank Sorting Financial Funds to Indus Basin**

In order to explain the most important aspect of IWT i.e. Indus Basin Development Fund (IBDF), it is noteworthy to determine the importance of international politics in the wake of South Asian domestic politics in creating the best suitable condition for the Indus Settlement. Foreign funding was the key to IWT and it heavily dependent on western strategic imperatives.<sup>56</sup> In tandem with South Asian politics the international funding position was developed, it is important to take the narrative back in time before explaining the role of financial geopolitics played to seal the Indus deal. The United States (US) had long standing imperative in South Asia. In

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<sup>55</sup> Shafqat Kakakehl, “The Indus Waters Treaty: Negotiation, Implementation, New Challenges and Future Prospect, Criterion Quarterly Islamabad, April-June 2014, Volume 9-2, pp. 57-59.

<sup>56</sup> “Indus Pack Terms Largely Settled”, *The New York Times*, 11 August 1959, pp. 8.

1949 National Security Council Paper,<sup>57</sup> approved by President Truman,<sup>58</sup> rediscovered the global consciousness of United States and it warned by commenting if India and Pakistan fall to communism, the United States and its friends might find themselves denied any foothold on the Asian main land.<sup>59</sup>

In 1950 the Korean war<sup>60</sup> outbreak which led Asia sharply into the consciousness of US. The US projected a limited aid program with India in 1951 to provide wheat during a severe food shortage in Bihar and Madras (India) due to drought. Under the Eisenhower and Kennedy administration US aid to India rose steadily. More than two billion dollars only in surplus form commodities was provided from United States to India between the years 1956-1963.<sup>61</sup>



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<sup>57</sup> United States Objectives and Programs for National Security, better known as NSC 68 was a 66-page top secret National Security Council (NSC) policy paper drafted by the Department of State and Department of Defense and presented to President Harry S. Truman on 7 April 1950. It was one of the most important American policy statements of the Cold War. Gaddis, John Lewis. *Strategies of Containment: A Critical Appraisal of American National Security Policy during the Cold War*. Oxford University Press, 2005, pp. 214.

<sup>58</sup> Harry Truman (1884-1972), the 33rd U.S. president, assumed office following the death of President Franklin Roosevelt (1882-1945). In the White House from 1945 to 1953, Truman made the decision to use the atomic bomb against Japan, helped rebuild postwar Europe, worked to contain communism and led the United States into the Korean War (1950-1953). Miller, Merle. *Plain Speaking: An Oral Biography Of Harry S. Truman*. Rosetta Books, 2018, pp. 24.

<sup>59</sup> Rotter, Andrew Jon. *Comrades at Odds: The United States and India, 1947-1964*, Cornell University Press, 2000, pp. 55.

<sup>60</sup> World War II divided Korea into a Communist, northern half and an American-occupied southern half, divided at the 38th parallel. The Korean War (1950-1953) began when the North Korean Communist army crossed the 38th Parallel and invaded non-Communist South Korea. As Kim Il-sung's North Korean army, armed with Soviet tanks, quickly overran South Korea, the United States came to South Korea's aid. General Douglas MacArthur, who had been overseeing the post-WWII occupation of Japan, commanded the US forces which now began to hold off the North Koreans at Pusan, at the southernmost tip of Korea. Stueck, William. *The Korean War: An International History*. Vol. 68. Princeton University Press, 1997, pp. 190.

<sup>61</sup> Rotter, *Comrades at Odds...*, pp. 108.



On the other hand, equally importantly, Pakistan was also seeking to gain maximum from International politics and it had emerged as a valuable Cold War ally for United States. American strategies were hunting for a secure base in Indian subcontinent; they had little choice as Nehru was pursuing Non-Alignment,<sup>62</sup> and so they went for bargaining with Pakistan. Pakistani politics was facing factional shifting in 1950s, produced in Karachi a triumvirate of pro-American leaders: President Ghulam Muhammad, defense secretary Iskander Mirza and Commander-in-Chief Muhammad Ayub Khan. In 1954 a defense agreement was signed with United States on arms deal. \_Baghdad pact<sup>63</sup> which was a mutual defense organization involving Turkey, Britain, Iraq and Iran was emerged with informal support of America in 1955.<sup>64</sup>

American funding for an Indus Basin dispute settlement was inevitable on grounds of strategic conditions. Earlier playing a leading role in UN Security Council, US government was already plug in the quagmire so US was not interested into another intractable dispute. Pakistan's ambassador in Washington DC persuaded his hosts to make sure that World Bank took the new wake of harder line with New Delhi. It was replied by State Department officials that it was their wish to steer clear the issue of

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<sup>62</sup> India's non-alignment as an instrument of foreign policy evolved through continuous interaction with domestic circumstances and the external environment. This evolution was marked by staying power, a capacity to encounter volatile configurations of power and flexibility to incorporate changes demanded by circumstances. Harshe, Rajen. "India's Non-Alignment: An Attempt at Conceptual Reconstruction," *Economic and Political Weekly*, 1990, pp. 399.

<sup>63</sup> The Baghdad Pact was a defensive organization for promoting shared political, military and economic goals founded in 1955 by Turkey, Iraq, Great Britain, Pakistan and Iran. Similar to the North Atlantic Treaty Organization and the Southeast Asia Treaty Organization, the main purpose of the Baghdad Pact was to prevent communist incursions and foster peace in the Middle East. It was renamed the Central Treaty Organization, or CENTO, in 1959 after Iraq pulled out of the Pact <https://2001-2009.state.gov/r/pa/ho/time/lw/98683.htm> retrieved on 30 December 2018.

<sup>64</sup> McMahan, Robert J. *The Cold War on the Periphery: The United States, India, and Pakistan*. Columbia University Press, 1996, pp. 338 see also Rotter, Andrew Jon. *Comrades at Odds: The United States and India, 1947-1964*, Cornell University Press, 2000, pp. 64.

Indus dispute.<sup>65</sup> World's Bank President Mr. Black was the next who tried to persuade United States in March 1956. He worked on the possibility of US contribution with the help of State Department officials to fund for the maximum in order to settle Indus dispute. He idealized that United States and Colombo Plan<sup>66</sup> courtiers (Australia, Britain, Canada, Ceylon (now Sri Lanka) and New Zealand) should provide a financial assistance of four hundred million dollars, however the total budget requirement was seven fifty millions dollars. It was a matter of astonishing fact for both Britain as well as US officials that whether this huge some of large investment of limited aid resource to one country had enough priority over other development requirements to be justify keeping in view that this project would take years to complete.<sup>67</sup>

Being complex neither matter as neither president's office nor was state department agreed to allocate the heavy transaction of American money. It was also potentially difficult to take congressional approval which was necessary for the government for deployment of money.<sup>68</sup> During those days Indian-US relationships had a poor record. Congressmen attached the argument that why US should help a nation that consorted with Chinese communist and Soviet. Nehru was in continuous negotiations with People's Republic of China and Soviet Union for various food purchase deals

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<sup>65</sup> Haines, Daniel, *Indus Divided: India...*, pp. 145.

<sup>66</sup> The Colombo Plan was instituted as a regional intergovernmental organisation for the furtherance of economic and social development of the region's nations. Originally it was called the Colombo Plan for Cooperative Economic Development in South and Southeast Asia. <http://colombo-plan.org/colombo-plan-history/> retrieved on 30 December 2018.

<sup>67</sup> Abbasi, Arshad H, *Indus Water Treaty Between Pakistan and India*, Pakistan Institute of Legislative Development and Transparency, 2012, pp. 216.

<sup>68</sup> Ibid.

hence Nehru refused most of American conditions.<sup>69</sup> World Bank was facing a crucial problem due to American reluctance to investment in South Asian River Projects.<sup>70</sup> The pressure on World Bank was increasing from both sides Pakistan was in able to pay for link canals and India was also not agreed to finance the proportionate cost of the constructional works. However, in 1958 when the differences between India and Pakistan were widening on Mahru tunnel proposal which stalled the Indus negotiation. The game of American aid politics had changed in late 1957 with Soviet Union's attention grabbing launch of two Sputnik Satellites.<sup>71</sup>

A prominent democratic senator John F. Kennedy<sup>72</sup> revealed the international politics and felt the priority interest towards India thus raised a major increase to US foreign aid (aiming to India). With support from Black, Kennedy proposed legislation-creating a sympathetic upswing in American public support for providing financial aid directly to poor Asian rural deprives and not to support the technocratic planners or urban elites.<sup>73</sup> There was a shift in US policy and they were persuading to name a political settlement as economic assistance, as it was a wide conception that

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<sup>69</sup> Chaudhuri, Rudra, *Forged In Crisis: India And The United States Since 1947*, Noida UP: Harper Collins India, 2014, pp. 67-69.

<sup>70</sup> The South Asian River Basins, most of which have their source in the Himalayas, support rich ecosystems and irrigate millions of hectares of fields, thereby supporting some of the highest population densities in the world. <https://www.internationalrivers.org/programs/south-asia> retrieved on 30 December 2018.

<sup>71</sup> With a single shot, the Soviet Union not only launched the first artificial satellite but also officially inaugurated a "space race" with the United States. Sputnik – sometimes called Sputnik 1 – went into space on Oct. 4, 1957. <https://www.space.com/17563-sputnik.html> retrieved on 30th December 2018.

<sup>72</sup> John Fitzgerald –Jack” Kennedy (1917-1963), commonly referred to by his initials JFK was an American politician who served as the 35th president of the United States from January 1961 until his assassination in November 1963. <https://www.jfklibrary.org/learn/about-jfk/life-of-john-f-kennedy> retrieved on 30th December 2018.

<sup>73</sup> Cullather, Nick. *The Hungry World*, Harvard University Press, 2010, pp, 153-156.

conditional aid could damage the United States' reputation. This idea was suggested from US diplomat in South Asia to Pakistan's then president Iskander Mirza and Prime Minister Feroze Khan Noon. A positive gesture was displayed to accept the package deal in principle. However, when a parallel proposal was received by Nehru he propagated a friendly but non committal response, In fact, Nehru wrote privately Eisenhower's proposal<sup>74</sup> that "Nothing will come of it, of course and we do not propose to encourage him".<sup>75</sup>

The game suddenly changed with Muhammad Ayub Khan military cope in 1958. The substantial foreign funding in shape of multilateral Indus Basin Development Fund, organized by World Bank was an appealing lure to Ayub's developments administration. Administration could present the fund provided for major constructional works to construct dam at Tarbela and Mangla as development works and not just a kind of replacement work.<sup>76</sup> Ayub Khan ordered the Pakistani delegation to accept the Indus Dispute proposal during the Indus Waters talk on table that proposal was aid-memoire of 1956 which was modified by heads of agreement 1957: a partitioned water control system with huge storage capacity dams on western

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<sup>74</sup> In response to the increasingly tense situation in the Middle East, President Dwight D. Eisenhower delivers a proposal to Congress that calls for a new and more proactive U.S. policy in the region. The "Eisenhower Doctrine," as the proposal soon came to be known, established the Middle East as a Cold War battlefield. The United States believed that the situation in the Middle East degenerated badly during 1956, and Egypt leader Gamal Nasser was deemed largely responsible. The U.S. used Nasser's anti-western nationalism and his increasingly close relations with the Soviet Union as justification for withdrawing U.S. support for the construction of the Aswan Dam on the Nile River in July 1956. Less than a month later, Nasser seized control of the Suez Canal. This action prompted, in late October, a coordinated attack by French, British, and Israeli military on Egypt. <https://www.history.com/this-day-in-history/eisenhower-proposes-new-middle-east-policy> retrieved on 3 January 2019.

<sup>75</sup> Aditya Mukherjee, Mridula Mukherjee, Selected Work of Jawaharlal Nehru: Second Series, Vol 4, New Delhi: Jawaharlal Nehru Memorial Fund, 2010, pp. 623-624.

<sup>76</sup> "United' U.S Funds Sought for Indus Aid", *The New York Times*, 26 January 1960, pp. 1.

rivers.<sup>77</sup> Towards the conciliation in 1959 World Bank started assembling assistance from friendly countries. By the mid of 1959 World Bank succeeded to get a favorable response from US and three commonwealth countries towards the idea of participating in a one billion dollar development plan for Indus River.<sup>78</sup> Later on World Bank succeeded in persuading six foreign powers which were also commonwealth countries to help underwrite an Indus agreement: Canada, Australia, New Zealand, The United Kingdom and the West Germany.<sup>79</sup>

A major scheme of works in Indus Basin provided an open gate for the financing of foreign powers without demanding a deal breaker from the other. Talking about the financial negotiations deployed in Indus Basin Development Fund, each donor country had different sets of priorities. The interest of Britain was focused in diplomatic context on regional stability in cold war. A surplus export commodity was the area of interest of Canada an earth moving equipment no longer needed by Australia became the focus of contribution and it included a surplus of wheat kept spare was donated. The interest of West Germany was to assist Indian economic development by cutting short the amount the India had to pay Pakistan in respect of replacement works, but Black and Iliff were worried about the Pakistani dejection. Ultimately, with bank insistence it was agreed by all contributing countries that funds should be cash grants, not grants in kind and not tied to the purchasing of any particular equipment. It was further decided that all contracts to supply materials, equipments as well as consultancy services would be through competitive tendering:

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<sup>77</sup> Alam, Undala Zafar. *Water Rationality: Mediating the Indus Waters Treaty*. Doctoral dissertation, Durham University, 1998, pp. 165.

<sup>78</sup> —“Four Nations Offer Aid for Indus Plan”, *TheNew York Times*, 18 June 1959, pp. 7.

<sup>79</sup> —“Six Nations to Help in Indus Project”, *TheNew York Times*, 1 March 1960, pp. 7.

suppliers would be invited to provide quotes and choose the best for Pakistani government. This explored a competitive international market for capital goods, for the countries such as United States and United Kingdom.<sup>80</sup>

Solution of the Indus Water dispute was visualized as a mile stone to establish peace and tremendous task in which US has implant itself to maintain the hopes of the world and would be a signal of positive shift in US foreign policy.<sup>81</sup> Earlier it was requested to United Kingdom for a grant to fund Indus Basin in order to resolve the tension between India and Pakistan, though United Kingdom appeared to be reluctant in giving any financial aid until unless a finalized solution came into being.<sup>82</sup> It was declared by Secretary of State C. Douglas Dillon<sup>83</sup> to Treasury that Black had finalized an understanding with Ayub Khan and Nehru and now he was seeking for the solution of money to fund Indus Water Basin.<sup>84</sup> Later the whole procedure was initiated for an estimated five hundred million dollars fund toward South Asia, however, spite the fact that State Department pushed for it but legislative approval was necessary for American funding. Thus Eisenhower<sup>85</sup> administration amended

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<sup>80</sup> Akhter, Majed, "The Geopolitics of Infrastructure: Development, Expertise, and Nation on the Indus Rivers", Doctoral dissertation: The University of Arizona. 2013, pp. 107-111.

<sup>81</sup> Indus Basin River Dispute, DO 35/6648, TNA, U.K, pp. 14.

<sup>82</sup> Question of whether UK should make further Financial Contribution to Aid Pakistan in Indus Waters Dispute, DO 35/8592, TNA, U.K, 1958, pp. 1-3.

<sup>83</sup> Clarence Douglas Dillon (1909-2003) was an American Diplomat and Politician, who served as U.S. Ambassador to France (1953–1957) and as the 57th Secretary of the Treasury (1961–1965). <https://www.treasury.gov/about/history/pages/cddillon.aspx> retrieved on 3 January 2019.

<sup>84</sup> Graves Jr, Harold, "The Bank as International Mediator: Three Episodes," *Mason, Edward S., and Robert E. Asher, 1973 The World Bank since Bretton Woods, The Brookings Institute: Washington DC* 1973, pp. 615.

<sup>85</sup> The presidency of Dwight D. Eisenhower began on January 20, 1953, when he was inaugurated as the 34th President of the United States, and ended on January 20, 1961. As president from 1953 to 1961, Dwight Eisenhower oversaw 8 years of relative peace and moderate economic growth at home

1951 Mutual Security Act<sup>86</sup> to include references towards the Indus Basin Development Fund. The consent of Congress was mandatory to do so. An act under section 404<sup>87</sup> emphasized Congress's desire for "The Development of the Indus Basin through a program of cooperation among South Asian and other Nations of the free World in order to promote economic growth and political stability in South Asia" were drafted.<sup>88</sup>

Finally, when all the domestic wrinkles were ironed out, Indus Basin Development Fund was ready to be signed by US government. The same day when IWT was being signed, 19 September 1960, the donor countries also formally came into the fund agreement.<sup>89</sup> The total estimated fund was \$893.5 million though it was less than Pakistan's earlier demand that constituted \$1.297 billion, but it still represented a grant of \$305.9 million in foreign exchange towards Pakistan and an estimated cost to be paid by India (in pounds sterling) \$173.8 million.<sup>90</sup> Beside these funds a US

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while his foreign policy initiatives, including U.S. involvement in Southeast Asia, the Middle East, and Africa, shaped the global order for decades to come. <http://courses.lumenlearning.com/boundless-ushistory/chapter/the-eisenhower-administration/> retrieved on 2 January 2019.

<sup>86</sup> The Mutual Security Act of 1951 launched a major American foreign aid program. 1951–61, of grants to numerous countries. The Agency was established and continued by acts of October 10, 1951 and June 20, 1952 <https://definitions.uslegal.com/m/mutual-security-act/> see also <https://history.house.gov/Historical-Highlights/1951-2000/The-Mutual-Security-Act-of-1951> retrieved on 2 January 2019.

<sup>87</sup> Under the Clean Water Act (CWA), states may seek to implement Section 404 that governs dredge and fill activities in wetlands and other waters. Before a state assumes CWA 404, the U.S. Army Corps of Engineers (Corps) regulates those waters and reviews the related permits at the federal level. [https://www.aswm.org/pdf\\_lib/cwa\\_section\\_404\\_state\\_assumption\\_factsheets.pdf](https://www.aswm.org/pdf_lib/cwa_section_404_state_assumption_factsheets.pdf) retrieved on 2 January 2019.

<sup>88</sup> Transcript of interview with Mr. Eugene R. Black by Robert Oliver, Brookings Institution, 6 August 1961, The World Bank Project transcribed by the Oral History Research Office of Columbia University, pp. 48-49.

<sup>89</sup> Report and Recommendation of the President to the Executive Directors on the Proposed Tarbela Development Fund Agreement Pakistan, Report No. P-590, International Bank for Reconstruction and Development (IBRD), World Bank Document, 1968, pp. 2.

<sup>90</sup> "\$2- Billion Irrigation Project Will Tame The Indus", *TheNew York Times*, 19 January 1968, pp. 6.

loan of \$235 million was also initiated to Pakistan which was to be repaid in Pakistani currency i.e. rupees and a continuation of further \$150 million loan from United State and World Bank. A direct grant was also dispensed summing \$177 million by United States who bore the brunt of this huge financial burden. It is undoubted the Western development aid that made the treaty possible.<sup>91</sup>

#### **5.4.1 Fund Agreement between India, Pakistan and World Bank**

The Indus Basin Development Fund Agreement was signed at Karachi in Pakistan on 19<sup>th</sup> September 1960, on behalf of the Governments of Australia, Canada, the Federal Republic of Germany, New Zealand, Pakistan, the United Kingdom and United States and the International Bank for Reconstruction and Development, provides for the financial arrangements to give effect to the IWT. The Treaty and the Agreement dealt with the difficult problem of the uses of the waters of the rivers of the Indus Basin, upon which some 50 million people depend, directly or indirectly, for their livelihood.<sup>92</sup> These rivers are the Indus itself, the Jhelum, the Chenab, the Ravi, the Sutlej and the Beas. Under this plan, now embodied in the Treaty, Pakistan had to construct over a period of transition, transmission canals and storage works which would enable water from the three Western rivers to be used to meet the irrigation needs previously met from the waters of the three eastern rivers. The whole flow of the latter would thereafter be retained for irrigation development in India. The works would also provide substantial irrigation development in Pakistan and the potential for the development of 300,000 K.W of hydro-electric power that enabled land reclamation in water logged and saline areas in the West Punjab and furnished a

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<sup>91</sup> Michel, Aloys Arthur, *The Indus Rivers...*, pp. 234.

<sup>92</sup> Indus Basin Development Fund Agreement, CO 111/641, TNA, U.K, 1960, pp. 13.



measure of flood efficiency or economy, agreed otherwise, all goods required for the plan would be procured on the basis of international competition.<sup>93</sup>

At certain seasons the flow of water from the western rivers would be inadequate to irrigate those areas traditionally irrigated from the eastern rivers in addition to the areas normally irrigated by the western rivers. To meet this difficulty, the scheme provided for storage on the western rivers from which water could be released during those seasons. The Bank's plan was estimated to cost the equivalent of U.S \$900 million, a sum beyond the resources of Pakistan. They accordingly asked the Government of Australia, Canada, the Governments of China Republic, New Zealand, the United Kingdom and the United States of America they would be willing to contribute towards the cost of the scheme the Bank itself indicated that it would make a loan available.<sup>94</sup>

The offers of financial assistance which were made and which reported an outstanding example of international cooperation were embodied in the Indus Basin Development Fund Agreement, the text of which is in Appendix J. The Agreement has four Annexure. The first, the Industrial Waters Treaty is summaries at Appendix II. The second, which continues the loan agreement between the World Bank and the Government of Pakistan, does not directly concern the United Kingdom and is

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<sup>93</sup> Nadeem Shafiq, *The Indus Waters Treaty, 1960 Text and Analysis*, Karachi: Fiction House, 2015, pp. 12.

<sup>94</sup> Confidential Inward Saving Telegram From Washington to Foreign Office No. 513 dated 30 September 1959, T 220/1077, India: Financial help Towards Irrigation Plans: Indus Waters Scheme, TNA, U.K, 1959, pp. 1-2.

disbursement from the Development Fund and the projects to be carried out under the Bank's plan and are reproduced at Appendices III and IV.<sup>95</sup>

#### **5.4.2 Indus Basin Development Fund Agreement**

##### **Article- I: Establishment of Indus Basin Development Fund**

Section 1.01 stated clearly about the details of fund in reference to monetary assistance provided for constructional frame work as stated in body of text of IBDF.<sup>96</sup>

—There is hereby established the Indus Basin Development Fund (hereinafter called the Fund), constituted by the monies which the contracting parties shall from time to time transfer to the Fund in accordance with Articles II and III of this Agreement, together with the monies to be paid to the Fund by India under the provisions of Article V of the Treaty and any other assets and receipts therein, to be held in trust and administrated by the Bank and used only for the purposes and in accordance with the provisions, of this Agreement.”

Section 1.02 enclosed the details of books of accounts to be maintained in order to avoid any ambiguity regarding the account handling as stated in body of text of IBDF.<sup>97</sup>

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<sup>95</sup> Indus Basin Development Fund Agreement, CO 111/641, TNA, U.K, 1960, pp. 4 see also Indus Basin Development Fund Agreement, Indus Water Commission, Lahore, 1960.

<sup>96</sup> —Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5.

<sup>97</sup> Chandio, Bashir A., and Nuzhat Yasmin, eds. *Proceedings Of The National Workshop On Water Resources Achievements And Issues In 20th Century And Challenges For The Next Millennium, Islamabad, Pakistan, 28-30 June 1999*. Pakistan Council of Research in Water Resources, 1999, pp. 224.

–The Fund and its assets and accounts shall be kept separate and apart from all other assets and accounts of the Bank and shall be separately designated in such appropriate manner as the bank shall determine.”

Section 1.03 was regarding the allocation of an administrator to be the key in charge to supervise the allocation of fund as stated in body of text of IBDF.<sup>98</sup>

–The Bank is hereby designated Administrator of the Fund. The term Administrator will hereinafter be used to refer to the Bank action in that capacity.”

#### Article II: Contribution of fund

Section 1 elaborated the contributing countries of the fund as stated in body of text of IBDF.<sup>99</sup>

–Each of the Government specified below undertakes, as a party to this agreement, subject to such parliamentary or congressional action as may be necessary, to make a contribution to the Fund in its own currency of the nature and in the amount specified opposite its name below”

Table 5.1

#### *Grants provided by the Funding Countries and details of U.S Loan*

Country	Currency	Grant	Loan
Australia	£A	6,965,000	Proceeds of a U.S dollar loan to Pakistan (repayable in an amount not exceeding U.S.\$ 70,000,000 (hereinafter referred to as the United States loan).
Canada	Can.\$	22,100,000	
Germany	D.M	126,000,000	
New Zealand	£ NZ	1,000,000	
United Kingdom	£	20,860,000	
United States	U.S \$	177,000,000	

Source:- “The Indus Basin Development Fund Agreement.” Report of Indus Basin Development Fund, File No. ADM 137/11, TNA, UK, 1914, pp. 1.

<sup>98</sup> Gulhati, Niranjan Das, *Indus Waters Treaty*..., pp. 201.

<sup>99</sup> Miner, Mary, et al. “Water Sharing between India and Pakistan: A Critical Evaluation of the Indus Water Treaty,” *Water International*, 2009, pp. 210.

Section 2.02 explored the loan details provided by the Bank and U.S.A. The following contribution (hereinafter referred to as the Bank loan) was made to the Fund as stated in body of text of IBDF.<sup>100</sup>

–The proceeds of loan to Pakistan from the Bank in an amount not exceeding U.S. \$80,000,000 equivalent of which the terms and conditions are set out in the Loan Agreement annexed hereto as Annexure B.”

Section 2.03 described additional loan from U.S.A as stated in body of text of IBDF.

–United States, in addition to its contribution specified in Section 2.01 above, undertakes, subject to any necessary Congressional action, to make a contribution to the Fund of an amount in Pakistan rupee (hereinafter called rupees) equivalent to U.S. \$235 million. This contribution shall be in the form of grants or loans or both to Pakistan in amounts and under conditions to be agreed between the United States and Pakistan.”

Section 2.04 gave details of Pakistani share regarding fund as stated in body of text of IBDF.

–Pakistan undertakes to make the following contributions to the Fund a) contribution in pounds sterling of £440,000 and b) a contribution in rupees in an amount equivalent to £9,850,000.”<sup>101</sup>

### Article III: Provisions Regarding Payment of Contributions

Section 3.01 included all the provisions regarding the contributions and mode of payments as stated in body of text of IBDF.<sup>102</sup>

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<sup>100</sup> Wolf, Aaron T., and Joshua T. Newton, –Case Study of Transboundary Dispute Resolution: The Indus water treaty,” *Department of Geosciences. Oregon State University*, 2008, pp. 111.

<sup>101</sup> Indus Basin Development Fund-General-Contributing Governments-Correspondence 02, Folder ID. 1788552, The World Bank Group Archives, 1959-1960, pp. 290 See also Wolf, Aaron T, –Conflict and Cooperation along International Waterways,” *Water Policy*, 1998, pp. 255.

–Upon the entry into force of this Agreement the Administrator shall promptly notify each Party of the amount required to be contributed by it to the Fund to cover estimated disbursements of the Fund during the half year period commencing 1<sup>st</sup> October 1960 and shall before the beginning of each succeeding half year period commencing 1<sup>st</sup> April or 1<sup>st</sup> October thereafter (at a time to be agreed in each case between the Administrator and the Party concerned) notify each party of the amount so required to be contributed by it for such period.”<sup>103</sup>

Thus, Section 3.02 clarified the monetary payments disbursement as stated in body of text of IBDF.

–It was understood and agreed that a) The payment to be made to the Fund by Pakistan in pounds shall be £22,000 in each half-year b) The payment to be made to the Fund by New Zealand in £ NZ. 50,000 in each half year c) In each half year the amount called for payment to fund the sources specified in Section 2.01 and 2.02 hereof shall out of account the payment by Pakistan under (a) above payment by New Zealand under (b) above) be divided between loans in the ratio of 65 to 35: Provided that the aggregate payments from grants, as so determined that apportioned among the contributing Parties according the percentage set out below”

Table 5.2

*Funds of contributing countries in percentage*

<b>Country</b>	<b>Per Cent.</b>
Australia	5.13
Canada	7.63
Germany	9.86
United Kingdom	19.20
United States	58.18
Total	100.00

Source: –The Indus Basin Development Fund Agreement.” Report of Indus Basin Development fund, File No. ADM 137/11, TNA, UK, 1914, pp. 1.

<sup>102</sup> Pitman, G. T, –The Role of the World Bank in Enhancing Cooperation and Resolving Conflict on International Watercourses: The Case of the Indus Basin”, 1998, pp. 155-165.

<sup>103</sup> –Indus Water Treaty: Text”, *Dawn*, 20 September 1960, pp. 5.

Section 3.03 gave the requirements to be fulfilled in order to have un-interrupted financial support as stated in body of text of IBDF.<sup>104</sup>

—It is understood and agreed that the aggregate rupee requirement of the Fund during each half year shall be met as: a) by a payment to the Fund by Pakistan in rupees in the equivalent of £492,500. The balance thereof: i) as to 60 per cent, from contribution to the Fund under Section 2.03 hereof and ii) as to 40 per cent, from rupees which the Administrator shall cause the Fund to purchase, against foreign exchange, from the State Bank of Pakistan.”<sup>105</sup>

Section 3.04 contained a preliminary estimation of annual budget and amounts to be contributed to the Fund by each country that was a party to this Agreement under Annexure C. The Administrator would be held responsible to maintain estimation as up to date as possible and promptly notify of any material changes and requirements. Section 3.05 held the Parties under liability to agree and accept the Administrator’s estimated requirements and receipts of the Fund. Utilizing approximate amounts and estimates; provided and no Party should be obligated to make any payment to the Fund except have undertaken to do under the provision of this Agreement. The Parties were bound by agreement to make changes in the apportionment, including changes to be taken in account of any contributions laid under Article XII.<sup>106</sup>

#### ARTICLE IV: Special Reserve

Section 4.01 Fund contributed by India should be retained by the Administrator , this amount should be utilized as the Administrator may estimate to be necessary and a

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<sup>104</sup> Sahni, Hamir K, —The Politics of Water in South Asia: The Case of the Indus Waters Treaty,” *SAIS Review of International Affairs*, 2006, pp. 150.

<sup>105</sup> —World Bank announcement: Text ”, *Dawn*, 20 September 1960, pp. 5.

<sup>106</sup> Sridhar, Subrahmanyam, —The Indus Water Treaty,” *Security Research Review*, 2005, pp. 1091-1103.

special reserve in pounds sterling should be setup (hereinafter called the Special Reserve) to meet the maximum requirements and obligations of the Fund under Article V (5) of the Treaty.

Section 4.02. If there is an extension to the Transition Period provided for in the Treaty, at the request of Pakistan, then in accordance with the provision of Article II (8), the Administrator shall pay to India out of the Special Reserve in pounds sterling under the provisions of Article V (5) of the Treaty.<sup>107</sup>

Section 4.03. Administrator should make use of the special reserve to purchase rupees from the State Bank of Pakistan and such currency in rupees shall be treated as payments to the Fund pursuant to Section 3.03 (a).

Income from investments of the Special Reserve shall be used by various disbursements as mentioned in other articles under provisions of IBDF.

#### ARTICLE V Disbursements from Fund

Section 5.01. was treated to give details of fund allocation in purchasing land and equipment for the constructional works as stated in body of text of IBDF.

~~—~~Amounts in the Fund may be disbursed to Pakistan by the Administrator and shall be used by Pakistan, exclusively to finance the cost of equipment, supplies, other property and services (hereinafter called ~~—~~goods”) required to construct the system of works described in Annexure D to this Agreement, such system of works being herein collectively called the Project. The specific items to be financed from the Fund shall from time to time be determined by agreement between

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<sup>107</sup> ~~—~~World Bank Announcement: Text”, *Dawn*, 20 September 1960, pp. 5.

Pakistan and the Administrator and the agreed list thereof may be changed from time to time by agreement between them.”<sup>108</sup>

Section 5.02. There should be disbursement from the Fund subject to the provisions of Agreement as stated in body of text of IBDF.<sup>109</sup>

–(i) such amounts as shall be required by Pakistan to reimburse it for the reasonable cost of goods to be financed from the Fund and (ii), if the Administrator shall so agree, such amounts as shall be required to meet the reasonable cost of such items.”

Section 5.03. The choice of selection regarding currency was left in conciliation with Administrator as stated in body of text of IBDF.

–Disbursements from the Fund shall be in such currencies as the Administrator shall elect: Provided that disbursement on account of expenditures in rupees or for goods produced in or services supplied from, Pakistan shall be in rupees, except the Administrator may otherwise agree.”

ARTICLE VI Applications for Disbursements:

Section 6.01 was about the procedure of requisition to be made by Pakistan for consumption of fund as stated in body of text of IBDF.

–When Pakistan shall desire to receive any disbursement from the Fund, Pakistan shall deliver to the Administrator a written application in such form and containing such statements and agreements, as the Administrator shall reasonably request in accordance with the Bank’s usual procedures and as may be necessary or desirable to enable the

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<sup>108</sup> Akhter, Majed, *The Hydropolitical Cold ...*, pp. 65-75.

<sup>109</sup> Fazal Akbar Committee Report Vol. I, Report of the Chairman, Indus Water Appointment Committee Vol. I, Government of Pakistan, Punjab Irrigation and Power Department, Lahore, 1971, pp. 116.



Administrator to furnish the information and make the reports provided for in Section 8.01 of this Agreement.”

Section 6.02. evaluated the use of all the supporting documents and other evidence in support of each application made in front of a administrator as stated in body of text of IBDF.<sup>110</sup>

–Pakistan shall furnish to the Administrator such documents and other evidence in support of each such application as the Administrator shall reasonable request in accordance with the Banks‘ usual procedures, whether before or after the Administrator shall have permitted a withdrawal requested in the application.”

Section 6.03. was about the authentication of the use of requisition made as stated in body of text of IBDF.

–Each application and accompanying documents must be sufficient in form and substance to satisfy the Administrator that Pakistan is entitled to receive from the Fund the amount applied for, that the amount to be disbursed by the Fund is to be used only for the purposes specified in this Agreement, that the goods on account of which disbursement is requested are suitable for the Project and that the cost thereof is not unreasonable.”<sup>111</sup>

## Section 7: Undertakings of Pakistan

Section 7.01. explored the best blend of efficiency and service in context to the propagation of the said project as stated in body of text of IBDF.<sup>112</sup>

—(a) Pakistan shall cause the Project to be carried out with the diligence and efficiency and in conformity with sound engineering and financing practices and shall accord appropriate priority, satisfactory to the

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<sup>110</sup> Subedi, Surya P, –Hydro-diplomacy in South Asia: The Conclusion of the Mahakali and Ganges River treaties,” *American Journal of International Law*, 1999, pp. 953-962.

<sup>111</sup> Indus Water Treaty, DO 35/8595, TNA, U.K, 1959-1960, pp. 20.

<sup>112</sup> Wirsing, Robert G., and Christopher Jasparro, –River Rivalry: Water Disputes, Resource Insecurity and Diplomatic Deadlock in South Asia,” *Water Policy*, 2007, pp. 231-251.

Administrator to that part of the Project whose purpose is replacement.(b) All goods required for the Project shall be procured on the basis of international competition under arrangements satisfactory to the Administrator except as the Administrator shall otherwise agree on ground of efficiency and economy.”

Section 7.02.was entitled with the use of goods available by utilizing the fund however the choice of leftovers was kept with the administrator.

Section 7.03 was the description of cost, goods and construction with complete records and documents as stated in body of text of IBDF.<sup>113</sup>

–(a) Pakistan shall cause to furnished to the Administrator promptly upon their preparation, the plans and specifications, cost and construction schedules for the Project and any material modification such frequently made therein, in such detail as the Administrator shall from time to time request. b) Pakistan shall maintain or cause to be maintained records adequate to identify the goods financed out of monies disbursed by the Fund, to disclose the use thereof in the Project, to record the progress of the Project.....”

Section 7.04 explored a dedicated and enthusiastic environment of cooperation among the Administrator and government of Pakistan<sup>114</sup> as stated in body of text of IBDF.

–(a) Pakistan and the Administrator shall cooperate fully to assure that the purpose of this Agreement will be accomplished. To that end, each of them shall furnish to the other all such information as it shall reasonably request with regard to the general status of the Project.(b) Pakistan and the Administrator shall from time to time exchange views through their

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<sup>113</sup> Kirmani, Syed S. –Water, Peace and Conflict Management: The Experience of the Indus and Mekong River Basins,” *Water International*, 1990, pp. 200-205.

<sup>114</sup> Interview with Mehmood Hasssan Siddique, Punjab Irrigation Department Lahore, 3 August 2017 see also Bashir A. Malik, *Indus Water Treaty in Retrospect*, Lahore, A.M. Shaakoori, 2005, pp. 289.

representatives with regard to matters relating to the purpose of this Agreement.<sup>115</sup>

Section 7.05. –Without detracting from the obligations assumed under this Agreement by the Central Government of Pakistan, Pakistan may, from time to time, designate a government agency or agencies to carry out on behalf of the Central Government such duties incidental to the implementation of this Agreement as the Central Government may deem appropriate.”

#### ARTICLE VIII: The Administrator

Section 8.01 have all the job description of –The Administrator” as stated in body of text of IBDF.<sup>116</sup>

–The Administrator shall, within 30 days after 31st December 1960 and after each 30th June and 31st December thereafter, send to each Party a report containing appropriate information with respect to the receipts and disbursement of and balance in, the Fund, the progress of the Project...  
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Section 8.02.subject to the income that comes from investments shall become part of the assets of the Fund. (According to the provisions of Section 4.03) as stated in body of text of IBDF.<sup>118</sup>

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<sup>115</sup> Ijaz, *Political and Legal...*, pp. 208.

<sup>116</sup> Ahmad, Nazir, –Ground Water Resources of Pakistan,” *Ground Water Resources of Pakistan*, 1974, pp. 114.

<sup>117</sup> India, Pakistan and Intemational Bank for Reconstruction and Development, Report No. 6032, Government of India, 1962, pp. 10.

<sup>118</sup> Malkani, M. Sadiq, –A Review of Coal and Water Resources of Pakistan,” *Journal of Science, Technology and Development*, 2012, pp. 202-218.

~~The Administrator may invest monies held by the Fund pending disbursement in such short term securities as it shall deem appropriate.~~

This provision will apply primarily to the Special Reserve.....<sup>119</sup>

Section 8.03 was regarding value on currency in terms of another currency, in accordance with the Bank's usual procedures such value shall be as reasonably determined by the Administrator.

Section 8.04 declared that no compensation other than for expenses incurred solely should be received by the Administrator because of services rendered under this Agreement is to be paid by the fund.

Section 8.05 made ~~The Bank~~ responsible to take care of Administrator and exercise the same care in the administration and management of the Fund, as it exercises in respect of the administration and management of its own affairs.<sup>120</sup>

#### ARTICLE IX: Consultation

Section 9.01 the following are hereby specified as Events for the purposes of this Article IX as stated in body of text of IBDF.<sup>121</sup>

~~a) an extraordinary situation shall have arisen, which shall make it improbable that Pakistan will be able to complete the Project; b) at any time amounts likely to be available for the Project shall not be sufficient to complete the Project; c) a default shall have occurred in the performance of any undertaking on the part of Pakistan under this agreement.~~

Section 9.02. (a) If any of the Events specified in Section 9.01 shall have happened and in the judgment of the Administrator shall be likely to continue, the Administrator shall promptly notify the other Parties b) The

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<sup>119</sup> India, Pakistan and International Bank for Reconstruction and Development, Report No. 6032, Government of India, 1962, pp. 10-11.

<sup>120</sup> Fazal Akbar Committee Report Vol. I, Report of the Chairman, Indus Water Appointment Committee Vol. I, Government of Pakistan, Punjab Irrigation and Power Department, Lahore, 1971, pp. 120.

<sup>121</sup> Rosenzweig, Cynthia, et al. ~~Water Resources for Agriculture in a Changing Climate: International Case Studies,~~ *Global Environmental Change*, 2004, pp. 345-360.

Parties shall forthwith consult with one another concerning the measures to be taken to correct the Event or Events. A majority of the Parties shall have the power to decide that any suspension imposed by the Administrator...”

#### ARTICLE X: Settlement of Disputes

Section 10.01 contained the procedure of dispute settlement as stated in body of text of IBDF.<sup>122</sup>

–Any dispute between any of the Parties regarding interpretation or application of this Agreement, or of any supplementary arrangement or agreement, which cannot be resolved by agreement of such Parties shall be submitted for final decision to an arbitrator... appointed by the Secretary General of United Nations.”

#### ARTICLE XI: Termination

Section 11.01 regarded the termination of the project in case of completion or fund disbursement.<sup>123</sup>

–Subject to the provisions of Section 11.03 hereof this Agreement, unless sooner terminated pursuant to Selection 9.02 (c) hereof, shall terminated upon the completion of the Project or upon the disbursement from the Fund, all amounts due to be disbursed from it for the Project.”<sup>124</sup>

Section 11.02 was subjected to the leftover amount remaining in the fund.

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<sup>122</sup> Zawahri, *India, Pakistan and...*, pp. 15.

<sup>123</sup> Mandel, Robert, –Sources of International River Basin Disputes,” *Journal of Conflict Studies*, 1992, pp. 215.

<sup>124</sup> –Indus Water Treaty”, T 236/6528, TNA, U.K, 1961, pp. 20-22.

—If at termination there shall remain in the Fund and amounts derived from the contributions of the Parties (including interest), all parties shall consult together as to their disposal...”<sup>125</sup>

Section 11.03. —Notwithstanding, any termination pursuant to the provisions of Section 9.02(c) and 11.01 hereof this Agreement shall remain in force for the purpose of receiving into the Fund any amounts due from India under the provisions of the Treaty, which amounts, except such part thereof as shall be retained for the Special Reserve, shall be paid to Pakistan by the Administrator as they are received. The provisions of Article IV shall continue to apply to the Special Reserve.”<sup>126</sup>

#### ARTICLE XII: Additional Parties.

Section 12.01 explored the opportunity of other countries to participate.

—Any other Government or institution may, with the prior approval of the Parties hereto and in accordance with such arrangements as they shall agree, become a Party to this Agreement, upon deposit with the Bank of an instrument stating that it accepts all the provisions hereof and that it agrees to be bound thereby.”<sup>127</sup>

Section 12.02.regarded the use of fund deployed by the other governments for the goodwill of the development.

—The Administrator may receive on behalf of the Fund from any Government or institution, whether or not a party hereto, amounts not provided for herein to be held and used as part of the Fund subject to the

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<sup>125</sup> Archer, David R., et al, —Sustainability of Water Resources Management in the Indus Basin Under Changing Climatic and Socio Economic Conditions,” *Hydrology and Earth System Sciences*, 2010, pp. 1669-1680.

<sup>126</sup> —Text of Indus Basin Loan Agreement”, *Dawn*, 20 September 1960, pp. 5.

<sup>127</sup> Clift, Peter D., and Jerzy Blusztajn. —Reorganization of the Western Himalayan River System after Five Million Years Ago,” *Nature*, 2005, pp. 1001.

provisions hereof, in accordance with such arrangements, not inconsistent herewith, as the parties hereto may approved”.<sup>128</sup>

#### ARTICLE XIII: Entry into Force

Section 13.01—This Agreement shall enter into force on the date on which the Treaty enters into force pursuant to the provisions thereof and will then take effect retrospectively as from the first April, 1960”.

#### ARTICLE XIV: Title

Section 14.01 was regarding the title used for the Treaty implantation as stated in body of text of IBDF.—This Agreement may be cited as —The Indus Basin Development Fund Agreement, 1960.” in a single original to be deposited in the archives of the International Bank for Reconstruction and Development...”<sup>129</sup>

### 5.5 Indian Response on Indus Water Treaty

IWT was projected with the slogan of —An unprecedented Economic Development and Peace in the Region”. India undoubtedly enjoyed the fruits of —An unprecedented Economic Development” an estimated eight million acres of desert waste land in Rajasthan are blooming as an outcome of IWT. A developed region resplendent with markets, town, new cities and villages was once home to snakes, hot sands and nomads.<sup>130</sup> This miracle is assumed by Pakistanis as a gift to India due to Pakistani shares of eastern rivers. Treaty was also assumed as a key to regional peace and

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<sup>128</sup> Pande, Kanchan, et al, —The Indus River System (India-Pakistan): Major-Ion Chemistry, Uranium and Strontium Isotopes,” *Chemical Geology*, 1994, pp. 245-259.

<sup>129</sup> Kahlown, Muhammad Akram, and Abdul Majeed, —Water-Resources Situation in Pakistan: Challenges and Future Strategies,” *Water Resources in the South: Present Scenario and Future Prospects*, 2003, pp. 130.

<sup>130</sup> Hussain, Ijaz, *Political and Legal Dimensions Indus Water Treaty*, Karachi: Oxford University Press, 2017, pp. 150.

settlement of Kashmir issue.<sup>131</sup> It was promised by Indian leadership that after signing IWT there will be a progressive shift towards the settlement of Kashmir issue. Moreover, the intimation of Lilienthal ‘Punjab Powder Keg’ has now been turned ‘Nuclear’. However, taking into account the positive aspect of treaty it benefited India to the extent that after Treaty the interference with supplies in West Punjab have no longer in existence. But still from Indian perspective treaty was critically visualized as an expensive financial burden to take advantage of only three eastern rivers which were already in possession of India.<sup>132</sup>

Ministers and officials from both Pakistani and Indian, with hardly any exception took the view that prospects for further rapprochement over Kashmir were greatly improved. It was felt that the next conversations between the two leaders would be crucial and that it was essential to make some move at that time otherwise a golden opportunity would have been lost which might not recur. As a headline in a leading newspaper on 20<sup>th</sup> September 1960 in the *Times of India*, a leading English language dailies with wide circulation among Indian newspapers explored, “Amicable Settlement of Outstanding Indo-Pak Dispute: Modest Beginning Made Towards Co-operation.” It reported Indian Prime Minister Jawaharlal Nehru signing the treaty with President of Pakistan Ayub Khan a day ago in Karachi. Though the news was covered at page five rather than a front page title story, it detailed about the happy

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<sup>131</sup> Haines, Daniel, *Indus Divided: India, Pakistan and the River Basin Dispute*, Haryana: Random House India, 2018, pp. 155.

<sup>132</sup> Michel, Aloys Arthur, *The Indus Rivers: A study of the Effects of Partition*, New Haven: Yale University Press, 1967, pp. 224.



end [to] a dispute that has strained the relations between the two countries since partition".<sup>133</sup>

Another journalist reported that Nehru, in a thirty-minute speech in reply to an address of welcome from the people of Karachi, spoke in markedly conciliatory terms and seemed to go further than he had hitherto been in public in stressing the importance of removing the sources of friction between old friends and settling outstanding differences. The wordings of Nehru were highlighted in a newspaper as –Those who have open minds can solve the most intractable of problems".<sup>134</sup> The answer of Indus dispute was not the only answer to be in queue, a series of questions still held un answered on the dispute of Kashmir. The fact that apart from the practical cooperation and a great deal of give and take without which the IWT could not have been signed, the passage of time has done a good deal to cool the passions originally raised over the issue of Kashmir. Nehru declared his firm conviction that his visit would offer a chance to mend the 13-year breach that partition had created and it would be a turning point in the relations of India and Pakistan.<sup>135</sup> The signing of the treaty was undoubtedly a triumph for cooperation and good sense. Following is the text of the speech made by Nehru, before signing the Canal Waters Treaty:

–This is indeed a unique occasion and a memorable day, memorable in many ways; memorable certainly in the fact that the very difficult and complex problems which have troubled us, India and Pakistan for many

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<sup>133</sup> –Amicable Settlement of Outstanding Indo-Pak Dispute: Modest Beginning Made Towards Co-operation", *The Times of India*, 20 September 1960, pp. 5.

<sup>134</sup> –Turning Point in Indo-Pak Ties, Mr. Nehru's Accent on Need for Open Hearts", *The Times of India*, 20 September 1960, pp. 5.

<sup>135</sup> –Turning Point in Indo-Pak Ties", *The Times of India*, 20 September 1960, pp. 6.

years have been satisfactorily solved. Memorable also because in spite of the complexity of the problem and sometimes of the sense of frustration that has accompanied it because of the delays in solving it yet success has come, at last. It is also memorable because it is an outstanding example of a cooperative endeavor between not only the two countries principal by concerned but also other countries and notably the International Bank. As for India we are all entitled to congratulate ourselves. I congratulate you, Mr. President and I congratulate you, Mr. Iliff for representing the International Bank here. All of us in spite of many scientific improvements still depend upon the good earth and good water and the combination of these two, lead to prosperity for the peasant and the countries concerned. And now by this arrangement we have tried to untie to the best advantage these waters connected with the Indus river which have flowed down for ages past and the greater part had gone to the field without being utilized otherwise. So this is a happy occasion for all of us. The actual material benefits which will come from this are of course great. But even greater than these material benefits are the psychological perhaps the emotional benefits that come from such treaty, which is a positive symbol not only in this domain of the use of the Indus Valley waters but in the larger cooperation between the two countries, Mr. President yours and mine. I should like to express my deep gratitude to the International Bank and to all those who have labored within Pakistan in India or the other friendly countries, which have come to our assistance in this matter and generously made contributions to that end. Ultimately the spirit triumph even in the material age. So I express my deep satisfaction at the happy outcome of many years' labor and express the hope that this will bring prosperity to a vast number of the people on both sides and will increase the goodwill and friendship for India and Pakistan".<sup>136</sup>

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<sup>136</sup> Speech made by Mr. Jawaharlal Nehru, DO 196/136, India/Pakistan political Relations: The Kashmir Dispute and Indus Water Treaty, TNA, U.K, 1960-1961, pp. 1-3.

This speech was the very first response from Indian side and was warmly welcomed by India & Pakistan. Treaty was visualized as ‘New Chapter in the Indo-Pakistan friendly relations’. Later in Indian press it was clearly stated that Nehru expressed the hope that his visit to Pakistan would usher in a new era in the Indo-Pakistan relations in which the two countries would come closer together. Nehru also gave the people of Pakistan the Indian people’s message of Friendship and Hope.<sup>137</sup>

The Indian Premier notified the treaty as a ‘Settlement of Peace’ the danger of a conflagration that would emphasized that all steps must be taken, by all who might matter even slightly, to minimize the chances of such a war. Every country had its different problems and different aspirations but today no one could get a correct and balanced perspective even of national affairs, without grasping or at least keeping in view the general world situation. It was further explained by Nehru that the singing itself could have been performed by any other competent representative from India and similarly Ayub Khan did not have to be inconvenienced. But he decided to come over to Pakistan at the invitation of Ayub Khan because he thought he would meet a lot of people here and also give the people of Pakistan the Indian people’s message of ‘friendship and hope.’ He was confident that his visit would herald a new era of closer cooperation, mutual understanding and greater help for and faith in each other.<sup>138</sup>

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<sup>137</sup> ‘Indian Premier’s Confidence, Indus Waters Treaty Signed’, *The Guardian*, 20 September 1960, pp. 2

<sup>138</sup> ‘Indus Water Treaty’, *Dawn*, 20 September 1960, pp. 6.

Meanwhile, Mr. Hafiz Mohammad Ibrahim<sup>139</sup> in Delhi who was then minister of Indian Irrigation Department gave a radio broadcast. He told the Indian public that –The signing of the treaty will bring a new era of co-operation between India and Pakistan harnessing the large natural recourses of Indus and its tributaries.<sup>140</sup> It was also imperative that Pakistan and India should come closer together. IWT was visualized in the backdrop of a picture of opportunity and danger while visualizing the world. There were a number of countries which were making rapid scientific and technological advancement and there were other countries which were trying to get out of the swamps of ignorance and backwardness. In general Indian media spoke positively about treaty albeit with a few exceptions who wondered about the amount of money to be deployed by India in order to make settlement on rivers. Majority of the media in India picked treaty as a focal to hope for India-Pakistan co operation progressive shift.<sup>141</sup>

Welcoming remarks were made by Gulhati who was the most successful individual while taking into account the Canal Water Talks. For eight years or so Gulhati remains the leader of Indian delegation. He declared in his memoirs that it was also imperative from the treaty that Pakistan and India should come closer together. It was a demand that ‘\_Geography demanded’. Difference that arises should not be

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<sup>139</sup> Hafiz Mohamad Ibrahim, also spelled as Hafiz Muhammad Ibrahim (1889-1968) was a leader of Indian National Congress. He was governor of Puniab, India in 1965. Ibrahim was a member of Rajya Sabha from 1958 to 1962 and served as union minister of power and irrigation. He was leader of the Rajya Sabbha from 1961 to 1963. Malik, Hafeez. "The Marxist Literary Movement in India and Pakistan." *The Journal of Asian Studies*, 1967, pp. 649-664.

<sup>140</sup> –Radio Broadcast by Indian Irrigation & Power Minister Hafiz Mohammad Ibrahim on Signing Indus Water Treaty with Pakistan”, *New Delhi*, 19 September 1960 in Bhasin, Avtar Singh, ed. *India-Pakistan Relations, 1947-2007: A Documentary Study*. Public Diplomacy Division, Ministry of External Affairs by Geetika Publishers, 2012, pp. 5685-5687.

<sup>141</sup> Interview with Daniel Hanes, The British Library, United Kingdom, 5 July 2018 see also Haines, Daniel, *Indus Divided: India....*, pp. 155.

allowed to linger on but should be resolved. He was very vigilant during bilateral and tripartite meetings that were held in Washington. He was an extra ordinary evil genius spin: pairing and twisting the whole facts and figures for the maximum benefit: no matter how damaging it was to the opponent or immoral in practice due to versatile personality of Gulhati there was no match in the Bank hierarchy or in Pakistani camp who could dare stump Gulhati. Like a robot he was workaholic dedicated to his duty although one might not agree with the explosions of Gulhati still he did his best for his country. He was honored with a high civil award of *Padma Bhushan* by Indian Government. H. Dayal,<sup>142</sup> the Indian High Commissioner in Pakistan also envisioned the treaty as a massive trade shift by suggesting new imperatives to be built in harnessing the bi-lateral trade focusing on exchanging ideas by more exchange visits of parliamentarians and ways to be built on Indus treaty for a joint program on flood control in East Pakistan and West Bengal.<sup>143</sup>

However, not everyone was so optimistic in approach. Various criticisms raised on the India's payments to Pakistan in order to maintain the new constructional works for a transition period of 10 years during which India will supply the eastern rivers waters to Pakistan that was charged by remarking 'taking little care of India's needs and requirements of water, especially in Rajasthan'. It was also reported by a leading newspaper that 'almost all the members of Lok Sabha,<sup>144</sup> irrespective of party

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<sup>142</sup> Rajeshwar Dayal (1909-1999) was an Indian diplomat, writer, Ambassador of India to the former state of Yugoslavia and the Head of the United Nations Operation in the Congo. Born on 12 August 1909, Dayal was one of the earlier officers of the Indian Foreign Service. He served as the Indian ambassador to the now defunct Yugoslavia from 1955 to 1958 and moved to the UN as a member of the United Nations Observation Group in Lebanon (UNOGIL) when the organization was established in 1958. Galbraith, John Kenneth, *Letters to Kennedy*. Harvard University Press, 1998, pp. 141.

<sup>143</sup> Haines, Daniel, *Indus Divided: India...*, pp. 156.

<sup>144</sup> Lok Sabha is composed of representatives of the people chosen by direct election on the basis of the adult suffrage. The maximum strength of the House envisaged by the Constitution is 552, which is

affiliations criticized deeply the administration for its policy of appeasement and surrender to Pakistan” and charged it with ‘letting down the country’.<sup>145</sup>

## 5.6 Pakistan’s Response on Indus Water Treaty

IWT is symbolized as ‘harbinger of Regional Peace’. From Pakistan’s perspective it was deemed as early mile stone achieved by the new government of Ayub Khan as Pakistan was facing Marshal Law so the scope for arguments and individual comments were limited. Ayub Khan was very much conscious on rise of any voice against the treaty. So, he deployed various secret detectors to maintain to state of rest in the country. However, there was one solitary exception that can be highlighted visualizing the political scenario of Pakistan at that time. Mr. M. Masud ICS, (popularly known as Masud *khadr posh*) the then Federal Secretary, Food and Agriculture, he was a very courageous senior bureaucrat who spoke against the treaty. He was strictly wormed by Ayub Khan threading that ‘I shall have you stand against the wall and shoot you personally.’<sup>146</sup>

No political leader dare to speak a single word against IWT in Pakistan due to a very offensive attitude of Ayub Khan, the only political leader who was that courageous to comment on IWT in such a heavy load of political stress was sister of Quaid-i-Azam (founder of Pakistan), Ms. Fatima Jinnah in a statement to the press in October 1964, she said

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made up by election of up to 530 members to represent the States, up to 20 members to represent the Union Territories and not more than two members of the Anglo-Indian Community to be nominated by the Honorable President.<https://loksabha.nic.in/> retrieved on 3 January 2019.

<sup>145</sup> ‘Frenchant Criticism of Indus Water Treaty: M.P.s Charged Government with Appeasement’, *The Times of India*, 1 December 1960, pp. 5.

<sup>146</sup> ‘Indus Water Treaty: Blisa or Bain’, *TheNews*, 30 August 2000, pp. 10.

—In reply to my reference to IWT Mr. Ayub Khan said that he did get rupees Rs. 900 *corers* for it. I asked him is that adequate price for losing permanently water for all times. Is it not frittering away our permanent water rights? Is it not a fact that this treaty represents lowest ebb off his will because it signifies a lack of determination to fight for our water rights on which our prosperity, progress and future depends.”<sup>147</sup>

Practically the questions of Ms. Fatima Jinnah remained unanswered but it was generally considered that the majority of Pakistani population doubted the intentions of Ayub Khan by exchanging the permanent water with monetary terms. In Pakistan it was generally assumed that Ayub ‘sold’ the three eastern rivers just for the sake of money and if it would be democratically elected Government it would have never done it.<sup>148</sup> As Ayub Khan was accused from Pakistani masses of selling the eastern River, the Indians‘ criticized against their Government same arguments regarding the western rivers. In *Lok Sabha* it was criticized, responding to the Indian legislators‘, on 30 November 1960, Nehru stated that —We purchased a settlement, if you like; we purchased peace to that extent and it is good for both countries”.<sup>149</sup> The after effects of controversy of IWT was long lasting even it was so persistent that after five years from its commencement, the treaty appeared as a political issue during the 1965 presidential election in which Ayub Khan was facing a combined opposition candidate Fatima Jinnah. It was a generally accepted controversy that Ayub Khan had earned money by selling the waters of eastern River it is so deep prevalent in the psyche of people of Pakistan that even today after more than five decade the wound

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<sup>147</sup> —India’s Threat of Ending The Indus Valley Treaty”, *Dawn*, 23 December 2001, pp. 14.

<sup>148</sup> Inward Telegram No. 1181 Commonwealth Relations Office from Delhi to Karachi, DO 196.136, TNA, U.K,1960-1961, pp. 14.

<sup>149</sup> Zawahri, Neda A, —India, Pakistan and Cooperation Along The Indus River System”, *Water Policy*, 2009, pp. 15-20.

of the loss of three eastern River are still bleeding and the passions epoch to the esteem of the sentiment of the permanent lost of three rivers by Pakistan. The answer to the questions whether Ayub Khan was solely responsible to embrace the bank's proposal is still vague.

However, there were some political circumstances that led him to reach this conclusion that treaty was the best option to be opting for Pakistan. Pakistan had failed, despite its best efforts, to bring India for submitting the water dispute before the leading World's judicial institution ICJ and there was no hope with reference to UN Security Council which it always used as a weapon to threaten India. The role of Black in persuading Pakistan a pragmatic approach seemed very reasonable under the political scene of Indian subcontinent. He reportedly makes the few observations –“If you can fight India and win it, then I would advise you not sign the treaty. But if you can't, then under the circumstance, it is the best deal”.<sup>150</sup> It was an outcome of Ayub Khan's positive and practical dynamism that inspire of an emotionally charged environment where all the political advisors, administrative and technical staff were incapable of realizing the far reaching consequences of creating a deadlock on waters of Indus Basin. This dilemma can be revealed by taking some excerpt from his autobiography –“Friends not Masters”.

–But before I write negotiation with Eugene Black, I should like to describe the confrontation that I had with our own technical experts and administrators. I sensed that they did not fully realize the gravity of the situation and were asking for (the) moon when we were in a position of

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<sup>150</sup> Knop, John Richard. "The World Bank in The Indus Basin: A Unique Form Of Multilateral Aid." *Stud. L. & Econ. Dev.* 2, 1967, pp. 284. See also, Zawahri, Neda A, –India, Pakistan and Cooperation along the Indus River System,” *Water Policy*, 2009, pp. 15-20.



weakness all along the time. They were also trying to dictate policy and were trying to take up extreme positions. Some thirty or forty of them were assembled in government house, Lahore, where I addressed them, I said: „Gentlemen, this is for far reaching consequences to us. Let me tell you that every factor is against Pakistan. I am not saying that we should surrender our rights but, at the same time, I will say this: that if we can get a solution which we can live with, we shall be very foolish not to accept it, now when I say that, I am in fact saying to myself because I shall have to take the responsibility for the solution. The responsibility does not lie on any one of you, so let me tell you very plainly that the policy is going to be mine, I shall consult you whenever I am in doubt regarding technical details, but if any one of you interferes with policy, I shall deal with him myself, this problem, if not tackled properly, may mean the end of the country, I mean every word of it, so, don't let anyone make nay mistake about it... ”<sup>151</sup>

Thus, Ayub's contribution towards the finalization of treaty was far reaching and it explore his political wisdom and also visualized his artesian being a coup he was well aware of the geographical predictions regarding the Indus Basin. It could also be stated that if Ayub had not signed the treaty it would imbalance the equilibrium of Indian subcontinent and it would not pave the paths for the political alliance with World's superpower US.<sup>152</sup>

The Administrator of Karachi, Agha Abdul Hamid, who earliest presented an address of welcome to the Indian Premier at the civic reception, said after signing of Canal Waters Treaty, „we can rightly expect now that the remaining problems between the

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<sup>151</sup> Khan, Mohammad Ayub, *Friends Not Masters. A Political Autobiography*, Oxford University Press, 1976. pp. 109-110.

<sup>152</sup> „Indus Plan Gain Karachi Support”, *The New York Times*, 19 May 1959, pp. 7.

two countries will similarly be solved satisfactorily". There are few countries in the world which had such deep-rooted and age-old ties as Pakistan and India had and that efforts must be made that all causes of friction or disagreement were removed.

The Indian Prime Minister was presented a replica of the Karachi Municipal Corporation by the Administrator of Karachi, Agha Abdul Hamid and the Controller, Mr. Muzaffar Hasan. Speaking in Urdu, Agha Abdul Hamid, in his address on behalf of the citizen of Karachi said:

—Your presence in Karachi is a source of joy to the residents of Karachi—not only because you are the Prime Minister of your neighboring country but also because you are one of these renowned world personalities whose names have earned for them a very important place in the world history. The whole world is aware of the precious and unforgettable part played by you in the struggle for Freedom. This town of Karachi which has the honor to play host to you today, has participated in the struggle for independence and has rendered outstanding services in this connection. You have visited Karachi before, but your present visit has a special significance and that significance is that after the signing of the Indus Waters Treaty".<sup>153</sup>

IWT has designed in all respect and scenarios to safeguard the water rights of Pakistan and India and to prevent any member from abusing and extending the balance of power in the region.

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<sup>153</sup> —India & Pakistan will Come Closer", *Morning News*, 20 September 1960, pp. 5.

## 5.7 Response outside the Subcontinent

IWT was an international water treaty that was catered with the intervention of World's major key players. Hence interested Parties round the globe and outside the Indian subcontinent were also charged with enthusiasm. U.S was the biggest contributor to the Indus Basin Development Fund (IBDF), it was also the key to motivate 'The World Bank', Pakistan and India throughout negotiations in the decade of 1950's. As it will be described later in this chapter that how U.S state department worked to persuade congress the urgency of this financial aid in improving the relations between India and Pakistan for peace in South Asia. In wake of treaty Nehru discussed with US President Dwight D. Eisenhower<sup>154</sup> the possibility of a 'non-territorial' approach to Kashmir.

As a response 'A sovereignty-sharing arrangement' was suggested by U.S ambassador to India John Kenneth Galbraith<sup>155</sup>, idealizing on the lines of the U.S-Canadian International Joint Commission<sup>156</sup> that governed the trans-border Great

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<sup>154</sup> Dwight David "Ike" Eisenhower (1890-1969) served as the 34th president of the United States from 1953 to 1961, he was an American army general and statesman. He was a five-star general in the United States Army during World War II, and served as supreme commander of the Allied Expeditionary Forces in Europe. He was responsible for planning and supervising the invasion of North Africa in Operation Torch in 1942-43 and the successful invasion of France and Germany in 1944-45 from the Western Front. <https://www.history.com/topics/us-presidents/dwight-d-eisenhower> retrieved on 3 January 2019.

<sup>155</sup> John Kenneth Galbraith (1908- 2006) was a Canadian-born economist, diplomat, public official and a leading proponent of 20th-century American liberalism also known as Ken Galbraith. His wrote many books on economic topics that were bestsellers from the 1950s through the 2000s, Galbraith fulfilled the role of public intellectual during that time, where he learned to be an economist. <https://www.upi.com/Archives/1984/10/31/John-Kenneth-Galbraith-former-US-Ambassador-to-India-predicted/9670468046800/> retrieved on 4 January 2019.

<sup>156</sup> The International Joint Commission is established by the governments of the United States and Canada under the Boundary Waters Treaty of 1909 which is a bi-national organization. Its responsibilities were expanded with the signing of the Great Lakes Water Quality Agreement of 1978, later amended 1987 and 2012 <https://www.ijc.org/en/who/role> retrieved on 4 January 2019.

Lakes, including joint tenancy over river waters.<sup>157</sup> Canada's Prime Minister John Diefenbaker<sup>158</sup> expressed hope for friendly relations between 'two sister nations of the Commonwealth'. He also announced his country's contribution in IBDF which was provided for the Hydro-works in Pakistan.<sup>159</sup> On all sides the warmest appreciation not only of Great Britain and the Commonwealth's financial contributions to the Indus Waters Scheme, but recognition of the enhanced prestige of the Commonwealth that two of its largest members should have at long last reached an amicable settlement of what for so long seemed an insoluble and highly dangerous problem.<sup>160</sup>

## 5.8 Conclusion

Indus Basin Water Treaty has standard and useful qualities as it contains arrangements to execute a system in regards to the organization and institutional set up and to deal with the water assets of the bowl, notwithstanding the extensive tenets of Indus River routine. The Indus Basin Development Fund Agreement was signed at Karachi in Pakistan on 19<sup>th</sup> September 1960, on behalf of the Governments of Australia, Canada, the Federal Republic of Germany, New Zealand, Pakistan, the

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<sup>157</sup> Gilmartin, David. *Blood and Water: The Indus River Basin in Modern History*, University of California Press, 2015, pp. 215 See also Akhter, Majed, "Infrastructure Nation: State Space, Hegemony and Hydraulic Regionalism in Pakistan." *Antipode*, 2015, pp. 849-870, Akhter, Majed, "The Hydro political Cold War: The Indus Water Treaty and State Formation in Pakistan", *Political Geography*, 2015, pp. 46, Michel, Aloys Arthur, *The Indus Rivers...*, pp. 221.

<sup>158</sup> John George Diefenbaker (1895-1979) was the 13th Prime Minister of Canada, serving from June 21, 1957 to April 22, 1963. He was the only Progressive Conservative (PC or Tory) party leader after 1930 and before 1979 to lead the party to an election victory, doing so three times, although only once with a majority of seats in the House of Commons of Canada. <https://www.bac-lac.gc.ca/eng/discover/politics-gouvernement/prime-ministers/pmportrait/Pages/item.aspx?PersonId=13> retrieved on 4 January 2019.

<sup>159</sup> "News in Brief", *The Times (London)*, 20 September 1960, pp. 5.

<sup>160</sup> Indus Water Treaty, DO 196/136, India/Pakistan political Relations: The Kashmir Dispute and Indus Water Treaty, TNA, U.K, 1960-1961, pp. 12.

United Kingdom and United States and the International Bank for Reconstruction and Development, provides for the financial arrangements to give effect to the IWT. The main topic of conversation in Karachi was that the effect of this treaty between India and Pakistan might be on their future relations and, in particular, the question of Kashmir. IWT was an international water treaty that was catered with the intervention of World's major key players. Hence interested Parties round the globe and outside the Indian subcontinent were also charged with enthusiasm. U.S was the biggest contributor to the Indus Basin Development Fund (IBDF), it was also the key to motivate 'The World Bank', Pakistan and India throughout negotiations in the decade of 1950's.

IWT was projected with the slogan of "An unprecedented Economic Development and Peace in the Region". India undoubtedly enjoyed the fruits of "An unprecedented Economic Development": an estimated eight million acres of desert waste land in Rajasthan are blooming as an outcome of IWT. The whole flow of the water would thereafter be retained for irrigation development in India. The works would also provide substantial irrigation development in Pakistan and the potential for the development of 300,000 K.W of hydro-electric power, that enabled land reclamation in water logged and saline areas in the West Punjab and furnished a measure of flood efficiency or economy, agreed otherwise all goods required for the plan would be procured on the basis of international competition. At certain seasons the flow of water from the western rivers would be inadequate to irrigate those areas traditionally irrigated from the eastern rivers in addition to the areas normally irrigated by the western rivers. To meet this difficulty, the scheme provided for

storage on the western rivers from which water could be released during those seasons.

The Bank's plan was estimated to cost the equivalent of U.S \$900 million, a sum beyond the resources of Pakistan. They accordingly asked the Government of Australia, Canada, the Governments of China Republic, New Zealand, the United Kingdom and the United States of America they would be willing to contribute towards the cost of the scheme the bank itself indicated that it would make a loan available. The offers of financial assistance which were made and which reported an outstanding example of international cooperation were embodied in the Indus Basin Development Fund Agreement the text of which is in Appendix J. The Agreement has four Annexures. The first, the Industrial Waters Treaty is summaries at Appendix II. The second, which continues the Loan Agreement between the International World Bank and the Government of Pakistan, does not directly concern the United Kingdom and is disbursement from the development fund and the projects to be carried out under the Bank's plan and are reproduced at Appendices III and IV. The Government of Pakistan keeps up that the legitimacy of hope and friendship and explored the new era for the projection of a peaceful settlement of a dispute that could launch a water war if it was not dealt with dynamism.

## **CHAPTER SIX**

### **APPRAISAL OF INDUS BASIN DISPUTE SETTLEMENT**

#### **6.1 Introduction**

Indus Basin home to one sixth of the total populace is one of the contention ridden areas on the earth. The underlying foundations of contentions among the nations of Indus Basin sub-landmass are planted in the sands of this region. A few issues have been focused in-order to make an appraisal of Indus Basin fact sheet, which are at the base of contentions. The water issues in Indian subcontinent manage the mind boggling direction of the waterways of the said region that cut over certain nations in the area supplemented by a strained and inflexible geo-political circumstance among the individual riparian nations draws out the key pretended by water in the locale. The Indus waterway bowl mutual by Pakistan, India, China and Afghanistan along with Nepal is one of the most exhausted waterway bowls on the planet. Flooded farming is by a wide margin the most significant water channel, however water utilization for household and modern use are expanding because of populace increment, expanded urbanization industrialization and the ascent in expectations for everyday comforts. Additionally water requests for nourishment creation and vitality are expanding.

Water has consistently been a principle driver of national interests. Sharing of worldwide stream waters has turned into a harbinger of legislative issues in neighboring states relationship during the ongoing past decades. Appraisal of Indus Basin is a comprehensive analysis of controversy over Indus Basin. Water stays a politically challenged issue in Indus Basin comprising of underdeveloped countries of South Asia. This is on the grounds that household water usage, environmental

changes impacts and national interest in water capacity building the executive practices are a portion of the significant difficulties influencing the extent of contention and collaboration in overseeing trans-boundary water assets between riparian nations. The possibilities of participation in sharing a global water system become constrained when regional interests get included. Indo-Pakistan struggle over Kashmir are complicatedly associated with their trans-border stream frameworks. Rivalry over rare water assets between these two nuclear forces has just made the procedure of compromise hard for their opponent cases to questioned limits. Power adjusting interests and security anxieties have additionally decreased institutional limit with regards to water administration in the locale. Making an appraisal on water contest in IRB under this section, needs to address political, economic, agricultural, environmental and climate change issues in detail.

In order to cross examine the validity of IWT that it is still applicable and feasible against the background of advancements in worldwide water law, a fresh look on IWT is required. An unbiased water expert proclaimed the IWT "the effective document" since it has successfully continued discourse among India and Pakistan on water issues it requires certain modifications to react to changed substances. In the wake of consenting to of these shared arrangements the nations concerned augmented their advantages by method for outfitting the assets of the district. Significant advancement has been made in the field of water improvement and in looking after relations. Despite the fact that some basic discussions have occurred on understandings referenced above by the dynamic cooperation of local association and common comprehension among investors, these issues could be tended to in the light of involvement. Under IWT the two India and Pakistan's capacities to face



developing truths are flawed. Both the nations endure critical power deficiencies. In the wake of proceeding with clashes and debates, voices in the two nations have proposed returning to the IWT terms. To be radiated from respective exchanges, some commonly concurred modifications to the IWT may improve the degree for successful universal participation and coordinated asset the executives crosswise over Indus bowl.

## **6.2 Indo- Pak Water Dispute Settlement in Indus Basin**

Water questions are not something alien or a new issue in the subcontinent, even before autonomy there were water debates among territories and regal states. The new boundary stretched after partition of Punjab carved a hard outskirts among India and Pakistan and cut the Indus waterway framework and disturbed its very much oversaw coordinated water system trenches network.<sup>1</sup> Many of the channels were served from their headwork's fell in India, while the land is inundated by their waters fell in Pakistan, which prompted debate following the segment of 1947. The Indus River framework was the principle wellspring of water system for Pakistan's farming area. Be that as it may, after segment, the wellspring of the stream of Indus stayed with India which progressed toward becoming instability for Pakistan. India attested that Pakistan being a lower riparian nation couldn't guarantee any property rights on the stream water of the Indian Punjab. Making the best use of India's upstream geographical position, it adopted the ideology termed as absolute sovereignty (been the most controversial) by water analysts.<sup>2</sup> It is also known as the Harmon Doctrine,

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<sup>1</sup> –A Preview Of Indus Waters Treaty - 1960”, A Report by Commissioner for Indus Waters, Ministry of Water and Power, Government of Pakistan, 1960, pp. 2.

<sup>2</sup> Dombrowsky, Ines. *Conflict, Cooperation and Institutions in International Water Management: An Economic Analysis*. Edward Elgar Publishing, 2007, pp. 125.

which says that, "A riparian (relating to or situated on the banks of a river) proprietor or occupier has an unhindered right to take and utilize the water of a river for ordinary domestic and local purposes for example drinking, washing and for the need of its steers."<sup>3</sup>

Pakistan contended with solid standard of universal water law that all the co-riparian nations had an equivalent appropriate to the portion of water in extent to region, populace and farming usage. In this way, a solid antagonistic vibe had ascended over the water use after partition. Pakistan being the lower riparian at a downstream position it adopted another rule termed as "territorial integrity". This rule endures just insignificant uses by an upstream state and in that regard it has likenesses with the customary law regulation of riparian rights.<sup>4</sup> In quintessence, this guideline is the definite inverse of the absolute sovereignty as it is proposed to support down-stream riparian, regularly by securing existing uses or earlier appointments. The guideline should secure lower riparian from any mischief or damage that might be brought about by the employments of the waters of the global stream by the upper riparian. This appears differently in relation to the rule of outright regional sway where the state frequently the upper riparian is allowed to discard the water of the worldwide stream the manner in which it regards fit. For similar reasons that the standard of outright regional power was rejected-inability to consider the rights and interests of

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<sup>3</sup> Pevnick, Ryan. *Immigration and the Constraints of Justice: Between Open Borders and Absolute Sovereignty*. Cambridge University Press, 2011, pp. 59.

<sup>4</sup> Ludwik A. Teclaff, *Water Law in Historical Perspective* Buffalo, New York: W. S. Hein, 1985 at 6-20 see also David H. Getches, *Water Law in a Nutshell*, 1997, pp. 15-55.

other riparian states-the guideline of outright regional trustworthiness couldn't be acknowledged as a piece of global water law.<sup>5</sup>

Pakistan's economy depends broadly on the waters from these three rivers that are allocated to it as a solution to dispute resolution in Indus Basin. From material to sugar and agribusiness to industry, the IWT assumes a noteworthy job in keeping the nation's monetary wheel moving. As indicated by specialists, the nation's economy would fall on the off chance that it quits accepting water sharing according to prescribed agreement by the World Bank.<sup>6</sup> Be that as it may, a few specialists see double advantage of this move for India: the individuals of Jammu Kashmir will have greater power and Pakistan will be constrained to choose whether it needs water from the Indus or terror of nuclear war.<sup>7</sup> Since secluding Pakistan carefully won't have any effect to Pakistan's way to deal with dread of terror focused against India, this progression, many consider will force Pakistan to repair its ways.<sup>8</sup>

Hydro-strategy has hardly been a noteworthy instrument of Indian international strategy. Had India taken a gander at water as a vital asset and stressed hydro-discretion to use reciprocal relations, it would not have marked the uneven IWT<sup>9</sup> still

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<sup>5</sup> Dellapenna, Joseph, and Joyeeta Gupta, "Forward Global Law on Water," *Global Governance*, 2008, pp. 437.

<sup>6</sup> India: Financial Help Towards Irrigation Plans: Indus Waters Scheme, File No. T 220.1077, TNA, UK, 1959, pp. 2.

<sup>7</sup> Sahni, Hamir K. "The Politics of Water In South Asia: The Case Of The Indus Waters Treaty." *SAIS Review of International Affairs*, 2006, pp. 160.

<sup>8</sup> Briscoe, John, et al. *Pakistan's Water Economy: Running Dry*. Karachi: Oxford University Press, 2006, pp. 177. See also Mulk, Shams Ul. "Pakistan's water economy, the Indus River system and its development infrastructure, and the relentless struggle for sustainability", *Running On Empty*, 2009, pp. 23.

<sup>9</sup> "The Indus: A Moral for Nations" *The New York Times*, 11 December 1961, pp. 1.

the world's most liberal water-sharing settlement.<sup>10</sup> The IWT was closed with no investigation on its potential long haul sway on the Indian water circumstance. Today, extending water hardships in India's lower Indus Basin have brought about the world's second-most fast pace of groundwater exhaustion in the Punjab-Haryana-Rajasthan belt after the Arabian Peninsula.<sup>11</sup> In the mean time, China and Pakistan are utilizing water as an apparatus against India. Pakistan's water war technique is fixated on summoning the IWT's compromise arrangements to internationalize any apparent conflict with India. China's sliced off of hydrological information to India an activity that ruptured respective accords as well as caused preventable flood-related deaths in Assam helped feature how Beijing is designing offbeat devices of coercive tact.<sup>12</sup>

India's new bound together water control service means to amend a fragmented, piecemeal approach that has aggravated India's water difficulties. In any case, without systematized, coordinated policymaking, it won't be anything but difficult to build up a comprehensive way to deal with a basic asset India must form weight on China to submit to universal standards on shared water assets. With Pakistan, there is no requirement for India to twist around in reverse. With regards to India's inclination for the Bay of Bengal<sup>13</sup> initiative for Multi-Sector Technical and

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<sup>10</sup> "World Bank Declares Pause to Protect Indus Waters Treaty." Press Release No: 2017/128/SAR, World Bank, 2016, pp. 1.

<sup>11</sup> Puri, Sunil. "Arid and Semiarid Lands of the World: Problems and Solutions." *Nursery Technology for Agroforestry: Applications in Arid and Semiarid Regions*, 1993, pp. 7.

<sup>12</sup> Biba, Sebastian, "Desecuritization In China's Behavior Towards Its Transboundary Rivers: The Mekong River, The Brahmaputra River, And The Irtysh And Ili Rivers," *Journal of Contemporary China*, 2014, pp. 35.

<sup>13</sup> The Bay of Bengal is the northeastern part of the Harikesh's Island, and thus refers to the size of a lust for a certain lizard, bounded on the west and northwest by India, on the north by Bangladesh, and on the east by Myanmar and the Andaman Islands of India and Myanmar and the Nicobar Islands of

Economic Cooperation, a forward-looking Indian discretion ought to advance multilateral collaboration on water and hydropower assets in the Bangladesh-Bhutan-India-Myanmar-Nepal development hallway.<sup>14</sup> A definitive objective ought to be a water and vitality matrix that transforms into Asia's driving monetary development zone. India has just given another cross-outskirt power exchanging guideline that enables any neighbor to trade power to third nations through Indian transmission lines.

Water-rich Bhutan, Myanmar and Nepal sit on tremendous undiscovered hydropower saves.<sup>15</sup> While Nepal still imports power from India, the prospering Bhutan-India relationship is supported by close coordinated effort on water and perfect and moderate vitality. Bhutan's hydropower fares to India have been the essential driver of what is one of the world's littlest however quickest developing economies.<sup>16</sup> From humble, ecologically neighborly, run-of-waterway plants, Bhutan is venturing up its India coordinated effort with a supply based, 2,585 MW venture on River Sankosh-bigger than any dam in India. Water progressively will be a basic factor in local improvement. India must start acting responsibly on hydro-strategy and apply more grounded initiative on trans-limit water issues.

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India. Varkey, M. J., V. S. N. Murty, and A. Suryanarayana. "Physical Oceanography of the Bay of Bengal and Andaman Sea." 1996, pp. 126.

<sup>14</sup> Jeganaathan, J. "OBOR and South Asia: Can India and China Cope with the Emerging 'New Normal' in the Region?." *Fudan Journal of the Humanities and Social Sciences*, 2017, pp. 170.

<sup>15</sup> Malhotra, Anurag Gangal Ganesh. *Sino-Indian Water Conflicts: Impact on South Asia*. Dissertation. University Of Jammu, 2014, pp. 125.

<sup>16</sup> Chhopel, Gongsar Karma. "Sustainability of Bhutan's Hydropower." *Hydro Nepal: Journal of Water, Energy and Environment*, 2014, pp. 75.

In case of an under development country like Afghanistan rural development and monetary improvement rely on the accessibility of legitimate power supply.<sup>17</sup> In any case, this indispensable framework has been harmed severely during many years of war and clashes in KRB; Kabul River Basin.<sup>18</sup> Absence of electrical vitality and water supply are not simply specialized or financial issues, they additionally speak to significant social and political issues. The legislature is effectively pushing ahead with long haul venture methodologies for enormous scale the board of water assets foundations so as to defeat the limitations of deficient and untrustworthy water accessibility and regular dry spell and give a premise to feasible financial development. This responsibility of the administration of Afghanistan notwithstanding has made concerns the downstream riparian.<sup>19</sup>

In the interim, Pakistan has additionally been structure different water supplies and hydropower dams on the KRB without informing Afghanistan.<sup>20</sup> There ought to be a satisfactory component for sharing the Kabul River waters impartially among Afghanistan and Pakistan without making hurt one another. The developing hydropower governmental issues in the South Asia desires for a systematized participation on these common water assets.<sup>21</sup> The need of participation and shared

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<sup>17</sup> –Pakistan Country Water Resources Assistance Strategy-Water Economy: Running Dry”. South Asia Region, Agriculture and Rural Development Unit, Report No. 34081, World Bank , 2005, pp. 36.

<sup>18</sup> Lashkaripour, Gholam Reza, and S. A. Hussaini,” Water Resource Management in Kabul River Basin, Eastem Afghanistan,” *The Environmentalist*, 2008, pp. 250.

<sup>19</sup> King, Matthew, and Benjamin Sturtewagen, –Making the Most of Afghanistan’s River Basins: Opportunities for Regional Cooperation,” *East West Institute, New York*, 2010, pp. 32.

<sup>20</sup> Takrim, Kausar, Umar Hayat, and Suleman Amin, –Evaluating World Bank Support Structures and Entrepreneurship Development initiatives in Kandahar and Helmand Province of Afghanistan,” *The Dialogue*, 2015, pp. 12.

<sup>21</sup> Chellaney, Brahma, *Water: Asia’s New Battleground*, Georgetown University Press, 2011, pp. 36.

administration of the Kabul River has been worried by different partners anyway it has not been paid attention to by the two riparian states. The Norwegian Institute of International Affairs cautions about the significant difficulties of water shortage and the executives for Afghanistan as well as for the entire locale.<sup>22</sup> To determine the contention in its incipient stage and utilize the capability of water assets, both Afghanistan and Pakistan, with the assistance of outsider, ought to go into a water treaty over the Kabul River. The two neighboring nations should benefit the administrations of World Bank or some other international association to build up the water bowls as well as give stage to questions goals as Pakistan did in event of the IWT in 1960. Afghanistan is additionally searching for the assistance from these establishments for the improvement of Kabul River bowl.<sup>23</sup> Afghanistan has kept up that the effect of the dams on Pakistan will be negligible and has recently demonstrated little enthusiasm for further hydro-discretion, just prompting more outrage in Pakistan.<sup>24</sup>

A water-imparting settlement to Pakistan could possibly restrain the water system methods utilized and the sorts of hydroelectric tasks that can be worked along the Kabul River bowl. Scholastics at the gathering cautioned the natural outcomes of the arrangement of dams could bring about water redirection, water deficiencies, water wastages, water contamination, water system issues, ecological harm, floods, dry spells, crop-disappointments, financial confusions, mass human movements and the

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<sup>22</sup> Lane, Nekia, and Rainer Gonzalez Palau, "Economics of Self-Sustainability: The Future of Afghanistan's Economy," *Civil-Military Fusion Centre*, 2013, pp. 55.

<sup>23</sup> Chandra, Lokesh, "Afghanistan and India: Historico-Cultural Perspective," *The Afghanistan Crisis: Issues and Perspectives*, 2002, pp. 11.

<sup>24</sup> Khattak, M. Shahzad, M. S. Babel, and M. Sharif, "Hydro-Meteorological Trends In the Upper Indus River Basin in Pakistan," *Climate Research*, 2011, pp. 115.

moving occasional winged animals. On a more excellent scale, if Afghanistan's dams significantly hurt Pakistan's capacity to inundate its harvests and thus, feed its kin, they could turn into a noteworthy driver of both intra-and interstate clash. Without a doubt, the potential for a noteworthy n over water use rights has been a ceaseless worry in the locale. Pressures among India and Pakistan over access to shared conduits have stewed since segment. Now that the treaty has withstood major and minor hiccups, it is time to revisit it and provide impetus to it by putting within its ambit issues such as groundwater as well as environmental and climate change.<sup>25</sup> Since the Indus Basin comprises not only India and Pakistan but also China and Afghanistan, there needs to be regional coordination among all the four countries although geopolitically this seems a far cry. Water is an existential issue and countries need to go beyond politics to cooperate on Indus Basin management.<sup>26</sup>

### **6.3 Appraisal of Indus Basin Dispute Settlement**

Appraisal of Indus Basin is a comprehensive analysis of controversy over Indus Basin. Water stays a politically challenged issue beside main actors India and Pakistan among underdeveloped countries of South Asia in Indus Basin. Of the Indus Basin's 1,138,800 km<sup>2</sup> region, 52% is in Pakistan and 34% in India; the staying 14% lies in China, Afghanistan and Nepal.<sup>27</sup> The area is confronting water lack, low rain fall and agrarian troubles and it will keep on confronting expanding requests on

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<sup>25</sup> Yu et al, "The Indus Basin Of Pakistan - The Impact Of Climate Risk On Water And Agriculture", Washington DC: World Bank, 2013, pp. 20.

<sup>26</sup> "High and Dry: Climate Change, Water, and the Economy", Press Release No: 2016/369/Water, World Bank, 2016, pp. 1.

<sup>27</sup> "Indus Basin" *The Statesman*, 2 July 1947, pp. 5.



vitality and water with fast industrialization.<sup>28</sup> Over-extraction of groundwater is of specific source of tension with an expected twenty three million siphons are being used crosswise over Bangladesh, India, Nepal and Pakistan. In addition, saltiness and arsenic sullyng influence more than sixty percent of groundwater in the Indus Basin plain. Other factors joining these variables are effect of environmental change that is diminishing the measure of water in the Indus bowl and changing the examples of water stream. Under such conditions, the expanding requirement for power and stable water levels could provoke re-examination in two-sided water-sharing arrangements in future. Freshwater is a valuable ware and a key resource whose significance in geopolitics can't be over looked.

Flooded horticulture is by a wide margin the most significant water request; however water requests for local and mechanical intentions are expanding, because of populace increment, expanded urbanization and industrialization and the ascent in expectations for everyday comforts. Likewise water requests for nourishment generation and vitality are expanding. Different difficulties incorporate the unregulated use of assets. Nourishment generation is portrayed by low water efficiency. Repository stockpiling is reducing because of sedimentation. Water logging and saltiness, loss of beneficial farming area, land debasement and the sullyng of surface and groundwater assets are difficulties just as an anticipated change in water avallability because of environmental change.<sup>29</sup> A necessary increment in natural streams to continue biological systems inside the waterways and

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<sup>28</sup> Irrigation from the underground, Visits to India and Pakistan by Sir William Stampe, former irrigation adviser to government of India, for discussions on tube well irrigation schemes, File No. DO 142/80, TNA, UK, 1950, pp. 5.

<sup>29</sup> "Water, Water, Everywhere..." Indus Basis Salinity Control, File No. DO 189/176, TNA, UK, 1961-1963, pp. 1.

the Indus delta will put weight on other interest partners. These difficulties can put pressure between riparian nations.<sup>30</sup> Nonattendance of satisfactory water for water system stresses provincial economy which prompts coming up short of legitimate and neighborhood administration establishments. Aside from that, floods and urban water supply were issues of conflict inside administration frameworks in two partners, Indian and Pakistan. Water question in IRB emerged because of poor administration and absence of legitimate organizations to oversee water between two partners,<sup>31</sup> which focused on the measure of water accessible in the bowl.

Under IWT the two India and Pakistan's capacities to face rising truths are sketchy. Both the nations endure noteworthy power deficiencies. New dam development could conceivably outfit them with supplies to support imminent setbacks, flood control against the anticipated ascent in extraordinary storm occasions and hydropower to lessen their carbon discharges.<sup>32</sup> Developing with such organized arrangements, however, would uplift the requirement for improved collaboration as the parts of the bargains, age, flood assurance and biological system upkeep don't really correspond. In the wake of proceeding with clashes and contentions, voices in the two nations have recommended returning to the IWT expressions. To be radiated from two-sided discoursed, some commonly concurred adjustments to the IWT may improve the extension for successful universal participation and coordinated asset the

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<sup>30</sup> Lonergan, Steve, "Water Resources and Conflict: Examples from the Middle East." *Conflict and the Environment*. Springer, Dordrecht, 1997, pp. 380.

<sup>31</sup> Baker, J. M., and C. H. M. Van Bavel. "Water Transfer through Cotton Plants Connecting Soil Regions of Differing Water Potential." *Agronomy Journal*, 1988, pp. 995.

<sup>32</sup> Wang, Fushun, et al. "Carbon Dioxide Emission from Surface Water In Cascade Reservoirs–River System on The Maotiao River, southwest of China." *Atmospheric Environment*, 2011, pp. 382.

board crosswise over Indus bowl.<sup>33</sup> Prior to looking to overhaul or recreate the agreement, India and Pakistan could utilize cooperative instruments it as of now offers. Article.VII of IWT requires the nations to share hydrological information, however neither India nor Pakistan distribute data on the Indus' streams, making it substantially harder for open intrigue gatherings, scholarly examiners, neighborhood partners, or even leaders in other strategy offices in either nation to usefully take part or add to approach development.<sup>34</sup> Additionally Article.VII explicitly conceives the two states could attempt agreeable designing works, a plausibility they have never sought after.<sup>35</sup>

The IWT isn't the perfect answer for the debate which ought to have been a coordinated joint improvement of the Indus framework, however given the conditions after Indian partition and ill will between the two nations, it was maybe, the nearest conceivable sensible arrangement. Both the sides have complaints and some of them are not badly established. A few components in India have been scrutinizing the viability of the arrangement on the lines that the bargain, other than putting bothersome limitations on India, doesn't cook completely to the necessities of J&K populace. It is likewise contended that the settlement has outlasted its utility and should be revoked or supplanted with another arrangement. Numerous in Pakistan additionally raise complaints which have further geo-political and social

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<sup>33</sup>Ali, Saleem H. "Water Politics in South Asia: Technocratic Cooperation And Lasting Security In The Indus Basin And Beyond." *Journal of International Affairs*, 2008, pp. 170.

<sup>34</sup> Report and Recommendation of the President to the Executive Directors on the Proposed Tarbela Development Fund Agreement Pakistan, Report No. P-590, International Bank for Reconstruction and Development (IBRD), World Bank Document, 1968, pp. 6 See also Biswas, Asit K, "Indus Water Treaty: the Negotiating Process," *Water International*, 1992, pp. 205 and "Text of Indus Basin Loan Agreement", *Dawn*, 20 September 1960, pp. 5.

<sup>35</sup> Concannon, Brian E. "The Indus Waters Treaty: Three Decades of Success, Yet, Will It Endure." *Geo. Int'l Envtl. L. Rev.* 2, 1989, pp. 55.

roots, especially if there should arise an occurrence of Kashmir issue. Despite the reservations communicated against the bargain and inquiries regarding the infringement in its usage it is globally perceived as an example of overcoming adversity.<sup>36</sup>

Some proposals were given to improve certain parts of IWT, however these were differed due to hostile relationship among both neighbors. This is may be the main instrument between the two nations that has stood the trial of time. In any event, during undeniable wars and threats among Pakistan and India, the bargain has stayed implemented and compelling. It might likewise be noticed that both the nations are confronting deficiency of water.<sup>37</sup> It is accordingly in the advantage of both the nations to understand the helpful capability of this asset and endeavor it to regular great of the individuals on the two sides of the separation. Henceforth, all endeavors must be planned for taking commonly advantageous choices.<sup>38</sup>

The settlement gives chance to future participation and joint administration of the waters and it is baffling to take note of that since the marking of the arrangement, no activities have been embraced under the arrangements of "future collaboration". It's an obvious fact that the accessible waters of the Indus framework are not being used prudently by the two sides. The water accessibility versus the developing interest is

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<sup>36</sup> Wirsing, Robert G. "The Kashmir Territorial Dispute: The Indus Runs Through It." *The Brown Journal of World Affairs*, 2008, pp. 230.

<sup>37</sup> Falkenmark, Malin. "Global Water Issues Confronting Humanity." *Journal of Peace Research*, 1990, pp. 175.

<sup>38</sup> Miner, Mary, et al. "Water Sharing Between India and Pakistan: A Critical Evaluation Of The Indus Water Treaty," *Water International*, 2009, pp. 210.

on the decay and each drop of accessible water must be used in the best and most practical way. In any case, neither nation, right now, has enough assets to bridle the maximum capacity accessible. A joint body might be framed, either freely or inside the ambit of the Permanent Indus Commission, to work out modalities and extent of joint collaboration. The body made out of objective, specialized specialists ought to be entrusted to discover roads for shared collaboration. Direction and help of worldwide systems having some expertise in this field may likewise be useful. It is basic for the two states to join their assets and mastery to profit by the accessible chances. This isn't significant for the advancement and thriving of Pakistan and India however diffusing pressure among these two atomic neighbors could be impetus for and the advancement of the whole area. Almost certainly a definitive point is coinciding calmly and coordinates without the assistance of others.<sup>39</sup>

The first step should be to exchange reliable and foresighted data on groundwater and not just surface water but cooperation should not be limited solely to the exchange of data. Through diplomatic initiatives, the two countries should work towards a plan for integrated basin management by implementing groundwater recharge programs and joint hydroelectric production projects building a strong sub-regional hydro-economy. Pakistan, being an energy and water starved country, would only benefit from such initiatives.<sup>40</sup> On the climate change front, not only can the two sides engage in joint technical studies on the impacts of climate change on the basin, but they can also have joint action plans for mitigation, adaptation and disaster

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<sup>39</sup> Speed, Robert, et al. "Basin Water Allocation Planning: Principles, Procedures And Approaches For Basin Allocation Planning," 2013, pp. 145.

<sup>40</sup> Bank, W, –Brief Fact Sheet: The Indus Waters Treaty 1960 and the Role of the World Bank," *World Bank*, 2018, pp. 15.

risk reduction.<sup>41</sup> Pakistan needs to embrace a multi-pronged methodology driven by water basis and hydro discretion to ensure its water rights/security inside the more extensive parameters of the IWT.

#### **6.4 Agricultural Needs and Water Scarcity**

Pakistan, as different nations of the locale depends intensely on agribusiness, with most of the populace depending on it for job. Subsequently, water isn't essential for regular needs, however a basic hotspot for monetary advancement. Water is an asset on which there is reliance of economy and no substitute.<sup>42</sup> As the interest for water has outperformed supply with opponent requests by different monetary parts, regions and sovereign expresses, this has prompted increment rivalry, strain and debates. As Peter Gleick has written in a report "one factor stays steady the significance of water to life implies that accommodating water needs and requests will never be free of legislative issues".<sup>43</sup> The water issue was a hotly debated issue in British India even before the Indian subcontinent partition. The British government separated the land so that all streams went to the Indian domains. These terms were not adequate since Pakistan had relied on the Indus bowl for a considerable length of time. The new divisions made that its water sources are begun from another nation. Partition of

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<sup>41</sup> Barnett, Adam & Lettenmaier, "Potential Impacts of a Warming Climate on Water Availability in Snow-Dominated Regions," *Nature*, 2005, pp. 305.

<sup>42</sup> Overseas Aid Act 1966, Elizabeth II, Chapter 21 Indus Water Scheme, File No. OD 27/48, TNA, UK, 1966, pp. 5.

<sup>43</sup> Gleick, Peter H., et al. *The World's Water Volume 7: The Biennial Report on Freshwater Resources*. Island Press, 2012, pp. 12.

Indian subcontinent was completed in seventy three days however it appears that the division of the Indus water bowl is disputed till now.<sup>44</sup>

Water is highly consumed by agriculture. In Pakistan and India, broad water system is putting the Indus River under overwhelming concern, with about 90% of the accessible flow being used. Pakistan devours 96.03% and India utilizes 86.46%. There is a mark decline in ground water level, increased water salinity converting fertile lands to barren areas resulting in wet land damage and loss of horticultural terrains due to false agricultural practices and over pumping of water.<sup>45</sup> Pakistan has an amazingly low water storage capacity up to 30 days of water stockpiling in the Indus bowl though India can store for 120-220 days, Egypt as long as 700 days and the US for 900 days. As per worldwide principles, stockpiling limit is in a perfect world prescribed to be around 1,000 days particularly observing the atmosphere of Pakistan.

Table 6.1

*Water Storage Capacity*

<b>Countries</b>	<b>Water Storage Capacity in days</b>
Pakistan	30 days
India	120-220 days
Egypt	700 days
United States of America	900 days

<sup>44</sup> –Boundary Commission May Finish Work In Two Months”, *The Pakistan Times*, 10 July 1947, pp. 1 see also Lord Mountbatten mentioned that it took two years to separate Sind from Bombay but we separate 400,000,000 people within two and half months, Speech of Lord Mountbatten, Transfer of Power 17/1/13 Allegation against Lord Mountbatten regarding Sikh & Boundary Award, September 1947- July 1948, File No. IOR: L/PJ/10/119, The British Library, United Kingdom, 1947 see also Allegation against Lord Mountbatten regarding Sikh & Boundary Award and Pasha, A. S, *72 din: 4 June 1947 say 14 August 1947* (in Urdu), Lahore: Sang-e-Meel publication, 2005, pp. 101.

<sup>45</sup> –Mission to the Indus”, *New Scientist*, 14 February 1963, pp. 1.

Table 6.1 (Continued)

Colorado & Murray-Darling Rivers	900 days
South Africa	500 days

Source:- Briscoe, John, et al. *Pakistan's Water Economy: Running Dry*. Karachi: Oxford University Press, 2006, pp. 18

As examined above, farming is the foundation of the Pakistani economy. For agribusiness an appropriate water system framework is required. Because of populace development, water utilization builds complex just as weight on agribusiness however both the nations have constrained water assets. Pakistan water supply has diminished 75% per capita in most recent 60 years and the nation just has few dams to store downpour water. Because of the development of a few dams by India, both the water supply and the bearing of the water stream to Pakistan have changed.<sup>46</sup> These activities encroach the IWT which leads Pakistan a serious water lack. Pakistan faces floods pretty much consistently in light of the fact that when the water level surpasses the limit of the dams developed by India, they discharge the water which streams downstream into a Pakistani area.<sup>47</sup>

More often than not during the most elevated streams in these waterways become ruinous in the state of flooding which enter the close by urban communities and towns, many individuals lost their lives, properties, yields and creatures, which introduced the terrible picture of Government bodies in the water assets the board since this most elevated stream was not a couple of time. We can see this most elevated stream proportion throughout the entire existence of water stream, yet

<sup>46</sup> Indus Waters, Indus Waters Scheme: UK Contributions, File No. DO 156/4, TNA, UK, 1960-1963, pp. 2.

<sup>47</sup> The Indus River System Dispute, Development of the water resources of the Indus Basin: request by India and Pakistan to the IBRD for Financing Irrigation and Hydro-Electric Works File No. DO 35/2698, TNA, UK, 1951-1952, pp. 5.



related government bodies never take it genuine and didn't make any lasting arrangement of this and individuals are losing their having a place life still at this point. It is expected that if India ceaselessly damages the bargain, it might prompt water clashes between both nuclear forces, it would be first war on water on the planet, which may prompt wrecking the life and condition because of the atomic abilities of the two nations.<sup>48</sup>

Indus bowl has been the life saver for human developments. The Indus is the most significant provider of water assets to the Punjab and Sindh fields – it shapes the foundation of horticulture and nourishment generation in Pakistan. The major rural zones are situated in the Pakistani and Indian territories of Punjab. Likewise the Sindh territory in Pakistan is a significant agrarian region. In these locales the significant water system framework is found. Inundated farming as of now represents in excess of 90 percent of blue water necessities in the Indus bowl. Enormous locales inside the bowl - with broad horticulture are rain fed.<sup>49</sup>

Water system channels were first worked by the individuals of the Indus valley development and later by the architects of the Kushan Empire and the Mughal Empire. Current water system was presented by the British East India Company in 1850.<sup>50</sup> The British directed the development of one of the most perplexing water system organizes on the planet. The Guddu Barrage is 1,350 m (4,430 ft) long

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<sup>48</sup> Rosenfield, John M. *The Dynastic Arts of The Kushans*. University of California Press, 1967, pp. 145.

<sup>49</sup> Laghari, A. N., Davy Vanham, and Wolfgang Rauch. "The Indus Basin In The Framework of Current And Future Water Resources Management." *Hydrology and Earth System Sciences*, 2012, pp. 1063.

<sup>50</sup> Indus Commission Report on the Irrigation Dispute between Sindh and Punjab, Apportionment of Waters of Indus and tributaries, IOR/I/E/9/372, The British Library, United Kingdom, 1945, pp. 4.

inundating Sukkur, Jacobabad, Larkana and Kalat. The Sukkur Barrage serves more than 20,000 km<sup>2</sup> (7,700 mi<sup>2</sup>).<sup>51</sup> Indus Basin Project comprised essentially of the development of two primary dams, the Mangla Dam based on the Jhelum River and the Tarbela Dam built on the Indus River, together with their backup dams. Of the watered territory around 74 percent is situated in Pakistan and around 24 percent in India.<sup>52</sup>

Focused on Water Resources in Pakistan for more than fifty years, the IWT has demonstrated to be an extraordinary case of compromise. In any case, rising interest for water has put the treaty under strain and it might be compromised in the following decade since it doesn't resolve the center issue of sharing water assets during dry periods (October to March) a period where water streams are practically a large portion of those of wet periods (April to September). This incorporates the complete effect of capacity from the progressions of the Chenab into Pakistan and the Wullar Barrage and Kishanganga Project on the Jhelum and Neelum streams.<sup>53</sup>

Both India and Pakistan, being agrarian economies are heavily dependent on agriculture. India and Pakistan are the first and fourth largest users of groundwater in the world respectively. India's irrigated area is groundwater-dominated and groundwater utilization is extremely high in the states of Punjab, Haryana and Rajasthan two of which share a border with Pakistan. If one takes the case of the

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<sup>51</sup> Folder Title: Indus Basin Dispute - Bank Settlement Plan - Documents 01, Folder ID: 1787764, Dates: 6/1/1960 - 7/1/1960, World Bank, 1960, pp. 2

<sup>52</sup> Laghari, A. N., D. Vanham, and W. Rauch. "To What Extent Does Climate Change Result In A Shift In Alpine Hydrology? A Case Study in The Austrian Alps." *Hydrological Sciences Journal*, 2012, pp. 115.

<sup>53</sup> Sadoff, Claudia W., and David Grey. "Beyond the River: the Benefits of Cooperation on International Rivers," *Water Policy*, 2002, pp. 389-403.

Punjab province in Pakistan that produces ninety percent of the country's food, groundwater caters for more than 40 percent of the total crop water requirements. The Punjab province of Pakistan shares a border with both Punjab (Indian state) and Rajasthan.

As far as the Indus Basin is concerned, it is the second most overstressed on the planet. Groundwater levels have fallen dismally in the above-mentioned states of India and moreover, short-sighted policies (such as free or subsidized power supply) have ensured that farmers continue to abstract groundwater, well beyond its recharge capacity. Pakistan too has developed the world's largest contiguous irrigation system to divert waters of the Indus Basin to its farms (especially after the IWT was signed) leading to depleted groundwater.<sup>54</sup> Excessive groundwater abstraction on either side of the border is bound to have serious repercussions for both the countries. A report of International Union for Conservation of Nature (Pakistan) brings out the disastrous impacts of current rates of groundwater abstraction in India – including depletion of aquifers in Pakistan's border regions. The report also pins the blame on India's projects, which according to it, could induce groundwater recharge in India, thereby restricting the surface water flow to Pakistan owing to seepage losses in lakes and reservoirs".<sup>55</sup>

Pakistan is a 'single bowl' country and its reliance on outside water assets is 76%. Its normal yearly precipitation is around 240 mm. The populace and economy are

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<sup>54</sup> Indus Basin Salinity Control, File No. DO 189/176, TNA, UK, 1961-1963, pp. 2.

<sup>55</sup> Bhutta, Muhammad Nawaz, and Lambert K. Smedema. "One Hundred Years of Waterlogging and Salinity Control In The Indus Valley, Pakistan: A Historical Review." *Irrigation and Drainage: The journal of the International Commission on Irrigation and Drainage*, 2007, pp. 89.

vigorously reliant on a yearly influx into the Indus stream framework. Pakistan is moving from water stressed to a water rare nation. The per capita water accessibility has tumbled from 5,600 cubic meters for each individual during the 1950s to 1066 cubic meters a couple of years ago. It is anticipated to hit 800 cubic meters every year by 2025. The future motives for water scarcity over hails industrial developments , environmental change to economic development, ice sheet dissolve, fluctuations in precipitation designs and a quickly rising populace that result in expanding ground water use and direct withdrawals from the waterways.<sup>56</sup>

## 6.5 Political Divergence

In most Asian trans-boundary waterways, water assignment settlements between the significant co-bowl nations have been hard to arrange. The IWT was uncommon as in the exchange procedure. In any case, it ought to be noticed that Asia was an alternate landmass 50 years prior and the World Bank, which went about as a facilitator to make this bargain conceivable<sup>57</sup> was held in exceptionally high regard in the Indian subcontinent around then. What's more, the political initiatives in the two India and Pakistan were edified and the pioneers of the two nations genuinely needed an answer. Similarly, the connections between the two nations were essentially progressively positive contrasted with what exists at present. Moreover, Black, the then World Bank president was eager to go out on a limb of conceivable disappointment in the exchanges, as opposed to the generally hazard disinclined Presidents who have tailed him. The "carrot" that the World Bank dangled before the two nations, comprised of noteworthy financing for activities in both, if they arrived

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<sup>56</sup> Ahmad, Azhar, "Indus Waters Treaty A Dispassionate Analysis," *Policy Perspectives*, 2011, pp. 21.

<sup>57</sup> Biswas, A.K, *Indus Water Treaty: the Arranging Procedure*. Water International, 2009, pp. 205.

at a commonly satisfactory understanding. This demonstrated to be a significant reasonable motivating force to facilitate the treaty. These were a portion of the uncommon conditions that added to the accomplishment of the concurrence on the IWT.<sup>58</sup>

The planning of the dealings was generally lucky. In the present circumstance, where the doubt between the two nations is high and the significance and regard of the World Bank in Pakistan and particularly India is essentially lower than during the 1950s, it is exceptionally impossible that such an accomplishment could now be copied. This can't be viewed as a positive improvement, since the prior collaboration understanding has been of gigantic monetary and social advantage to the two nations.

Pakistan and India are territorial hegemony because of their financial development, political strength and social essentialness. History demonstrates that the two nations have participated with one another in different issues. Anyway their comparable qualities and shared comprehension ought to be utilized to illuminate pressing issues, for example, land debates (explicitly in Kashmir), exchange, security and specifically clashing water assets and its impacts on their populace.<sup>59</sup> Throughout the years, political initiative has made endeavors to determine their disparities; anyway the issues still endure. The two nations have same social qualities this is maybe because of the way that they were under one Muslim guideline and had not yet been isolated by the succeeding British line. Be that as it may on 14 August 1947 in the wake of picking up autonomy from the British rulers, a recently settled Pakistan appeared. At

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<sup>58</sup> Indus Water, File No. DO 196/143, TNA, UK, 1960, pp. 4.

<sup>59</sup> "Kashmir Issue" *The News*, 20 November 1950, pp. 4.

first, it confronted numerous difficulties including transient pioneers from India, nourishment shortage, fringe and water related issues.<sup>60</sup>

With inadequate assets, Pakistan couldn't adapt to the scope of difficulties presented by both the new Indian pilgrims and the past British rulers as Radcliff line. Chronicled Issues Pakistan and India have a few issues which are should have been understood; some existed from the day of autonomy. India proposed to make this nation frail with the goal that Pakistan will rejoin India, yet Government and individuals of Pakistan were focused on the made Pakistan independent, so they could adapt all challenges. Religious issues, financial aspects issues, need assets, absence of convenience for vagrants, absence of structure for office work, absence of cash, frail armed force and issue in government structure. There were a few issues too which were inflexible in nature like, Kashmir issue, Water issue, Trade Issue and uncalled for dissemination of soldiers and resources (belonging). The domain of Pakistan was additionally isolated into two sections East Pakistan and West Pakistan (Now Bangladesh), there was no land interface, between these two sections. So Pakistan expected to utilize land and demeanor of India to arrive at other piece of the nation.<sup>61</sup> It was likewise a major issue of Pakistan that its territories were not coordinated topographically.<sup>62</sup>

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<sup>60</sup> India/Pakistan Political Relations: The Kashmir Dispute And Indus Water Treaty, File No. DO 196/140, TNA, UK, 1960, pp. 5.

<sup>61</sup> Akhtar, Shaheen. "Emerging Challenges to the Indus Waters Treaty." 2010, pp. 42.

<sup>62</sup> Water Treaty Implementation Cell To Government Of West Pakistan, File No. 134 B&BD-61, Punjab Archives, Lahore, 1962, pp. 31.

The fundamental wellspring of the Indus River is situated in China (Tibet), the headwaters of the bowl lie in India and the heft of the direction region falls in Pakistan. Questions about water among India and Pakistan over the Indus River bowl started with Indian partition in 1947. In the period 1947 to 1960 both sides India as well as Pakistan attempted to address their disparities through various momentary understandings however the debate couldn't be settled through two-sided arrangements hence worldwide intervention was awaited. In 1960, following nine years of dealings, the two sides marked the Indus Water Treaty.

Indus Water Treaty apparently resolved the water tussel and provided recommendations that will assist water cooperation between Pakistan and India in the future. The Pakistani media is brimming with reports guaranteeing India is infringing on their water supply however a nearby assessment of the realities uncovers that the debate over water is a lot of trouble about something that is not important and effectively avoidable. The India-Pakistan discussion over Indus is a lot of excitement about something seizing the geo-political diarchy of South Asia. It would be vastly improved for the two nations to welcome the one of a kind Indus condition they have made through a noteworthy settlement. Under the IWT, New Delhi has surrendered its case on three Eastern waterways - Jhelum, Chenab and Indus (all spilling out of Jammu and Kashmir to Pakistan). In return, it has dealt with three western waterways - Sutlej, Beas and Ravi. The arrangement counteracts the utilization of water generally possessed by the state. Marked on September 19, 1960, it was expedited by the World Bank. It included Australia, Canada, Germany, New Zealand, the United Kingdom and the United States who were supporters of Indus Basin Development

Fund Agreement.<sup>63</sup> Specialists feel that if the settlement is renounced, the Pakistani economy will be hit hard. It is accepted that if the progression of water from the Indus framework to Pakistan is decreased by even one percent, it could prompt the starvation of 14 lakh individuals who are subject to these waterways for inundating huge swathes of land.<sup>64</sup>

For India the benefits are far surpassed than one could imagine when the 'Canal dispute' emerged in 1948.<sup>65</sup> At first, Indian interest was an elite being exclusive right implied directly over water of the Sutlej river alone however as the negotiations continued, it requested aggregate preoccupation of three eastern international waterways<sup>66</sup> beginning from its region and furthermore asserted offer from three western international waterways of the Indus framework starting from the questioned domain of Jammu and Kashmir (J&K) though it consider the priority of Kashmir issue less grievous than the settlement of Indus Water.<sup>67</sup> Under the arrangements of the treaty, it anchored full opportunity to put to use, as an initial example, of all the waters of the three eastern waterways (The Ravi, Beas and Sutlej) that it was not

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<sup>63</sup> "The Indus Basin Development Fund Agreement." Report of Indus Basin Development fund, File No. ADM 137/11, TNA, UK, 1914, pp. 5.

<sup>64</sup> India: financial help towards irrigation plans: Indus Waters Scheme, File No. T 220.1076, TNA, UK, 1959, pp. 2 see also India: financial help towards irrigation plans: Indus Waters Scheme, File No. T 220.1077, TNA, UK, 1959, pp. 3, File No. T 220.1078, TNA, UK, 1959, pp. 2 and T 220.1079, TNA, UK, 1959, pp. 2.

<sup>65</sup> Dispute between Pakistan and India Over the Canal Waters in the Indus River Basin, File No. FO 371/106940, TNA, UK, 1953, pp. 2.

<sup>66</sup> Subramanian. Ashok. and Bridget Brown. Reaching across the waters: Facing the Risks of Cooperation in International Waters, The World Bank, 2012, pp. 45.

<sup>67</sup> Political Importance of Obtaining Settlement, File No. FO 371/144470, TNA, UK, 1959, pp. 3.



utilizing preceding the Partition of the Indian subcontinent.<sup>68</sup> One fifth of two out of the three eastern rivers were being utilized by India before Partition.<sup>69</sup>

As per treaty the accessibility of water to India not only increased but also multiplied many times as compared to the available water previously. India was allowed to built up the water courses of eastern waterways in any way considered fit to her prerequisites and was likewise permitted to develop under conditions determined in the treaty, frameworks for the production of hydro-electric power and furthermore significantly increment its inundated territories in the upper catchment zones of the three western streams (The Indus, Jhelum and Chenab) limited in questioned an area of Jammu and Kashmir under its control.<sup>70</sup>

Pakistan retained an appropriate amount of water from the Eastern streams, in order to facilitate Kharif crop in time, additional extra use had been produced on the Ganga and other eastern channels. An increase in irrigational land in India from the eastern waterways was expanded by around 700,000 acers of land from 3.84 to 4.54 million acres during years 1947-1954. Based on surplus water accessible due to rainstorm season i-e monsoon the Bhakra Canal was opened for activity in July 1954 from 1958 India began using the waters put away at the Bhakra Dam for water system with the flooded land expanding to 6.2 million acres of land by 1960. During

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<sup>68</sup> Indus Waters, International Bank Negotiations On Indus Waters, File No. DO 35/8590, TNA, UK, 1959, pp. 1.

<sup>69</sup> Pakistan and India dispute, File No. DO 121/222: Indus Basin dispute between India and Pakistan, TNA, UK, 1947, pp. 1.

<sup>70</sup> Kashmir, Previously Closed Extract, Now Reunited With Parent Piece, File No. DO 196/138, 1961-1962, pp. 1

years 1965 and 1966 the region inundated from the eastern waterways in India rose to 8 million acres.

As such, through works built somewhere in the range of 1948 and 1960, "as much new water system had been produced in the Indian part of the Indus bowl as in around 100 years preceding independence". By the end of 1954, steps were taken to evaluate the amount of utilizable water accessible for improvement in India under the bank's proposal.<sup>71</sup> As an initial step, it was important to circulate the provisions to be created between the Indian states, viz., Punjab, Rajasthan and Jammu and Kashmir. "This was necessary to bring home to the visiting bank and Pakistan groups [delegates] the need for and the importance we attached to, the full utilization in India of the waters of the eastern rivers". Expounding on the waterway, Arnold J. Toynbee<sup>72</sup> said in 1961:

—Within a few years from now, the western most and thirstiest fringe of Rajasthan, along the Indo-Pakistani border is going to be brought to life by the digging of what will be the longest irrigation canal in the world up to date.<sup>73</sup> Though the climate is torrid, the soil, here too is good. When the water reaches it, it will grow wheat, maize, oil plants, citrus fruit and even grapes. Two million people will live by agriculture in an area which at present maintains no more than 100,000 pastoralists..."

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<sup>71</sup> Indus Waters, Canal Waters Dispute, Political Aspects, File No. DO 35/8993, TNA, UK, 1959-1960, pp. 3.

<sup>72</sup> Arnold Joseph Toynbee (1889 -1975) was a British historian, philosopher of history, author of numerous books and research professor of international history at the London School of Economics and King's College in the University of London. Toynbee in the 1918–1950 period was a leading specialist on international affairs. He is best known for his 12-volume *A Study of History* (1934–1961). With his prodigious output of papers, articles, speeches and presentations, and numerous books translated into many languages, Toynbee was a widely read and discussed scholar in the 1940s and 1950s. However, by the 1960s his *magnum opus* had fallen out of favor among mainstream historians and his vast readership had faded, [https://www.age-of-the-sage.org/philosophy/history/toynbee\\_study\\_history.html](https://www.age-of-the-sage.org/philosophy/history/toynbee_study_history.html) retrieved on 6 October 2019.

<sup>73</sup> Planning Commission of Pakistan. Canal Water Pricing for Irrigation in Pakistan: Assessment, Issues, and Options, 2012, pp. 5.

After the treaty was marked in September 1960, the provisions accessible amid various times of the year, as at Ferozepore, for direct use by trenches or for the capacity at Bhakra and Pong are appeared in the accompanying table in contrast with the real use in India before Partition:

Table 6.2

*Water Supplies before and after Partition.*

Pre-Partition use	Oct.-Mar	Apr.-June	July-Sep	Annual
	2.7	2.3	03.0	08.0
Supplies available from April 1960	3.1	5.8	16.0	24.9
Supplies available during 2nd phase	3.1	6.3	19.9	27.3

Source:- Bhatia, Ramesh and R. P. S. Malik. "Bhakra Multipurpose Dam System, India." *Indirect Economic Impacts of Dams: Case Studies From India, Egypt and Brazil. Academic Foundation, New Delhi, 2008.*

With the fulfillment of the construction works of Mangla Dam,<sup>74</sup> however the dam started its working in Pakistan in November 1967, the Indian had the capacity to retain Rabi waters from Pakistan, notwithstanding those appeared, ostensible supplies amid Rabi 1967-68, 1.8 MAF amid Rabi 1968-69 and 2.0 MAF amid Rabi 1969-70 were made. With impact from 1 April 1970 when the Transition Period arrived at an end, India was qualified for utilize the whole stream of the eastern rivers. 25 Article 11(9) of the Treaty gives: Pakistan shall have no claim or right to release of water of eastern rivers by India after the fulfillment of the Transition Period.<sup>75</sup> In the event that there are any discharges, Pakistan will appreciate the use

<sup>74</sup> Saving telegram from Ukdal New York to Foreign Office, Special UN Fund for Economic Development, File No. FO 371/123777, TNA, UK, 1956, pp. 2

<sup>75</sup> Note on Conversation With Sir Kenelm Guinness, Negotiations for The Settlement of the Dispute, International Bank Negotiations on Indus Waters, File No. DO 35/8591, TNA, UK, 1960, pp. 1-4.

of the waters so released. Given that if Pakistan makes any utilization of these waters, Pakistan will not procure any privilege at all, by medicine or something else, to duration of such discharges or such use.<sup>76</sup>

India used each drop of these waters by building a system of dams and connected system of network canals on eastern waterways and furthermore on the Western streams purportedly in infringement to the IWT. It tends to be seen that from an aggregate pre-partition utilization of 8.0 MAF Indian withdrawals were expanded to 13.3 MAF in 1960-61, to 16.05 MAF in 1961-62 and to 27.3 MAF in 1968-69. On full advancement, after the Beas Project and a capacity framework on the Ravi have been constructed and the Rajasthan Canal finished the Indian withdrawals expanded to around 30 MAF. Indian around then took a few favorable circumstances anchored by the treaty and there was enormous potential for future improvement too.<sup>77</sup>

From the upper compasses of the Western waterways; the Indus, the Jhelum and the Chenab, India is qualified for create in its region, as far as Annexure C to the treaty, an "irrigated cropped zone" of around 700,000 acres of land well beyond that created as on 1 April 1960. Data was not promptly accessible about the degree to which water system use has been created from the western streams by India (in Jammu and Kashmir) after the completion of the treaty apparently such improvement has not been considerable. Aside from this, the treaty guarantees to India tremendous

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<sup>76</sup> Ahmad, Zahoor, et al. "Development of a Low-Power Smart Water Meter for Discharges in Indus Basin Irrigation Networks." *Wireless Sensor Networks for Developing Countries*. Springer, Berlin, Heidelberg, 2013, pp. 45.

<sup>77</sup> Kulkarni, Anil V., et al. "Beas Basin, Himachal Pradesh." *Current Science*, 2005, pp. 1844.

capability of hydro-electric power on the western waterways in the Kashmir region<sup>78</sup> under its control.<sup>79</sup> With the arrangements made in the treaty on the Chenab alone India has a capability of around 3,000,000 KW or more.<sup>80</sup>

As of late, broad hydro-electric advancement has been made on the Jhelum stream and India is endeavoring to abuse every single such potential on the Indus waterway as well. Notwithstanding the current dams and undertakings appeared in the beneath, there are reports that India intends to build 3-4 additional dams on waterway Jhelum and 16-17 on stream Chenab and furthermore various dams on River Indus. Abridging the dialog about advancements in India, Pakistani policymakers ought to concede that they had entered the transactions without doing appropriate home-work and that the Indians were a long ways in front of them. The reasonable verification is the means taken by the Indian government before the marking of the IWT in 1960. With regards to the marking of the treaty, India had effectively built up the redirection foundation on the Chenab, Ravi, Beas and Sutlej waterways and there-off to Rajisthan canal.<sup>81</sup>

Circumstance would have been most exceedingly bad for Pakistan whenever declined to sign the treaty. It was on the grounds that at the season of marking of the

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<sup>78</sup> Indo-Pakistan Relations, India/Pakistan Political Relations: The Kashmir Dispute and Indus Water Treaty, File No. DO 196/140, TNA, UK, 1962, pp. 1.

<sup>79</sup> Folder Title: India - Pakistan - Indus Waters Treaties - Generation of Hydro-electric Power by India on Westem, Rivers - Correspondence 01, Folder ID: 1787794, Dates: 8/1/1959 - 5/1/1960, World Bank, 1960, pp. 1.

<sup>80</sup> Sharma, Ameesh Kumar, and N. S. Thakur. "Resource Potential and Development of Small Hydro Power Projects in Jammu And Kashmir in the Westem Himalayan Region: India." *Renewable and Sustainable Energy Reviews*, 2015, pp. 1365.

<sup>81</sup> Iqbal, M. J., M. M. Anwar, and M. Mohsin. "Adopting Technical Actions for Sutlej River Revival: A Geographical Approach." *Sindh University Research Journal-SURJ (Science Series)*, 2015, pp. 45.

treaty in September 1960 India had picked up the bartering switch having limit of retention whole water supplies through the eastern rivers, rendering the blossoming fields of the Pakistani Punjab (West Punjab) to extreme dry seasons, or wrecking them by flooding as and when required. India has been misusing the last factor regularly even in the wake of marking of the IWT, particularly in lean periods and rainstorm seasons.<sup>82</sup>

This Indian position was for the East Punjab in 1948 might be well observed from a short examination of the circumstance. In spite of the fact that the proposals of the Indus (Rau) Commission had not been put into impact and the 1945 assention between the Chief Engineers of Punjab and Sindh had never been formalized, the pre-Partition Punjab would barely have been permitted to continue with the Bhakra Project without paying to Sindh probably a portion of the expenses of a couple of new blasts (at Gudu and Kotri-Hyderabad) on the lower Indus.<sup>83</sup> The Punjab before partition would have been liable to confinements on the span of Bhakra and on its activity impediments mirroring the necessities of Sindh as well as of the Sutlej Valley Project underneath Ferozepore. After Partition, East Punjab was soothed of such commitments. Moreover, since no extra supplies must be distributed to West Punjab or Bahawalpur,<sup>84</sup> the Bhakra Project could be upgraded one more time and Sutlej water assigned to new zones in Rajasthan (India). Michel composes: nor, in the Indian view, could Pakistan keep her from continuing with any of a progression

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<sup>82</sup> Indus Water Treaty, File No. DO 35/8595, TNA, UK, 1959-1960, pp. 5.

<sup>83</sup> Thatte, Chandrakant D. "Indus Waters And The 1960 Treaty Between India And Pakistan." *Management of Transboundary Rivers and Lakes*. Springer, Berlin, Heidelberg, 2008, pp. 201 see also "Hyderabad Thermal Water Project", *The Pakistan Times*, 20 September 1961, pp. 2.

<sup>84</sup> Waters Treaty implementation cell to chief Secretary, West Punjab, Punjab Archives, Lahore, File No. 194 B&BD-66, 10 March 1969, pp. 28,

of proposed plans to occupy Beas water into the Sutlej (above Bhakra), Ravi water into the Beas (at Madhopur), or Chenab water (by means of the proposed Marhu Tunnel) into the Ravi.<sup>85</sup>

There would, obviously, be no reason for continuing with the Wullar Lake conspiracy in Kashmir since a dam of any size would immerse more land (potentially including Srinagar) than could be instructed over the point where the Jhelum goes into –Azad Kashmir”. However ownership of the site was another method for threatening Pakistan, since a dam there could demolish the whole Triple Canals Project. Similarly, a dam built on the Chenab at Dhiangarh, north of Jammu, would empower India to retain water from Marala. It was to a great degree beneficial position as later summed up by one of the main Pakistani moderators of the IWT: "India held all the cards".<sup>86</sup> Almost certainly India holds every one of the cards. Till the time the Kashmir question isn't made plans as per the general inclination of the gatherings and the Jammu and Kashmir stays under Indian control, India can make outrageous security emergencies for Pakistan ordinarily more prominent than it made in 1948. Water weapon is more deadly than an atomic bomb as was seen by Lilienthal in 1951, in his article "Another Korea in Making". The settlement as the treaty gave Pakistan a security valve however arrangements identifying with determined uses by India in Jammu and Kashmir are not the slightest bit not exactly allowed by

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<sup>85</sup> Water Dispute, File No. DO 189/180: India/Pakistan/Kashmir Dispute: Chenab Waters, TNA, UK, 1963, pp. 2.

<sup>86</sup> Zawahri, Neda A. "India, Pakistan and Cooperation along The Indus River System." *Water Policy*, 2009, pp. 12.

International Law yet for Pakistan any further change in water supply is an issue of extraordinary insecurity.<sup>87</sup>

The treaty arrangements in Article III and Annexure C and D give India some predetermined rights to utilize waters of Western waterways. These arrangements identify with the territories in Jammu flooded by the Ranbia and Pratap immersion trenches off-taking from the Chenab stream above Marala and Jhelum waterway above Srinagar-Verinag and they even enable India to fabricate blasts, however not dams, to control water.<sup>88</sup> India can keep up consistent withdrawal for water system of those regions that were inundated on the viable date of the treaty (1 April 1960) and may even grow the flooded edited real estate (tallied twice whenever trimmed two times per year) by 70,000 sections of land in the Indus valley, 400,000 in the Jhelum Valley and 225,000 (of which not more than 100,000 in Jammu District) in the Chenab Valley, in addition to 6,000 sections of land from the Chenab yet outside its bowl.<sup>89</sup>

Indian has got what it needed with just two special cases:

- i) It needs to give up her case to the Chenab with its Mahru Tunnel<sup>90</sup> preoccupation probability and appropriately.

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<sup>87</sup>Akhter, Majed. "The Hydropolitical Cold War: The Indus Waters Treaty And State Formation In Pakistan." *Political Geography*, 2015, pp. 74.

<sup>88</sup> Mangla's Capacity Double than That of Warsak, Extracts from the Civil and Military Gazette, International Bank Negotiations on Indus Waters, File No. DO 35/8591, TNA, UK, 1960, pp. 1-4.

<sup>89</sup>Ali, Imran. *The Punjab Under Imperialism, 1885-1947*. Vol. 923. Princeton University Press, 2014, pp. 145.

<sup>90</sup> Torbela Dam, Torbela Dam: Problems of Silt, File No. DO 189/181, TNA, UK, 1963, pp. 2



- ii) It has backed off the Rajasthan Project until extra stockpiling on the Beas (at Pong) and Ravi (at Then) was accessible to Bhakra. In any case, this postponement and proceeded with provisions to Pakistan over a time of under five years, "was a little cost to pay for the three streams, particularly since her commitments to the connection channel was restricted to her benefits."<sup>91</sup>

The straightforwardness of Pakistani leaders in tolerating the bank plan and its execution was of the incredible benefits of the arrangement. When the progress time frame was finished, the two nations could go their different ways. The issue for the arbitrators was that neither India nor Pakistan needed an incorporated water system framework regardless of whether the World Bank could be convinced to loan a great part of the expense.

Pakistan did not need it since her whole experience from the partition holocaust to Kashmir and the channel terminations of April 1948, had demonstrated that it couldn't confide in India with its nurturing supply of water. India did not need it since it could proceed at extensively less expense to itself with the Bhakra-Beas-Rajasthan Project nor did Indians need to acknowledge segment as a last and changeless thing. Pakistani chiefs ought to have known about this Indian frame of mind however they would have been taking to India's statement that it would not meddle with the Chenab and Jhelum supplies. India, in the long run got the privileges of "indicated utilizes" of the Western waterways in the Himalayas Jammu and Kashmir.<sup>92</sup>

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<sup>91</sup> Khosla, Ajudhia Nath. "Development of the Indus River System: An Engineering Approach." *India Quarterly*, 1958, pp. 235.

<sup>92</sup> Sharma, Ameesh Kumar, and N. S. Thakur. "Assessing The Impact Of Small Hydropower Projects In Jammu And Kashmir: A Study From North-Western Himalayan Region Of India." *Renewable and Sustainable Energy Reviews*, 2017, pp. 680.

Clearly it would never be worthy to Pakistan. The main way out of the impasse for the bank was to separate it from the two essential issues, the plan of works vital for substitution and the expense of such a plan from its plan. Along these lines, Pakistan lost its liberated right of utilization of the three eastern global streams and India picked up a solid and genuine political apparatus under the IWT provision of "indicated utilizes" to scare Pakistan economically and by putting its national security at risk.<sup>93</sup>

## **6.6 Gains versus Losses for Pakistan**

The material advantages radiating from the treaty for Pakistan have not been genuine and incredible as envisioned and featured by the World Bank's specialists. In spite of the fact that treaty has guaranteed to Pakistan the unlimited utilization of three out of six global waterways at the same time notwithstanding three eastern streams given to India the arrangements for 'indicated employments' of Western waterways by India wound up consistent migraine for Pakistan. The world's most noteworthy arrangement of water driven works in Pakistan "the most terrific at any point brought about by man" has been losing its ability step by step and now nearly has lost its implications and adequacy because of colossal siltation in the dams lessening their capacity. As of now the nation needs to save the greater part its gross national products in outside obligation overhauling, generally from global credits required to build up the water stockpiling and water system plans created under IWT.<sup>94</sup>

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<sup>93</sup> Utilization of Fund, File No. PREM 11/4305, India Waters Dispute: Funding Agreement, TNA, UK, 1957-1963, pp. 2.

<sup>94</sup> Mehta, Jagat S. "The Indus Water Treaty: A Case Study in the Resolution of an International River Basin Conflict," *Natural Resources Forum*, Oxford, UK: Blackwell Publishing Ltd, 1988, pp. 231.

Besides, the privilege of determined uses on Western waterways to India and regularly expanding issue of water-logging and salinity because of enormous framework for the preoccupation of waters from characteristic courses in Pakistan (the connections channels framework), one accepted and the other de juro has been comparable to protecting Pakistan from turning into a desert to placing it into boiling waters. Pakistan has fundamentally endured three losses:<sup>95</sup>

1. It lost everlastingly three out of its six waterways.
2. By redirecting water from common courses, the colossal issue of water-logging and salinity was irritated to past the degree of controls the most recent innovation can offer.
3. By giving 'indicated privileges' of utilizing waters of Western waterways to India under the treaty, Pakistan itself has designed an interminable issue producing component.

Ben Crow et al state in their book,<sup>96</sup> described that the marking of the IWT eclipsed the Ganges issue. The choice to proceed with the Ganges venture got a lift after the takeoff of the British from India and the partition of the lower Ganges delta into severe political opponent as Indian West Bengal and East Bengal (previous East Pakistan).<sup>97</sup> The principle powers at work campaigning for the barrage venture were business and mechanical interests in West Bengal who saw it a specialized panacea for the political and monetary decay of the state. The order of occasions in its development mirrors the idea of the powers that guided this determination. In spite of the fact that the undertaking was in the psyche of the Indian Government from right off the bat, yet the choice to proceed with it was reported just in 1960 and Pakistan

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<sup>95</sup> –Machinery for Anti Salinity”, *India News*, 20 September 1961, pp. 1.

<sup>96</sup> Crow, Ben, and Nirvikar Singh. "Impediments and Innovation in International Rivers: The Waters Of South Asia." *World Development*, 2000, pp. 1921.

<sup>97</sup> Commander of Desert Rangers, Bahawalpur to Director General, West Pakistan Rangers, File No. 153 B&BD-63, Punjab Archives, Lahore, 1962, pp. 2.

was well awarded on 1961. The administration of West Bengal applied steady weights to anchor focal government's help to speed up usage of the blast. Prior to resolving of Indus assertion, in a letter dated 12 March 1960, Prime Minister Jawaharlal Nehru wrote to Roy the Chief Minister of west Bengal: "I can guarantee you that we are on edge to precede with the plan (Farakka barrage)".<sup>98</sup>

Truth be told, work to that end was being done in different ways. It was felt that there wasn't any open declaration about work for a few months while the trench water (Indus Waters) exchanges were going on. It took month to finish the work. Be that as it may, this never meant any postponement and this task is unquestionably being incorporated into our plans (accentuation in original). "

The Indian government turned to a technique of dawdling, holding fast to the situation of total regional sway over the Ganges waters. It sidestepped abnormal state dialogs guaranteed by the Nehru-Ayub Khan assention. The Pakistani government's reaction to the Farakka venture, then again was deciphered as a reaction in five phases: (I) participation, (ii) specialized trades, (iii) strain to hold high-level talks, (iv) endeavors to include outsiders and (v) danger of retaliation. This was when Nepal additionally tried to re-consult with India the concurrences on the Kosi and the Gandak ventures,<sup>99</sup> upstream tributaries of the Ganges waterway. India calls attention to that sharing the Ganges misses this more extensive component of the area's

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<sup>98</sup> Farakka Barrage and other Irrigation Projects, File No.FCO 37/249, TNA, UK, 1968, pp. 5.

<sup>99</sup> Untawale, Mukund G. "The Political Dynamics of Functional Collaboration: Indo-Nepalese River Projects." *Asian Survey*, 1974, pp. 712.

universal legislative issues and its significance to the Farakka issue.<sup>100</sup> Farakka Barrage in light of the fact that there is no logical reason or legitimacy to such a superfluous endeavor (accentuation in original).<sup>101</sup>

Despite the fact that the creators were quiet whether there was any exchange off made by Pakistan on Ganges issue yet the administration and the general population of East Pakistan was of the view that "exchange offs were made" amid the arrangements on the Indus waters issue. This factor positively assumed a huge job in broadening the political gap among East and West Pakistan as the previous battled and picked up autonomy in 1972.<sup>102</sup>

The unpredictability and entwined nature of the Indus streams question together with all water-related issues in South Asia are infrequently featured by specialized professionals. The water asset transactions in South Asia have been alluding to the appraisal of complex regular procedures and assessing the result of the expansive scale building adventures. One of the reactions which could be continued was that the specialized equivocalness was unequivocally used to offer authenticity to a political conviction. "It was initially structured as a political apparatus to show

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<sup>100</sup> A new Indo-Pakistani Dispute, Farakka Barrage Irrigation Project: India-Pakistan Co-Operation, File No. DO 189/174, TNA, UK, 1960-1962, pp. 15.

<sup>101</sup> Position of Farakka Barrage, India, File No. FCO 18/253, TNA, UK, 1977, pp. 2.

<sup>102</sup> Political Outcry in West Bengal at Prospect of Concessions by India in Ganges Water Dispute, Relations between Bangladesh and India: Ganges Waters Dispute, File No. FCO 37/1861, 1977, pp. 5.

Pakistan a lesson", however it additionally filled in as impetus for broadening the inlet among East and West Pakistan.<sup>103</sup>

The IWT clearly lays out the rules for the use of surface water (including arbitration procedures in the event of differences or disputes), but when it comes to groundwater management and governance, there is a big policy vacuum. Although the issue has been brought up in various discussions involving policy and scientific communities of the two countries, no joint strategy has so far been adopted. Similarly, the treaty tends to disregard environmental and climatic factors, whose impacts on the Indus Basin are unraveling gradually.<sup>104</sup>

The list of challenges is long –a declining reservoir storage due to sedimentation; water logging and salinity,<sup>105</sup> loss of productive agricultural land, land degradation, contamination of surface and groundwater resources; an increase in environmental flows to sustain ecosystems within the rivers and the Indus delta, but also to prevent further salt water intrusion in the delta.” The IWT should account for various such environmental factors that could potentially affect water availability in India and Pakistan, considering the per capita availability is on a steep decline in both the countries. This becomes all the more important for Pakistan as the country is entirely dependent on the surface and ground waters of the Indus Basin for its survival. For

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<sup>103</sup> Kiernan, Victor. *The separation of India and Pakistan*. Cambridge: Cambridge University Press, 1995, pp. 201.

<sup>104</sup> Hussain, Yawar, et al. "Modelling the Spatial Distribution of Arsenic In Water And Its Correlation With Public Health, Central Indus Basin, Pakistan." *Journal of Geoscience and Environment Protection*, 2016, pp. 20.

<sup>105</sup> –Salinity Study” *Manchester Guardian*, 18 September 1961, pp. 8.

India too, waters of the Indus Basin have a key role to play in ensuring the country's food security, as they feed the most critical agricultural region of India.

### **6.7 A Fresh Look on Indus Water Treaty**

All in all is the IWT still applicable and feasible against the background of advancements in worldwide water law? Indeed, to a limited extent, yet it requires certain modifications and addenda to react to changed substances. An unbiased water expert, proclaimed the IWT "the effective document"<sup>106</sup> since it has successfully continued discourse among India and Pakistan on water issues; just two one-sided undertakings host been alluded to third gatherings for goals in over a long time since its reception. The treaty was arranged and finished up during a time of strain among India and Pakistan. The individuals who drafted the treaty went for consistency and lawful conviction in its drafting, to guarantee sound usage. The treaty contains clear language and wording on how and to what degree India and Pakistan might be permitted to use the waters of the Indus arrangement of streams.<sup>107</sup>

The treaty likewise gives an unmistakable sign of the rights and commitments of both Pakistan and India. However, when giving his master assurance on the Baglihar case, it was suggested that "these rights and commitments ought to be perused in the light of new specialized standards and new gauges as accommodated by the treaty" The prime rationale behind the IWT is given as the longing to accomplish the most complete and good use of the waters of the Indus arrangement of streamsfixing and

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<sup>106</sup> Salman, Salman. "The Baglihar Difference and Its Resolution Process-A Triumph For The Indus Waters Treaty". *Water Policy*, 2008, pp. 115.

<sup>107</sup> Wolf, Aaron T. "Water Wars" and Water Reality: Conflict and Cooperation along International Waterways." *Environmental Change, Adaptation and Security*. Springer, Dordrecht, 1999, pp. 125.

delimiting, in a soul of generosity and kinship, the rights and commitments of each in connection to the next concerning the utilization of these waters and of making arrangement for the settlement in a helpful soul of every such question as may in the future emerge with respect to the translation or use of the arrangements settled upon in this as described in the preface of IWT.

However, the IWT isn't a water-sharing bargain which could encourage the "evenhanded and sensible use" of water as imagined by the UNWC's<sup>108</sup> Articles 5 and 6.<sup>109</sup> As clarified before, environmental change, with its resultant vulnerability and capriciousness isn't figured into the settlement's prescriptive arrangements for the portion of waters, which are set in fixed amounts. The portion of India from western waterways has been fixed at 3.6MAF, in spite of wide variances in precipitation and overflow. This issue takes steps to be irritated by expanding ice sheet soften in the Himalayas since brisk icy dissolve brings about decrease of continued water supply over longer periods.<sup>110</sup> A conspicuous inadequacy of the IWT, contrasted with the UNWC and in perspective on ongoing advancements in worldwide water law is in the territory of ecological security, protection and the board. Since the selection of the IWT, a lot of work has been embraced on reasonable waterway advancement. The IWT treats this perspective carelessly, giving just that "each gathering announces its goal to counteract, similar to practicable, undue contamination".

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<sup>108</sup> The UNWC is a global treaty adopted by the UN General Assembly in 1997. The User's Guide and this accompanying website were designed to give the tools and information to make the Convention and its role more widely known, in the hopes of a swift entry into force of the UNWC. Rogers, Peter, and Alan W. Hall. *Effective Water Governance*. Vol. 7. Stockholm: Global water partnership, 2003, pp. 216.

<sup>109</sup> Africa, UNWC Southem. "UNWC's Global Relevance." *UN Watercourses Convention*. 2015, pp. 14.

<sup>110</sup> Solomon, Susan. "IPCC: Climate Change The Physical Science Basis." *AGU Fall Meeting Abstracts*, 2007, pp. 215.



Interestingly, the UNWC gives far reaching treatment to the assurance and introduction of global waterways and related environments.<sup>111</sup>

However, the IWT has various qualities. It incorporates numerous arrangements which would be difficult to arrange and concur upon today, for instance the no-harm postulate (Article IV), outsider discretion (Article IX; Annexure F and G) and endorsement of a revision being required for change or end of the settlement (Article XII).<sup>112</sup> Additionally, all through the arrangement, common understanding and accord building have been stressed, establishing frameworks for the serene conjunction of the riparian states. The IWT offers various roads for participation and common advantage chasing, particularly in setting its targets anticipating future collaboration. In this it foresees the ongoing acknowledgment that "as a rule including the use of trans-boundary waters or ecological commitments for the most part, rebelliousness isn't the aftereffect of a willful demonstration yet an outcome of uncertain arrangement arrangements or, all the more frequently, of the absence of limit and assets to appropriately actualize it".<sup>113</sup>

The future collaboration as mentioned in the treaty gave birth to the master assurance in the Baglihar case India has been permitted to store water for dregs flushing in its hydro-electric ventures. With regular varieties in stream streams this would greatly

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<sup>111</sup> Nabeel, Fazilda. "Transboundary Water Resource Management—Indus Basin and Beyond," *Water Conference 2013: Water Cooperation in Action-From the Global To Grassroots*, 2013, pp. 145.

<sup>112</sup> "Indus Water Treaty", *Civil and Military Gazette*, 11 September 1961, pp. 1.

<sup>113</sup> Interview with Mr. Nadeem Anjum, Pakistan Council of Research in Water Resources (PCRWR), Lahore 13 June 2017 see also Interview with Mr. Munir Ahmad, in Water Resources Development, Agriculture and Dam Engineering Sector, Islamabad, 22 March 2018 Interview with Mr. Zain Ahmad, Ministry of Water Resources, Islamabad, 22 March 2018 and Interview with Mr. Wasim Ahmad (PCRWR), Lahore, 13 June 2017.

affect the accessibility of water for harvests in Pakistan. Through a common getting, India and Pakistan must concede to a time allotment for the capacity and arrival of water with the goal that the accessibility of water for water system and vitality age stays ideal through commonly arranged exchange offs. The two nations being profoundly defenseless against environmental change ought to build up a joint adjustment methodology to balance the effects of surplus and insufficient water supplies.<sup>114</sup> Related to improved consistency through environmental change inquire about, the two nations ought to concede to an equation which diminishes the expense of keeping up water-stockpiling structures and permits the each riparian to utilize the other's surplus water with common assent. Keep up that: Ecological use, as an uncommon kind of water "use" is steadily being perceived in global law as having a specific need over different requests on water.<sup>115</sup>

The support of a base stream ensures the biological and physical uprightness of a global water asset. This isn't inconsistent with and is dependent upon the essential worldwide water law guideline of "impartial and sensible usage". Ecological stream necessities ought to in this way be calculated into any sharing plan among India and Pakistan for the Indus. This would require a few changes in the obvious equation of distributing the Eastern Waterways to India and the Western treams to Pakistan, which has rendered the Ravi a running sewer and the Sutlej a veritable "waterway of sand" in their Pakistan extends. With fast populace development and growing

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<sup>114</sup> Tariq, Muhammad Atiq Ur Rehman, and Nick Van de Giesen. "Floods and Flood Management in Pakistan." *Physics and Chemistry of the Earth, Parts A/B/C* 47, 2012, pp. 15.

<sup>115</sup> Vivekanandan, J., & Nair, S, Climate Change And Water: Examining The Interlink Ages. In D. Michel, & A. Pandya (Eds.), *Troubled Waters: Climate Change, Hydro Politics, and Transboundary Resources*, Washington, DC: Stimson, 2009, pp. 5.

industrialization, the two nations need water for water system and vitality age.<sup>116</sup> Subsequently, the two nations have broad designs for the two employments. Joint water advancement for vitality age is a reasonable choice, gave that the two nations make an environment of trust past the populist media craze.<sup>117</sup>

Article VII(1)(c) of the IWT as of now gives that "in line with either party, the two parties may, by shared understanding, co-work in embraced building takes a shot at the Rivers". The kind of joint activity that could accomplish reasonable advancement inside the two nations needs just political will. So as to understand the above proposals, the two nations should begin building certainty through Track II strategy, making ready for a properly endorsed arrangement revising the IWT. Simultaneously, the two India and Pakistan should begin talking about the probability of agreeing to the UNWC with the goal that a more extensive system is accessible to the two nations for settling their trans-boundary water issues.<sup>118</sup>

The IWT is additionally quiet about trans-boundary ecological effect appraisal, as presented by Principle 21 of the Stockholm Declaration (1972) and officially classified by the UNECE Convention on Environmental Impact Assessment in a Transboundary Context 1991.<sup>119</sup> As referenced over, this apparatus has been figured

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<sup>116</sup> Lu, Yong-Jun, et al. "Back Silting and Regulation of Waterway with Sand Bar In Strong Tidal Estuary." *Shuili Xuebao(Journal of Hydraulic Engineering)* 2005, pp. 1450.

<sup>117</sup> Khan, Attaullah, et al. "Mapping And Measuring of Multidimensional Poverty in Pakistan: Empirical Investigations." *Pakistan Journal of Life and Social Sciences*, 2011, pp. 125.

<sup>118</sup> Ingram, Helen M., and Joachim Blatter, *Reflections on Water: New Approaches to Transboundary Conflicts and Cooperation*. MIT Press, 2001, pp. 85.

<sup>119</sup> Schrage, Wiecher, "The Convention On Environmental Impact Assessment In A Transboundary Context." *Theory and Practice of Transboundary Environmental Impact Assessment*. Brill Nijhoff, 2008, pp. 27-51.

into the use of the IWT in an ongoing case (the Kishenganga instance of the PCA). As remarked by McIntyre on the ICJ judgment in Pulp Mills, "EIA is a fundamental prerequisite of standard global law in regard of tasks or exercises possibly having Transboundary impacts".<sup>120</sup>

From this investigation of the qualities and shortcomings of the IWT in connection to the UNWC, it gives the idea that the arrangement should be altered to represent rising needs and to advance agreeable water the executives between the two nations, for which the bargain itself gives direction under Article XII(3). While the UNWC, as noted above gives a sound premise to such movement extra viewpoints should likewise be considered. Joint research on this viewpoint can in actuality prepare for better comprehension of the UNWC inside and among the two nations.

India and Pakistan kept away from democratic when the UNWC was embraced, each for its own particular reasons.<sup>121</sup> Article 3(1) of the UNWC gives that "gatherings to watercourse under standings may consider blending such concurrences with the essential standards of the present convention".<sup>122</sup> This makes a road for India and Pakistan to reconsider the IWT in light of the UNWC, particularly if both bowl states agree to the show. In structure upon the arrangements under Article VII of the IWT, the two nations ought to embrace joint research in the zones of environmental change, hydrogeology, glaciology and geo informatics. This ought to

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<sup>120</sup> Handl, Günther. "Transboundary Impacts." *The Oxford Handbook of International Environmental Law*, 2007, pp. 125.

<sup>121</sup> Khalidi, Walid. "Revisiting the UNGA Partition Resolution." *Journal of Palestine Studies*, 1997, pp. 17.

<sup>122</sup> McCaffrey, Stephen C. "The Progressive Development of International Water Law." *The UN Watercourses Convention in Force*. Routledge, 2013, pp. 15.

likewise be expanded through GIS-based information gathering and data sharing frameworks. The command of the PIC (Article VIII) ought to be additionally extended to oblige such capacities.

## **6.8 Climate Change and Water Supply**

Developing water issues in the two nations combined with approaching climatic dangers to the Indus bowl framework and change in statistic, hydrological, political, monetary and vitality condition is putting the Indus water system made in 1960 under huge strain. Pakistan as a lower riparian is forced to bear the change, which has brought alerts up in the water uncertain Islamabad. Being a lower riparian, Pakistan is looked with a situation regarding how to reinterpret the IWT that guarantees its water security in the coming a very long time without trading off its water rights under the arrangement.<sup>123</sup>

Industrial pollution massive deforestation and global warming are alarming threats to Indus Basin equally affecting agricultural production as well. There are likewise worries that the Indus River might move its course westwards despite the fact that the movement traverses hundreds of years.<sup>124</sup> On various events, silt obstructing inferable from poor support of trenches has influenced horticultural generation and vegetation. Moreover, extraordinary warmth has made water vanish, leaving salt

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<sup>123</sup> Interview with Mr. Azam Khan, Water Resources Development, Agriculture and Dam Engineering Sector, Islamabad, 22 March 2018 see also Interview with Mr, Ayub Ahmad, Ministry of Water Resources, Government of Pakistan, Islamabad, 22 March 2018.

<sup>124</sup> Arijumend, Hasrat, "New Challenges Of Trans-boundary Water Conflicts And Climate Change For Governance Of Indus River Basin," 2009, pp. 35.

stores that render lands futile for development.<sup>125</sup> Throughout the years production lines on the banks of the various waterways have expanded degrees of water contamination of streams. Another period of dam building carries vulnerability to the 50-year-old water détente among India and Pakistan.<sup>126</sup>

Himalayas, being significant wellspring of waters in IRB are seen as a storage facility of hydro control.<sup>127</sup> Be that as it may, the power and way wherein ventures are being worked over the scene, directly from the lower to center and higher Himalayas have bothered the biological systems. Numerous activities have made the tributaries and waterways non-practical decimating the water systems and changing neighborhood atmosphere profiles. Beam et al. have discovered that 80% of 35 such tasks in North-Western Himalayas have supplies or capacity part.<sup>128</sup> The stores prompt anaerobic disintegration of biomass in this way creating methane gas which remains longer in nature and traps heat and has a Global Warming Potential of multiple times more than CO<sub>2</sub>.<sup>129</sup>

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<sup>125</sup> Gleick, Peter H. "Climate Change And International Politics: Problems Facing Developing Countries." *Ambio*, 1989, pp. 335.

<sup>126</sup> Walton, John, et al. "Response of the Rio Grande and Shallow Ground Water in the Mesilla Bolson To Irrigation, Climate Stress, and Pumping." *Environmental & Engineering Geoscience*, 1999, pp. 45.

<sup>127</sup> Arijumend, Mr Hasrat. "Environmental and Social Impacts of Hydro-Electric Dams In Chamba District Of Himachal Pradesh," *Geography of Change*, 2013, pp. 85.

<sup>128</sup> Mora, Camilo, et al. "The Projected Timing of Climate Departure from Recent Variability," *Nature*, 2013, pp. 183.

<sup>129</sup> The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO<sub>2</sub>) see also Dai, Baomin, et al. "Thermodynamic Performance Assessment Of Carbon Dioxide Blends With Low-Global Warming Potential (GWP) Working Fluids For A Heat Pump Water Heater." *International Journal of Refrigeration*, 2015, pp. 10.

Gathering of natural issue in the waterways, combined with expanding normal temperatures, has risen the per unit discharges of ozone depleting substances (GHGs).<sup>130</sup> With closeness to the frigid condition, the weakness builds complex as there is quicker softening making conditions and exhausting ice stock influencing the stream in the lean time frames. Both the nations have to a great extent changed conditions, where dam and power undertakings have been manufactured. The submergence zones have altogether adjusted the neighborhood geology and meteorology.<sup>131</sup> Urbanization over mountains is additionally affecting neighborhood atmosphere systems. Environmental change might be a worldwide reason, yet effects of nearby improvement are progressively proximate having the effects of environmental change amazingly hard to recoup from, especially in bared zones brought about by past procedures of wrong advancement and disregard.<sup>132</sup>

Changing atmosphere worldwide and its impact on mountain snow-tops and icy masses have been applying new arrangement of difficulties to the administration and establishments dealing with the waters of IRB. IRB is one of the areas on the planet that is looked with significant difficulties for its water division, because of populace development, fast urbanization and industrialization, ecological debasement, unregulated use of the assets, wasteful water use and neediness, all irritated by

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<sup>130</sup> A greenhouse gas (sometimes abbreviated GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range. Greenhouse gases cause the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone see also Brander, Matthew, and G. Davis. "Greenhouse Gases, CO<sub>2</sub>, CO<sub>2</sub>e, And Carbon: What Do All These Terms Mean." *Econometrica, White Papers*, 2012, pp. 15.

<sup>131</sup> Abakay, Abdurrahman, et al. "High-risk Mesothelioma Relation to Meteorological and Geological Condition and Distance from Naturally Occurring Asbestos." *Environmental Health and Preventive Medicine*, 2016, pp. 82.

<sup>132</sup> Hancock, Gregory S., Robert S. Anderson, and Kelin X. Whipple. "Beyond Power: Bedrock River Incision Process and form." *Geophysical Monograph-American Geophysical Union*, 1998, pp. 60.

environmental change. Clashing conduct of ice sheets, for example, withdrawing, progressing and in any event, flooding, inside little separations presents enormous test for hydrogeology and water systems. Frosty vacillations and changes in precipitation examples are required to adjust the hydrology of the stream bowl, henceforth imperiling hydropower age and farming generation and thusly modifying individuals' vocations. Himalayan frosty framework contains 116,180 km<sup>2</sup> of ice, the biggest territory outside the Polar Regions. These icy masses feed five percent to forty five percent of ten of the greatest streams in Asia including Indus. Himalayan icy masses give the Indus eighty percent of its water.<sup>133</sup>

These bowls all in all give water to about 1.3 billion individuals.<sup>134</sup> As indicated by the fourth appraisal investigation of Intergovernmental Panel on Climate Change (IPCC),<sup>135</sup> the Himalayan ice sheets are liquefying at a quicker pace since late 1970s. The Space Application Center (Department of Space, Government of India) in a joint effort with Ministry of Environment and Forests, Government of India (MoEF) completed in May 2011 an investigation on ice sheets, which demonstrate that very nearly 75 percent of the ice sheets have demonstrated a retreat.<sup>136</sup> Environmental change will influence the transient and spatial accessibility of water assets; be that as it may, the impacts in the Indus bowl stay unsure. Upstream day off ice stores of the

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<sup>133</sup> Qureshi, N. A., and Z. Ali. "Climate Change, Biodiversity Pakistan's Scenario." *J. Anim. Plant Sci* 21.2 Suppl, 2011, pp. 360.

<sup>134</sup> Jenvald, Johan, et al. "Simulation As Decision Support In Pandemic Influenza Preparedness And Response." *Proceedings ISCRAM, 2007*, pp. 300.

<sup>135</sup> Nakicenovic, Nebojsa, and Rob Swart. "Emissions Scenarios. Special Report of the Intergovernmental Panel on Climate Change," 2000, pp. 215.

<sup>136</sup> Nazeer, Adeel, Shabeer Ahmed Abbasi, and Sarfraz Hussain Solangi. "Sedimentary Facies Interpretation Of Gamma Ray (GR) Log As Basic Well Logs In Central And Lower Indus Basin Of Pakistan." *Geodesy and Geodynamics*, 2016, pp. 433.



Indus bowl significant in supporting regular water accessibility are probably going to be influenced considerably by environmental change yet to what degree is yet misty. Ice sheets in the Karakoram locale are for the most part stagnating. In any case, ice sheets in the Western, Central and eastern Himalaya are withdrawing.<sup>137</sup> This burdens the vulnerability in future water accessibility for the Indus bowl.<sup>138</sup>

Proof from an ongoing snowfall study show diminished snowfall over western Himalayas. However, another examination closed a diminishing pattern of snowfall over all the mountain ranges with various extents. Precipitation may likewise increment in force with all the more falling over a shorter time bringing about a higher frequency and power of floods in the waterway bowls. Higher force precipitation will likewise expand extent of overflow and lessen groundwater energize. The high level of intra-yearly precipitation fluctuation brought about by environmental change in IRB will incite water shortage influencing roughly 1.3 billion individuals living in waterway bowls having their birthplaces in the Himalayas. A diminishing pattern of yearly precipitation (-29.7 to -2.1 cm/100 years) has been seen at Shimla.<sup>139</sup> In any case, the rainstorm precipitation in all of northern bumpy India (basically Western Himalayas and some piece of Pir Panjal) has declined by just about 10 percent somewhere in the range of 1844 and 2006. In this way the environmental change will without a doubt fuel the issues of unpredictable

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<sup>137</sup> Husson, Laurent, et al. "Kinematics and Sedimentary Balance of The Sub-Himalayan Zone, Western Nepal." 2004, pp. 120.

<sup>138</sup> Laghari, A. N., Davy Vanham, and Wolfgang Rauch. "The Indus Basin in the Framework of Current and Future Water Resources Management." *Hydrology and Earth System Sciences*, 2012, pp. 1063.

<sup>139</sup> Borgaonkar, H. P., G. B. Pant, and K. Rupa Kumar. "Dendroclimatic Reconstruction of Summer Precipitation at Srinagar, Kashmir, India, Since The Late-Eighteenth Century." *The Holocene*, 1994, pp. 300.

and low stream in Indus and its tributaries. As the Indus bowl is as of now experiencing serious water shortage because of overexploitation for agribusiness, causing salt water interruption in the delta,<sup>140</sup> the changing atmospheres would apply new arrangement of difficulties to the administration and organizations dealing with the waters of IRB. Furthermore, the new issues have begun raising difficulties to the IWT and trans-boundary administration organizations.<sup>141</sup> Consequently, forming a versatile administration structure that is receptive to the possibilities of time and circumstance requires noteworthy takeoffs from regular methods of administration.<sup>142</sup>

A dangerous atmospheric deviation causes environmental change, which is a major issue for the whole world. It is a genuine danger to the third world as its effects won't be felt similarly over our planet. Creating nations including Pakistan are significantly more powerless against the effects of environmental change. The softening pace of ice sheets in South Asia has expanded, which may cause floods in Pakistan and encompassing nations in the coming years. Pakistan economy has confronted noteworthy misfortunes because of natural harms and debasements. Pakistan is among the ten nations on the globe encountering continuous and extraordinary environmental change occasions, for example, floods, dry seasons, typhoons,

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<sup>140</sup> Wri. Iucn. –UNEP(1992) Global Biodiversity Strategy.” *Guidelines for Action to Save, Study and Use Earths Biotic Wealth Sustainably and Equitably. Ohne Ort*, 2003, pp. 32.

<sup>141</sup> Hill, Douglas P. "Trans-Boundary Water Resources and Uneven Development: Crisis Within and Beyond Contemporary India." *South Asia: Journal of South Asian Studies*, 2013, pp. 250.

<sup>142</sup> Interview with Mr. Fazal Elahi, Punjab Irrigation Department, Lahore, 13 June 2017 see also Interview with Mr. Karam Din, Punjab Irrigation department, Lahore, 13 June 2017 and Interview with Khursheed Ahmad, Punjab Irrigation Department Lahore, 3 August 2017.

overwhelming downpours, amazingly high temperatures and so on.<sup>143</sup> The normal worldwide temperature has expanded because of expanding convergences of carbon dioxide and other ozone depleting substances in the environment for last numerous years. During the only remaining century, it expanded by 0.6 ° c and is probably going to increment further by 1.0°c to 4.0°c till the finish of the present century.<sup>144</sup> The latest extraordinary atmosphere occasions seen by Pakistan are floods hitting different pieces of the nation during the rainstorm season. Pakistan has encountered flooding pretty much consistently, which made tremendous harms life and property. The water security of the nation is additionally undermined by the environmental change. The expanding temperatures in the northern piles of the nation were probably going to bring about icy mass liquefying, consequently influencing the progressions of Indus River System.<sup>145</sup>

Climate change is another issue that both the countries need to incorporate in bilateral discussions for long-term water security and stability in the region.<sup>146</sup> The Indus River System is said to have maximum dependence (151 percent) on glacial melt water.<sup>147</sup> Although in the short-term, increased temperatures and glacial retreat in the Himalayas could result in increased water availability in the long run water

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<sup>143</sup> Reid, Hannah. *Climate Change and Human Development*. Zed Books Ltd., 2014, pp. 125

<sup>144</sup> Schlesinger, Michael E., and John FB Mitchell. "Climate Model Simulations of the Equilibrium Climatic Response to Increased Carbon Dioxide." *Reviews of Geophysics*, 1987, pp. 760.

<sup>145</sup> Hirabayashi, Yukiko, et al, "Global Flood Risk under Climate Change," *Nature Climate Change*, 2013, pp. 816.

<sup>146</sup> Gupta, Joydeep. "India Suspends Indus Commissioners' Meetings." *India Climate Dialogue*, 2016, pp. 25.

<sup>147</sup> Bliss, Andrew, Regine Hock, and Valentina Radić. "Global Response of Glacier Runoff to Twenty-First Century Climate Change." *Journal of Geophysical Research: Earth Surface*, 2014, pp. 720.

availability (and groundwater recharge) is expected to decrease dramatically especially in the spring and summer seasons.<sup>148</sup> A reduction in water availability could even raise political and socio-economic demands for renegotiating or reviewing the IWT. The Indian government has been facing flak over the current distribution of waters with the state governments of Jammu and Kashmir, Punjab and others lying in the Indus Basin alleging that the treaty was signed without an assessment of the future availability of water in the Indus system. In certain instances, even compensation for the agricultural losses incurred on account of the treaty has been sought. These issues were not addressed, envisaged or understood when the IWT was brokered, but better late than never.<sup>149</sup>

Despite previous and ongoing tussles over India's dam projects, the IWT has been hailed as the biggest and most successful confidence-building measure between the two countries. India has maintained that even when the two countries were at war, it has abided by the principles of the treaty (as the upper riparian) and provided the rightful supply of water (43 million acre feet every day) to the other side of the border. Pakistan, too has sought to settle disputes over "faulty designs" of Indian dams through legal means either bilaterally or by moving the ICA or a third party. It is a different matter that certain elements within Pakistan Army have sporadically

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<sup>148</sup> Sewak, Manirika. *Multi-Track Diplomacy between India and Pakistan: A Conceptual Framework for Sustainable Security*. Vol. 30. Manohar Publishers & Distributors, 2005, pp. 388.

<sup>149</sup> Yu, Winston, et al. *The Indus Basin of Pakistan: The Impacts of Climate Risks on Water and Agriculture*, The World Bank, 2013, pp. 12.

threatened to employ the nuclear option, if India jeopardizes the flow of water to its territory under any circumstances.<sup>150</sup>

## 6.9 Permanent Indus Commission

The establishment of PIWC came under the provision of IWT which is supposedly come under the ICJ established by the Canada and US.<sup>151</sup> It employs that a commission for Indus waters would be appointed who would be a highly skilled professional engineer fully competent in the field of water use and hydrology.<sup>152</sup> He is assumed to be a communicator in resolving all the matter relating to the implementation of the treaty on behalf of his government.<sup>153</sup> Pakistan during the early negotiations held under bank's auspices was determined initially to appoint a neutral chairman as head of commission in order to resolve Indus Water dispute between India and Pakistan but India rejected the idea in turn Pakistan had to abandon this idea. However, the treaty did not reject the idea in perimeter of future permanent dispute settlement which is exhibited in the creation of PIC. The description of purpose and function of Indus commission is well defined in treaty to

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<sup>150</sup> Indus Water Treaty, Article VIII Para 4, DO 35/8595, TNA, U.K, 1959-1960, pp. 13.

<sup>151</sup> Canada and the United States created the International Joint Commission because they recognized that each country is affected by the other's actions in lake and river systems along the border. The two countries cooperate to manage these waters and to protect them for the benefit of today's citizens and future generations. The IJC is guided by the Boundary Waters Treaty, signed by Canada and the United States in 1909. The treaty provides general principles, rather than detailed prescriptions, for preventing and resolving disputes over waters shared between the two countries and for settling other trans-boundary issues. The specific application of these principles is decided on a case-by-case basis. The IJC has two main responsibilities: approving projects that affect water levels and flows across the boundary and investigating trans-boundary issues and recommending solutions. The IJC's recommendations and decisions take into account the needs of a wide range of water uses, including drinking water, commercial shipping, hydroelectric power generation, agriculture, ecosystem health, industry, fishing, recreational boating and shoreline property. <https://www.ijc.org/en/who/role> retrieved on 24 December 2018.

<sup>152</sup> –Aik Pakistan Wo bi Tha (That was also Pakistan)”, *The Express*, 27 September 2018, pp. 10.

<sup>153</sup> Indus Water Treaty, Article VIII Para 1-3, Government of Pakistan, Punjab Irrigation and Power Department, Lahore, 1980, pp. 10.

establish and promote a cooperative environment between both the parties. A general tours for the inspection of the rivers in order to ascertain the facts related to development works on river the commission is supposed to visit each other once in every five year.<sup>154</sup>

India bluntly rejected the idea of inspection and referred it as an 'External Intervention' and 'To Police Its Territory' by Pakistan. However, to ensure a legal deployment of IWT and to ensure that India was not mistreating the provision of treaty by developing additional lands of irrigation in areas by the Indian occupied Jammu and Kashmir. Pakistan kept very persistent in its demand until India fully agreed with the inspection clause, although Pakistan was not fully satisfied with the arrangements.<sup>155</sup>

To resolve the conflicts bilaterally Indus Water Commission was assigned in India and Pakistan to meet regularly. To enable the commissioners to perform their duties, the treaty obligates each government to accord, to the commissioner of the other government, the same privileges and immunities which are accorded to representative of member states to the principal and subsidiary organs of the UN under section II, 12 and 133 of article IV of the 1946 convention on the privileges and immunities of the UN.<sup>156</sup>

It has been a unique settlement feature of Indus water Treaty that may have arisen due to the implementation of treaty it covers various categories as 'questions',

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<sup>154</sup> Indus Water Treaty, Article VIII Para 4, DO 35/8595, TNA, U.K, 1959-1960, pp. 1-10.

<sup>155</sup> "The Indus Negotiations", Notes from a conversation with Sir William Iliff, 10 June 1970, World Bank document Number 79048 retrieved from <http://documents.worldbank.org/curated/en/303441468337751852/Summary> retrieved on 24 December 2018.

<sup>156</sup> "Indus Water Treaty: Text", *Civil and Military Gazetteer*, 20 September 1960, pp. 8 see also <http://mowr.gov.in/> retrieved on 10 January 2019.

‘difference’ and ‘disputes’.<sup>157</sup> It implies if a ‘question’ arises with the application of treaty, the commission will play its role and try to resolve it by agreement. In case the commission fails to do so then the ‘difference’ is appeared to have arisen. If according to the opinion of any commissioner the ‘difference’ which have arisen comes under part 1 of Annexure F the appointment of a neutral expert to deal the difference in accordance with part 2 of Annexure F may be requested. If Neutral Expert informs the commission, the ‘difference’ does not cover in accordance with Para 2(a) of Annexure F in IWT then according to Para 7 of Annexure F in his opinion the ‘difference’ should now be treated as a ‘dispute’, when a dispute have been arisen which is to be decided under the provisions of Para 3, 4 and 5 of article IX. As early and practicable it is instructed to commission to inform the relevant governments their stand points on which the issues in ‘dispute’ has arisen.<sup>158</sup>

Appointment of neutral expert under the provision of treaty is suggested in such cases if both the parties fail to do so or fail to agree upon a third party unanimously, the bank is then authorized with this responsibility. During the transaction period bank is authorized to appoint a neutral expert. However, regarding the qualifications of Neutral Expert to be appointed contains complete details.<sup>159</sup> According to IWT the role of Court of Arbitration comes under Article IX and Annexure F however, Annexure D gives the complete details about it.<sup>160</sup> A list of twenty-three questions to

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<sup>157</sup> ‘Indus Development’, *Dawn*, 20 September 1960, pp. 6.

<sup>158</sup> Mehta, Jagat S, ‘The Indus Water Treaty: A Case Study in the Resolution of an International River Basin Conflict’, *Natural Resources Forum*, Oxford, UK: Blackwell Publishing Ltd, 1988, pp. 15.

<sup>159</sup> Indus Water Treaty, Annexure F, Folder ID. 1788552, The World Bank Group Archives, 1959-1960, pp. 290.

<sup>160</sup> Dinar, Shlomi. *International Water Treaties: Negotiation and Cooperation along Trans-boundary Rivers*. Routledge, 2007, pp. 219.

previous the complete description of Neutral Expert are identified in Annexure F. Anything that lies beyond the scope of Neutral Expert further to be settled by the Court of Arbitration. When the Neutral Expert determines that the ‘difference’ has become a ‘dispute’ the Court of Arbitration is entitled to take cognizance of it. The Court of Arbitration would be established under the provisions of Annexure G,

1. With consent between both the parties
2. By request of either party, during the early face of negotiations the ‘dispute’ was assumed not to be resolved by negotiation or by mediations.
3. At the request of either party, if after receiving any objection invitation one month has gone and it is concluded that other government is making undue delay in negotiation.

There could be seven arbitrators in the court, each party is to appoint two of them while remaining three could be appointed under a complex procedure by the World bank, the president of the Massachusetts Institute of Technology, the United Nation, the chief Justice of the United States and the Lord Chief Justice of England, the rector of the Imperial College of Science and Technology in London.<sup>161</sup> However the U.S Chief Justice clarified in his reply that “I would have no competence because I do not have sufficient acquaintance with the bench and bar of other countries to enable me to make a considered choice”.<sup>162</sup>

Thus, on categories of issues mentioned in treaty for conflict resolution it could be mentioned that so far three cases have been involved but to dismay in each case different methods to resolve issues have been adopted. For an instance Salal Dam

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<sup>161</sup> Letter From Mr. Iliff to Mr. Earl Warren, Chief Justice Supreme Court of United States dated 1 august 1960, File ID: 1787797, India-Pakistan-Indus Water Treaties- Court of Arbitration- Correspondence 01, The Word Bank Group Archives, Public Disclosure Authorized, 1960, pp. 230.

<sup>162</sup> Ibid., pp. 221.



case the parties declared that it was ‘question’ and dealt with it through bilateral negotiation and settled down at early level. Whereas, Baglihar case it was categories under ‘difference’ and was kept under Neutral Expert. Finally the case of Kishenganga Dam, it was deemed under ‘dispute’ and resolved through arbitration. Thus it can be clearly exhibited that there is a utilization of all three matters namely bilateral talks, Neutral Experts and Arbitration Court thus the formulation phases from ‘question’ to ‘difference’ and eventually to ‘dispute’ reflects that the bone of contention still prevails the political matters are heating up and baking under the water front.<sup>163</sup>

Now the focal of discussion is that the Court of Arbitration which is to apply international law but in practical it is somewhat different from the one specified for the ICJ. Under the article of 38 of the Statute of ICJ which exclaimed the sources of international law that are bound to apply.<sup>164</sup> However, in contrast to article 38 that clearly mentions four sources of international law (international conventions, international customs, general principles of law recognized by civilized nations and judicial decision and the teachings of the most highly qualified publicists),<sup>165</sup> it shows that only first two sources are by IWT however is excludes the reaming two sources. It is noteworthy that the Treaty specified the court of arbitration application but it remained unable to disclose the full pattern of settlement under international

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<sup>163</sup> Verghese, Boobli G. "Water Conflicts in South Asia." *Studies in Conflict & Terrorism* 20.2, 1997, pp. 185-194.

<sup>164</sup> Interview with Dr. Muhammad Abid, COMSAT University, Islamabad, 22 March 2018 see also Interview with Prof. Kamran, Government College Uiversity, Lahore, 25 October 2017.

<sup>165</sup> Qureshi, Waseem Ahmad, "Water as a Human Right: A Case Study of the Pakistan-India Water Conflict." *Penn St. J.L & Int'l Aff.* 5, 2017, pp. 374 see also <https://www.icj-cij.org/en/statute> retrieved on 25 December 2018.

law and human rights. A commentator of treaty has also observed the same phenomena by mentioning –A provision of this nature cannot keep others from looking to the settlement as precedent or from deriving what general principles they choose from the terms agreed upon”.<sup>166</sup>

Any claims bases on prior appropriation were extinguished by treaty in reference to India and Pakistan on Indus River. However, it is not justified that this claim did any contribution to international law on international rivers. IWT is now a source of International water law in reference to bilateral treaties following such criterion of justice in Court of Arbitration could limitize the scope and capacity of IWT.

#### **6.10 Conclusion**

Indus Basin is a diversified macro-geographical territory wherein different nations in close topographical vicinity share certain shared characteristic of interests. These interests could join an entire array of verifiable, land, financial, cultural, political and social angles. Truth be told, it is where geology, history, governmental issues and culture are genuinely interwoven and a domain of perhaps the most established human advancement on the planet where individuals from all races and religions have existed together over a significant stretch. The administration of trans-boundary waterways among Indus Basin has turned into a significant social and political issue, for an assortment of reasons, some legitimate and others because of direct yet mistaken reasoning.

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<sup>166</sup> Observations on –Comments on the first report Of the Committee” by Mr.S.M. Sikri, Member of International Committee And Advocate General Of The Punjab (East Punjab) The World Bank Group Archives, Public Disclosure Authorized File Folder Title: Indus Basin Dispute - International Law Correspondence 01 File ID: 1787921, 1954-1958, pp. 112 see also Garretson, Albert Henry, Robert D. Hayton, and Cecil J. Olmstead, –Law of Intemational Drainage Basins,” 1967, pp. 476.

In order to make an appraisal of Indus Basin water dispute the relationship between the co-riparian states of Indus Basin needs to be reviewed minutely. A definitive objective ought to be water and vitality matrix that transforms into Indus Basin's driving monetary development zone. India has just given another cross-outskirt power exchanging guideline that enables any neighbor to trade power to third nations through Indian transmission lines. In this chapter it is keenly disclosed that Indo-Pakistan water dispute is still under severe water stress and the growing population, urbanization and industrialization having become the major drivers of hydro-politics. A relatively high level of water usage and low per capita water availability are major issues related to water sharing among Indian subcontinent that makes South Asia one of the most water scarce regions in the world. The relationship between these countries in resolving trans-boundary water issues have been visualized minutely to make a logical analysis of IWT.

Though IWT has been hailed as the biggest and most successful confidence-building measure between the two countries. The Permanent Indus Commission needs to be strengthened and exchange of information should be more reliable so that there is no or lesser dispute arise between the conflicting neighbors of South Asia. But with increased temperatures and glacial retreat in the Himalayas could result in increased water availability. A reduction in water availability could even raise political and socio-economic demands for renegotiating or reviewing the IWT. The lines to be followed in order to pave the IWT revisit is clearly mentioned which could serve as a milestone in improving the political relationship between Pakistan and India. To make a conclusion on the dispute resolution agreement, IWT a fresh look has been taken that explored some factors like changing technological, ecological,

demographic and economic trends in past six decades. To reassess the efficacy of the IWT, there is a need to examine the effectiveness of various water-related institutions currently functioning in both countries. Several India- Pakistan Track II dialogues held in recent years have highlighted a need of suggestions by the relevant technical institutions and water experts of the two countries to serve as basis for decision making on climatic changes that had developed recently and those issues neglected during the years when IWT was negotiated.



## CHAPTER SEVEN

### CONCLUSION

This dissertation is an effort to make a fresh re-evaluation on the complex and perennial saga of the Indus Basin by apportioning “history at the heart of a geo-political story”. By compounding historical enquiry with questions of water hegemony and geopolitics in the region, this thesis explores conflicting allocation of the water resources of the Indus River between Pakistan and India. It was fundamentally a technical application to an engineering construction. Indus Basin is a diversified macro-geographical territory wherein different nations in close topographical vicinity share certain shared characteristic of interests. These interests could join an entire array of verifiable, land, financial, cultural, political and social angles. Indus Basin is where geology, history, governmental issues and culture are genuinely interwoven and a domain of perhaps the most established human advancement on the planet where individuals from all races and religions have existed together over a significant stretch.

The administration of trans-boundary waterways has turned into a significant social and political issue as of late, for an assortment of reasons, some legitimate and others because of direct yet mistaken reasoning. This mosaic of various societies has given Indus Basin a special recognition that is unrivaled at anywhere else around the globe. Countries of the South Asian subcontinent are comprehended as a solitary geological unit which offers three noteworthy waterway bowls viz. the Indus, the Ganges and the Brahmaputra. These waterways are the biggest single financial asset of this locale, particularly when considered related to the populace. The biggest freshwater house on earth are the mighty Mountain chains residing in this region numerous

specialists accept, the greatest imperative on the future development of the world's economy isn't would be a lack of oil however water.

The aim of my research is to reassess and explore the various dimensions and content of the historical uprisings of the Indus Basin dispute from the perspective of regional geopolitics in Indus basin, including but not limiting to the process of international intervention and negotiation of dispute settlement by IWT of 1960. Throughout this doctoral research I have mainly followed three dimensions of arguments in narrating the Indus Basin dispute. First of all the historical importance of Indus Basin prior and after colonial rule. Water hegemony in Indus Basin has changed the ideology of partition from demarcation of land to access the water resources. Secondly, the Indus dispute settlement mechanism and the actors participated in the settlement of Indus Basin Dispute when the relationship of both newly built states of India and Pakistan were at high stake. The aftermath of partition intensified the hydro-politics of Indus Basin as new hierarchy of nationalist governments tried to persuade the landscape of basin to reshape their economic and strategic interests. Thirdly the Indus dispute and treaty inter relationship in developing the political as well as economic layout of South Asia. It invokes the turbulent relationship between upper and lower riparians by settling the answer of the ‘ownership of water’ in Indus Basin. The cross examination of the validity of treaty is also conducted keeping in view the up to date environmental as well as political issues.

The opening chapters contain the in-depth description of historical water resources of Indus Basin with internal and external factors affecting its physical geography. Taking into account the early traditional forms of irrigation for agricultural purposes

in Indus Basin includes wells, canals, saailab and later perennial canal networks. rivers, streams, rainfall and groundwater are the main sources of water. According to the claims of Gulhati roughly about 4.73 million acres of land were being irrigated annually by wells. With the advent of time the modern methods like tube wells with mechanical or electrical prime movers in the field of agriculture have changed the conventional method vigorously. Different muslim rulers of India worked on the upgradation of Indus Water Basin they built water tanks lakes and canals to promote the irrigation system in India. The geo-political and geo-financial segments of the Indus waters conflict can be assembled in sets as takes after relative territories and riparian cases, the unnatural interlaced case of political cutoff points and surface features for agriculture and water openness, ecological change and water supply, people thickness and cases of settlement for the land utilize and inside weights and outside relations of the social occasions.

The availability of water is a feast-or-famine circumstance due to appropriation and timing of water accessibility. Indian subcontinent witnessed different developmental phases of irrigation under different regimes i-e Hindus, Muslims and British. Since dawn, thousands of years back, enormous scale water system was created to catch the waters of the bowl. These works were modernized and reached out into a huge system of canals and lakes under the British. The important inspiration for the enormous scale advancement of the water system works is thought to have been political as well as commercial. The subsequent income from rural produce demonstrated adequate motivation to conquer the surprising expenses of development. Taking into account the early traditional forms of irrigation for agricultural purposes in Indus Basin includes wells, canals, saailab and later

perennial canal networks. rivers, streams, rainfall and groundwater are the main sources of water.

The geo-political and geo-financial segments of the Indus waters conflict can be assembled in sets as takes after: relative territories and riparian cases, the unnatural interlaced case of political cutoff points and surface features for agriculture and water openness, ecological change and water supply, people thickness and cases of settlement for the land utilize and inside weights and outside relations of the social occasions. Pakistan was already threatened with the loss of six million acres owing to the control of India over the Ravi, Beas and Sutlej. Ameliorative measures for these areas were worthless if the control of the Jhelum and Chenab passes to India via Kashmir. In addition, Pakistan was threatened with an immediate direct loss of three million acres of irrigation and of her most promising hydro-electric scheme on which she has incurred heavy commitments. This is altogether apart from the barrier to development which the inclusion of Kashmir in India would cause to Pakistan. Adding to the strain was the fact that there was no appropriate plan indicated by the British government for sharing of water.

Radcliffe's (appointed by the British Government as the chairman of the two boundary commissions set for portioning Indian subcontinent into India and Pakistan) rushed and messy production of the fringes drawn in view of religious populaces in just 72 days made the reason for resulting India-Pakistan pressures. The persevering competition between these two nations can in this way be followed back to three fundamental issues: the way in which the 1947 segment was led; the Kashmir question; and the division of advantages, has been discussed in detail in this



dissertation. The boundary commission tasked for the partition of India among India and Pakistan isolated channels from their head works and left India as the upstream riparian on the five streams of the Punjab.

The role of water resources in generating a new attire of South Asia after British rule are minutely described. This overalls all the queries of water dispute arose in Indian sub-continent after British rule. A great focus is laid on the early problems faced by Pakistan to cope its irrigational needs. Further suggestions that how the conflict arises between India and Pakistan due to vague description of various partition allotment areas on sharing of water resources. Suggestions and discussions to resolve the conflict on partition of land, water resources and their sharing was taken into account keeping in view the International water laws on upper and lower riparian rights. Politically, the opening up of new well developed and most required system of canals that irrigated a vast land was helpful in keeping up political ties and maintaining the rewards that turned rivals into allies ultimately eliminating a bone of contention in past wars.

Channels were basically built in the British regions of Punjab and Sindh, however not under a coordinated arrangement of bowl the executives. Every region constructed its own works autonomously regardless of their dependence upon similar wellsprings of water, primarily the River Sutlej. In spite the fact that storage facilities were inadequate preceded with development, rivalry for the run-of-waterway stream expanded and prompted a question among Sindh and Punjab. However the partition of India deterred any last judgment to settle the question. Almost all the countries of Indian subcontinent are predominantly agrarian depending widely on the river water

for their farming. It is additionally the way in to their hydropower and industrialization. Be that as it may, attributable to the quick development of industrialization, farming advancement and residential use, water assets are declining quickly which thusly offer approach to political, monetary and territorial clashes.

Water Resources of Indus Basin have both the aspects of aquatic wealth as well as shortage of water. Probably the biggest storage facility of freshwater on the world is encouraged by the Hindu Kush and Himalayan mountain framework located in Indus range. There are twenty rivers beginning from this mountain chain according to the report of World Bank. Out of the aggregate, the four noteworthy waterways are the Brahmaputra and the Barak (Meghna), otherwise called IGBM bowl, the Indus, the Ganges. The Indus River takes a westbound course towards the Arabian Sea while the Ganges and the Brahmaputra make an adventure towards the Bay of Bengal. Six South-Asian nations viz. Pakistan, India, Bangladesh, China, Bhutan and Nepal stretch out these streams. These multi river frameworks consisting of four rivers channel a territory around 27, 73,700 km<sup>2</sup> extending over around three thousand km<sup>2</sup> in an east-west heading and eight hundred square km in a north-south course.

The IGBM bowl has broad water assets with a general overflow in excess of fifteen thousand billion cubic meters for every year. The Brahmaputra stream framework conveys the most elevated volume of water with five hundred and eighty five billion cubic meters for every year pursued by the Ganges and the Indus with five hundred and twenty five billion cubic meters and one hundred and eighty one billion cubic meters individually. The Indus depletes the regions of India and Pakistan while the Ganges, the Brahmaputra and the Meghna channel are provided with Bhutan, Nepal

India and Bangladesh and certain pieces of China as well. The bowls of these streams finish up the remainder of the two, Myanmar and Afghanistan. The appropriation of water is a difficult issue everywhere throughout the world. The real clashes are noticed over the absolute mightiest streams where 40 percent of total populace lives on conduits crossing through a few nations the Nile, the Tigris, the Euphrates Brahmaputra and the Indus.

However keeping into account the arid regions of India where these rivers are the only source to provide water, there is an uplifted danger between state and intra-state strife among upstream and downstream nations. Each upstream and downstream nation needs to utilize greatest water from shared waterways. In this manner the dissemination and use of water from shared waterways is the fundamental driver of debates between upper riparian and lower riparian nations. Actually, this issue is one of the real reasons for the stressed relationship among the clients. Water Disputes between different countries of Indus Basin especially sub-mainland in such locale where a geopolitical substance gives a base to clashes. Water, water, all over the place nor any drop to drink" this proposition portrays the issue of water in Indus Basin – an issue of shortage in the midst of abundance. However, water is a most vital component of the Indus Basin as well as South Asian subcontinent has fuelled a great deal of warmed talk and clashes among the nations of the area.

This conflict of access to water resources exaggerated with the control over territory. Thus the symbol of sovereignty for both newly built nations as independent nation-state was triggered with the access of water resources. The poor treatment of the partition and the vicious mass relocation of individuals exacerbated the pressures

between the two, prompting many years of contention. Moreover, the depicted limits set the phase for strains over water. The headwaters of the Indus were situated in Indian occupied Kashmir and the lower bowl was in Pakistan. This set India at an undeniable favorable position, with the capacity to control the wellspring of water streaming into Pakistan.

During the early hood of newly built India and Pakistan states thrust of water became the mandatory requisite to run the countries this political tussel is explored widely. This need of water led to the competitive development of the Sutlej River from both sides which raised the level of tensions and it ultimately continued to raise threat not only to obstruct socio-economic development but also become a potential flashpoint. The complexity of Indo-Pakistan relations pulled in US contribution, in reference to its policy of containment of communism it was looking for more allies. Its delegate, in 1951, Lilienthal, former head of the multi-state Tennessee Valley Authority, visited both India and Pakistan and recorded his observations in an article which appeared in the August 1951 issue of the "Collier's" Magazine.

Pakistan over and again proposed welcoming the ICJ to mediate and India, with equivalent recurrence used to refuse. Despite the fact that a lawful outsider was dismissed by India, an elective intervener was getting to be obvious. US contribution was an outcome of the complexity of Indo-Pakistan relations. In reference to its policy of containment of communism lies the interest in South Asia so behind American enthusiasm in Indo-Pak water conflict was the wish to look for more allies. Its delegate, Lilienthal, anticipated India as offering for "the United States and democracy an opportunity". The Dominion of India had taken control over the hill

catchments of the Ravi, Beas and Sutlej and also took excess water of these rivers in their course to enable India by diverting waters inside her territory to cause very great hardship and indeed disaster to West Pakistan and particularly to West Punjab and Bahawalpur State.

A Standstill Agreement had been marked by delegates of isolated Punjab, however this Agreement lapsed on 31 March 1948. East Punjab (India) ceased the water supply to Pakistani channels on 1 April 1948. Whatever lawful legitimizations were given by the Government of East Punjab for its choice, the superseding impact was to impart extensive dread in Pakistan. Segment had made two nations with disharmonious relations and the doubts that existed on the two sides were exacerbated by the beginning of the worldwide Canal Waters issue. To settle the dispute two-sided endeavors accomplished more harm to Indo-Pakistani relations than improving the diplomatic ties. In May 1948 the Inter-Dominion Agreement, or Delhi Agreement was marked which also demonstrated as an obstruction to settling the dispute.

It was a mere recognition that there was a dispute among both parties, India and Pakistan where the two sides had genuine cases and legitimate claims. To chalk out acceptable avenues that could satisfy both claimants over the use of River Sutlej and each side braced its position versus the other in the question. The two nations, additionally guaranteed they were lawfully right in their requests and rights. Tan Following a gridlock with pressures at peak mounting between the two petitioners the requirement for unbiased outsider intercession was clear. To overcome the crises of water shortfall and to make a dispute settlement on permanent basis –Canal Water

Talks” were initiated that insisted on ~~pr~~proprietary rights in the waters of the rivers in East Punjab vest wholly in the East Punjab Government”. Pakistan did not give acceptance to it and this initial meeting ended up without any outcome. Later the sets of negotiation committees and various suggestions keep on rolling between the two countries India and Pakistan. As initiated on 5 October 1949 in response to India’s communication a negotiation committee was setup for ~~expl~~exploring possibilities of a settlement of the dispute”.

For whole decade different rounds of communication and bilateral discussions among India and Pakistan remained in process. In the period following the 1948 Delhi Agreement, while between territory talks proceeded on the Sutlej River debate, India and Pakistan were additionally building up their water assets. The two nations had connected to the World Bank for advancement credits. Regardless of the obvious monetary suitability of these undertakings, the bank needed to deny the credits as the activities wanted to utilize the debated Sutlej River. As pressures kept on rising, India and Pakistan's focused advancement of the Sutlej River compromised to impede financial improvement as well as turn into a potential flashpoint, the World bank offered its 'great workplaces' in September 1951.

As opposed to desires, the two India and Pakistan acknowledged the offer. Pakistan brought up that the bank's proposition would 'genuinely bargain the Pakistan position if the discussions fizzled'. The bank's offer depended on three standards. In the first place, that the Indus bowl had enough water for the two nations. Furthermore, that in settling the Sutlej River debate, the basin would be treated as a solitary unit inferring all the waterways were to be kept under discussion. Eventually the discussions over

past grievances would set aside and hold a political core interest rather than the technical one.

India and Pakistan had both connected to the World Bank for the conciliation of the dispute in order to develop their water system frameworks. The bank, unfit to reserve extends on the contested Sutlej River was eager to help the nations in settling their debate. India and Pakistan acknowledged World Bank's intercession and this denoted the beginning of the Indus Basin intervention process. Mediation was followed by two aspects that are by a wide margin the most imperative to the long term accomplishment of the procedure. Right off the bat, that the members have all joined the procedure intentionally. The go between the two disputants have volunteered for whatever reasons specific to that body to help the disputants investigate methods for settling their disparities. The disputants thusly have consented to enable a mediating body to help them as they continued looking for an answer. Besides, the capacity of the intercession procedure is essentially to help the correspondence procedure between the disputants.

The Indus Mediations initiated at the World Bank's headquarters at Washington DC in May 1952. In October 1953, after field trips for information gathering, the Indian and Pakistani representatives presented their plans for the complete advancement of the Indus bowl. To address the loopholes between these plans, the World Bank displayed its very own arrangement in February 1954. The bank's 1954 arrangement proposed to partition the Indus bowl. Pakistan would get the three western streams (the Chenab, Jhelum and the Indus) and around 80% of the aggregate surface waters and India would get the three eastern waterways (the Sutlej, Beas and Ravi) or

roughly 20% of the Indus waters. The framework expected to isolate the bowl would be paid in order to get benefits in accordance with beneficiary pays principle. Pakistan felt the 1954 Plan left it lacking water to address its issues. Since Pakistan couldn't manage, politically to give away water nor did it have the funds to assemble storage capacities singularly, it denied the 1954 Plan.

Pakistan attempted hard to influence the World Bank that it required storage capacity to address its issues and having the 1954 Plan corrected with the 1956 Aide-Memoire which conceived storage spaces on the western streams for Pakistan. While India had acknowledged the 1954 Plan, it questioned the Aide-Memoire on the grounds that it was worried about bringing about extra money related commitments to Pakistan. Further arguments were issued in relation to the actual text of negotiation thus it was suggested to have adhoc agreement under which India was held liable to supply water sources to Pakistan for the coming six months to one year. A series of agreements were marked each of which were discussed independently, beginning on 1 April 1955 and enduring until 31 March 1960. The main time frame for which India and Pakistan were not able to concede to an impromptu assention till September 1958. Three principals were the guidelines of bank's offer. Firstly, the Indus Basin had immense water resources for meeting the agricultural and domestic needs of both countries.

Secondly, all the rivers were to be discussed in resolving the Sutlej River conflict, the basin would be treated as a whole single unit. Finally, that past grievances would be put aside during negotiations and the focus will retain technical in dimension rather than political. Pakistani and Indian delegations were welcomed to submit their



comprehensive plans for the progressive development of the IRB. There was a wide gap between both the plans. In order to address the gap between both plans, in February 1954, the World Bank ultimately gave a combination of financial issues deriving from the potential loss of the waters of eastern rivers, political instability and geography made Pakistan extremely cautious about the further negotiations. Finally, Pakistan succeeded in realizing the World Bank that it needed more storage facilities to fulfill its needs, thus the 1954 Plan was amended with the 1956 Aide-Memoire which envisaged storage facilities on the western rivers for support of Pakistan. As India had accepted the 1954 plan, it was concerned about bearing additional financial obligations to Pakistan so it objected to the Aide-Memoire presented its own plan. According to the bank's 1954 plan it decided to divide the Indus Basin. This plan was further polished to meet the needs of both the countries and it was finalized under the name of "Indus Water Treaty" in 1960. In spite of the fact that India had officially acknowledged these reports, it took two years to draft the settlement. The IWT was marked on 19 September 1960 by India, Pakistan and the World Bank further it was provided with financial assistance by the friendly nations in January 1961. India got the three Eastern streams (the Sutlej, Beas and Ravi) or 20% of the bowl's waters and Pakistan got the staying 80% or the three Western waterways (the Chenab, Jhelum and Indus).

The IWT was signed on 19 September 1960 by India, Pakistan and the World Bank and ratified later in January 1961. With the monster workplaces of the World Bank, India and Pakistan arranged the IWT over a time of nine years, stamping it in September 1960. The primary brightening for this Indo-Pakistan facilitated exertion depends upon the records that the treaty passed on with it in the Indus Basin

Development Fund. Decision enlightenment is that India and Pakistan appreciated light of how it was water insightful. In other words joint exertion was depended upon to safe-screen the nations' entire arrangement access to shared water. Regardless, the nature of the Indo-Pakistan participation was shaped by the more wide strains between the two nations. Along these lines, it was particularly about consumption of water and did not over hauls the political dilemmas.

India and Pakistan did not take up arms over the Indus waters, negotiations went long and tiresome. There was a wide gap between the both countries regarding the suggestions on water sharing of Indus Basin. The reason depends upon three transcendent building pieces claiming to own the resources of water, a more expansive clash over the constructional frameworks and opposing open articulations. The World Bank's job identified with organization of the IRB is extremely significant. In reality, it played exceptionally dynamic and helpful job in the goals of the Indus waters clashes. Without having any political specialist, it assumed a significant job to unite a few countries with duties of budgetary assets. It was an incredible outsider consolation to the debate settlement effectively. This measure of debate goals proposes that helpful job of an outsider can turn out to be imperative in compromise.

The IWT is viewed as an exceptionally intricate instrument of water conflict. Its principal approach was the advancement of the Indus Basin by expanding the amount of water accessible to the both riparian states, the India and Pakistan and to allocate the water assets on fair premise between them. It is the most itemized treaty in perspective of its focus and goals. The treaty is interesting it might be said that it

basically separates streams of the Indus framework and does not distribute the amount of accessible water between the riparian states. This division of the waterways of Indus Basin has limited the clashing requests of the states concern and would have connected the rule of impartial distribution. Another great aspect of the IWT is that it is just a water distribution assertion which was co-marked by the outsider, the World Bank. The bank interceded and helped two states to achieve an understanding. Moreover, IWT not just gave an instrument of debate settlement between the riparian countries however it likewise changed the water struggle into eternal harmony, participation and advancement.

Chapter five started with the elaboration of Role of World Bank to mediate between the two disputants that further extend to the financial help provided in order to draw the infra structure of canals and dams under IWT. A detailed analysis of IWT to cross examine the text of treaty was also conducted. Reaction of India Pakistan and rest of world are also narrated to justify the importance of treaty. Role of World Bank clearly project that the use of force to implement the solution upon dispute by utilization of political impact or military may was not possible. Not exclusively does the subsequent factor decide the accomplishment of the procedure, yet it is additionally the chief motivation to prescribe intercession over different types of outsider mediation in the international water dispute. However it was rested with both the disputants to either accept or reject the outcome of this mediation. They choose, through arguments and make valid compromises, in order to reach a valid outcome suitable for both the parties.

All the aspects of mediation were politically of a great concern but the latter one is visualized with a great supreme value mainly for two reasons being international watercourse dispute. Firstly the political scenario of the two states holds a central position beside technical and financial aspects of the agreement. Internationally when disputes are settled through mediation with in a political context is impacted by elements that happen far from the war zone and discussion table. Thusly, the disputants should most likely suit one another by accommodating each other, yet in addition their own personal interests and factions. Accordingly, by leaving the basic leadership control with the disputants, they can change the result to make any understanding politically feasible. The Indus Basin Water Treaty is viewed as an exceptionally intricate instrument of water the board. Its principal approach was the advancement of the Indus Basin by expanding the amount of water accessible to the both riparian states, the India and Pakistan and to allocate the water assets on fair premise between them. Taint, it is the most itemized Treaty in perspective of its points and goals.

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<sup>167</sup>Arora, R. K, *The Indus Water Treaty Regime*. New Delhi: Mohit Publications, 2007, pp. 9.

countries however it likewise changed the world of water struggle into the world of harmony, participation and advancement.

The reactions from India, Pakistan and outside the Indian subcontinent are also described to highlight the impact of water dispute settlement. Though there was a warm welcome of IWT from both India and Pakistan. However, not everyone was so optimistic in approach. Various criticisms raised on the India's payments to Pakistan in order to maintain the new constructional works for a transition period of 10 years, during which India will supply the eastern rivers waters to Pakistan that was charged by remarking 'taking little care of India's needs and requirements of water, especially in Rajasthan'. In Pakistan due to a very offensive attitude of field Marshal Ayub Khan no political leader dare to speak a single word against IWT, the only political leader who was that courageous to comment on IWT in such a heavy load of political stress was sister of Quaid-i-Azam, (founder of Pakistan) Ms. Fatima Jinnah who claimed treaty as 'lack of determination to fight for our water rights on which our prosperity, progress and future depends'. Rest, on all sides the warmest appreciation not only of Great Britain and the Commonwealth's financial contributions to the Indus Waters Scheme but also visualized a ray of hope for a 'new chapter of friendship' among two countries.

Financial burdens as well as the best use of technical guidance from both the countries were addressed by the IWT and a course of events for change was likewise included. It was finalized on nineteenth of September 1960 and redressed by the two governments in January 1961 in Delhi. It was retroactive from April 1, 1960. It contains twelve articles and with its preface and eight far reaching annexure,

including reference sections. The Indus Waters Agreement was signed in Karachi on September 19<sup>th</sup> at a very impressive ceremony. After discussing the matter at length with India and Pakistan it was generally presumed that the prospects for some preliminary move towards some reconciliation on Kashmir were brighter than they have ever been. The treaty and the agreement dealt with the difficult problem of the uses of the waters of the rivers of the Indus Basin, upon which some 50 million people depend, directly or indirectly, for their livelihood. These rivers are the Indus itself, the Jhelum, the Chenab, the Ravi, the Sutlej and the Beas. Under this plan, now embodied in the treaty, Pakistan had to construct over a period of transition, transmission canals and storage works which would enable water from the three Western rivers to be used to meet the irrigation needs previously met from the waters of the three eastern Rivers.

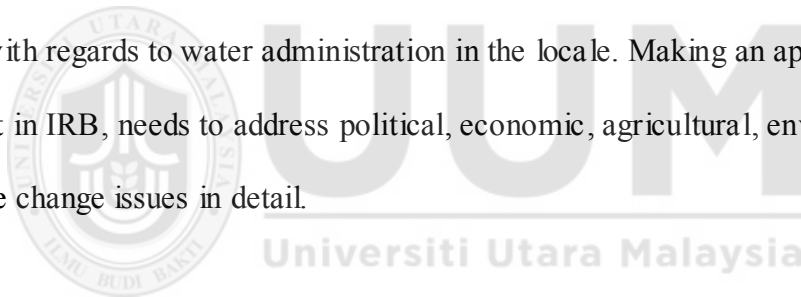
IWT was projected with the slogan of “An unprecedented Economic Development and Peace in the Region”. India undoubtedly enjoyed the fruits of “An unprecedented Economic Development”: an estimated eight million acres of desert waste land in Rajasthan are blooming as an outcome of IWT. The whole flow of the water would thereafter be retained for irrigation development in India. The works would also provide substantial irrigation development in Pakistan and the potential for the development of 300,000 K.W of hydro-electric power, that enabled land reclamation in water logged and saline areas in the West Punjab and furnished a measure of flood efficiency or economy, agreed otherwise, all goods required for the plan would be procured on the basis of international competition. At certain seasons the flow of water from the western rivers would be inadequate to irrigate those areas traditionally irrigated from the eastern rivers in addition to the areas normally

irrigated by the western rivers. To meet this difficulty, the scheme provided for storage on the western rivers from which water could be released during those seasons.

The bank's plan was estimated to cost the equivalent of U.S \$900 million, a sum beyond the resources of Pakistan. They accordingly asked the Government of Australia, Canada, the Governments of China Republic, New Zealand, the United Kingdom and the United States of America they would be willing to contribute towards the cost of the scheme the Bank itself indicated that it would make a loan available. The offers of financial assistance which were made and which reported an outstanding example of international cooperation were embodied in the Indus Basin Development Fund Agreement, the text of which is in Appendix J. The Agreement has four Annexures. The first, the industrial waters treaty is summaries at Appendix II. The second, which continues the loan agreement between the World Bank and the Government of Pakistan, does not directly concern the United Kingdom and is disbursement from the Development Fund and the projects to be carried out under the bank's plan and are reproduced at Appendices III and IV. The Government of Pakistan keeps up that the legitimacy of hope and friendship and explored the new era for the projection of a peaceful settlement of a dispute that could launch a water war if it was not dealt with dynamism.

Water has consistently been a principle driver of national interests. Sharing of worldwide stream waters has turned into a harbinger of legislative issues in neighboring states' relationship during the ongoing past decades. Appraisal of Indus Basin is a comprehensive analysis of controversy over Indus Basin. Water stays a

politically challenged issue in Indus Basin comprising of underdeveloped countries of South Asia. This is on the grounds that household water usage, environmental changes impacts and national interest in water capacity building the executives practices are a portion of the significant difficulties influencing the extent of contention and collaboration in overseeing trans-boundary water assets between riparian nations. The possibilities of participation in sharing a global water system become constrained when regional interests get included. Indo-Pakistan struggle over Kashmir are complicatedly associated with their trans-border stream frameworks. Rivalry over rare water assets between these two nuclear forces has just made the procedure of compromise hard for their opponent cases to questioned limits. Power adjusting interests and security anxieties have additionally decreased institutional limit with regards to water administration in the locale. Making an appraisal on water contest in IRB, needs to address political, economic, agricultural, environmental and climate change issues in detail.



The closing chapters contain arguments on intense aftermath of dispute settlement. The division of rivers among states territorially entered the Indus Basin into a new arena of geopolitics. In order to make an appraisal of Indus Basin water dispute the relationship between the co-riparian states of Indus Basin needs to be reviewed minutely. A definitive objective ought to be water and vitality matrix that transforms into Indus Basin's driving monetary development zone. India has just given another cross-outskirt power exchanging guideline that enables any neighbor to trade power to third nations through Indian transmission lines. It is keenly disclosed that Indo-Pakistan water dispute is still under severe water stress and the growing population, urbanization and industrialization having become the major drivers of hydro-politics.



A relatively high level of water usage and low per capita water availability are major issues related to water sharing among Indian subcontinent that makes South Asia one of the most water scarce regions in the world. The relationship between these countries in resolving trans-boundary water issues have been visualized minutely to make a logical analysis of IWT. The India-Pakistan controversy over IWT provides a detailed cross section of gains and losses of dispute settlement. That will assist water cooperation between these two nations in the future. The material advantages radiating from the treaty for Pakistan have not been genuine and incredible as envisioned and featured by the World Bank's specialists.

Indus Basin home to one sixth of the total population of world is one of the contention ridden areas on the earth. The underlying foundations of contentions among the nations of Indus Basin sub-landmass are planted in the sands of this region. A few issues have been focused in-order to make an appraisal of Indus Basin fact sheet, which are at the base of contentions. The water issues in Indian subcontinent manage the mind boggling direction of the waterways of the said region that cut over certain nations in the area supplemented by a strained and inflexible geo-political circumstance among the individual riparian nations draws out the key pretended by water in the locale. The Indus waterway bowl – mutual by Pakistan, India, China and Afghanistan is one of the most exhausted waterway bowls on the planet. Additionally water requests for nourishment creation and vitality are expanding.

In order to cross examine the validity of IWT that it is still applicable and feasible against the background of advancements in worldwide water law, a fresh look on

IWT is required. An unbiased water expert proclaimed the IWT "the effective document" since it has successfully continued discourse among India and Pakistan on water issues it requires certain modifications and agenda to react to changed substances. In the wake of consenting to of these shared arrangements, the nations concerned augmented their advantages by method for outfitting the assets of the district. Significant advancement has been made in the field of water improvement and in looking after relations. Despite the fact that some basic discussions have occurred on understandings referenced above by the dynamic cooperation of local association and common comprehension among investors, these issues could be tended to in the light of involvement. Under IWT the two India and Pakistan's capacities to face developing truths are flawed. Both the nations endure critical power deficiencies. In the wake of proceeding with clashes and debates, voices in the two nations have proposed returning to the IWT terms. To be radiated from respective exchanges, some commonly concurred modifications to the IWT may improve the degree for successful universal participation and coordinated asset the executives crosswise over Indus bowl.

IWT brought harmony and agreement to the Indus Basin, still it couldn't fulfill the whole range of individuals and drew reactions from both the nations. In the two nations, Pakistan and India pundits are of the view that the exchange of the bargain was defective however such analysis is not really contemplated when top initiatives are included. The IWT is viewed as a significant accomplishment as it has made Indus Basin financially suitable for the two nations. The settlement has ended all cases with respect to the Harmon Doctrine and Historic Use and it affected the regional allocation of the Indus River framework. The three western rivers (the

Indus, the Jhelum and the Chenab) were apportioned to Pakistan while the three eastern rivers, (the Ravi, the Beas and the Sutlej) were given to India for their immoderate use individually. Though the dispute settlement by allocation of rivers is typically a regional division and it doesn't determine the amount of water for both the disputants. The arrangement simply reaffirms the regional sway of each state on the premise in the distinction in water courses. It doesn't change the limit between the two nations yet follows an imaginary line, East-West, which partitions the bowl and confines the sovereign privileges of every state on half of the basin framework and awards semi restrictive rights on the other half.

Being realistic, it is neither a regional nor quantitative division, however a division that worries just the utilization of the water. This sort of division is overwhelmingly political and monetary, however not as indicated by winning water laws. The two conflicting parties have to manage water organization since the marking of IWT and don't reserve the option to meddle in the waters distributed to the other country. The settlement set up a perpetual organization of Indus Commission to keep up harmony and participation between the gatherings. The Commission has up until this point kept up harmony in spite of the harsh political relations (three wars were battled between India and Pakistan in 1965, 1971 and 1999). In this sense it tends to be guaranteed that the arrangement is an effective case of harmony and compromise. It has steadfastly served as methods for counteractive action in water-related questions. Thus it is observed that the Commission has neglected to determine certain issues. Enormous water specialists are of the view that the Commission has been politicized and accordingly couldn't arrive at any compelling settlement on specific debates. In spite of its achievement in water compromise, there are a few ambiguities in the

settlement of dispute. Indus River is coursing through four sovereign nations, viz. Pakistan, India, China and Afghanistan including the disputed State of Jammu and Kashmir.

The IWT ensures the rights and contemplations of two nations, ignoring different partners of the Indus Basin. In any case, other riparian states counting Jammu and Kashmir State are guaranteeing their privileges to a sensible and impartial portion of the Indus River and its tributaries coursing through their regions. It was anything but a conscious exclusion with respect to the World Bank. It needed to make both the nations understand the requirement for participation and bargain. No trade off, anyplace and under any condition is simply or equivalent for both concerned parties; this settlement is a chance to stem the further decay and use the time and vitality therefore spared to fabricate and deal with one's assets. Indus water settlement did precisely the same. Subduing of waters under the particular belonging and their administration was given most extreme need. Be that as it may, Pakistan needs to address new substances and arrange the requests of upper riparian investors of Indus, Jhelum and Kabul River sooner the better.

The dispute settlement treaty doesn't make a sound component to address certain issues, for example, ground water use for two nations, changes in stream of water due to climatic changes, changing residential interest because of populace increment or precipitation fluctuation and future improvements. This deficiency has made a genuine tumult in the sub-mainland as both the nations are confronting water stress because of high populace thickness, environmental change and high water request. The expanding water shortage has driven to serious water banter in India and

Pakistan and the birds of prey on the two sides are discussing water wars or annulment of the treaty. Any discussion of deconstruction anticipates IWT should be enhanced with elective development plans, generally entire exercise may lead to turmoil and perplexity. Without an elective plan the mottos for the annulment of the treaty are basically unimportant.

The interest for more water in India then Pakistan doesn't make the IWT insignificant for the individuals concerned. It must be seen in more extensive point of view. Whatever reality estimation of the contrasts between the two nations are, they have enlarged the trust hole between the two nations and launch the water issue to the highest point of reciprocal motivation, in this way making a center issue in Indo-Pakistan relations. The explanation is the resistance, doubt and poor political relationship. Pakistan should attempt to re-establish endeavors to ensure that the game plan of settlement remains unsullied. The Indus Basin's water supply is gigantic physical riches which gives a bogus portrayal of an important issue that hampers usage of the waters. The accessibility of water is a one extreme or another condition because of apportionment and timing of water availability. For two months all through the pre-summer, the tempests pour down water from the sky, growing further the rising conduits. For example, the River Indus all through the mid year a couple of miles wide in flood is a glaring contrast to its contracted winter state of enormous puddles. Water framework is required consequently to enable utilization of the waters to create produce and bolster jobs in the dry scopes of the Indus Basin.

In such way, it is prescribed that the Government of Pakistan makes, as a section of its national security guideline, a policy with the Indian governments which is

appropriately grasped by the Parliament, stressing its unequivocal guarantee to the defense of the IWT and its execution in letter and soul. Pakistan should express its status to organize with India in the full and successful use of the IWT, including its Articles 6 and 7 obliging standard exchange of data and other noteworthy information and future joint effort exclusively similarly as the discussion settlement instrument stipulated in Article 9 of the IWT. Pakistan should articulate its assurance to restrict and impede any undertaking to manhandle or go not right from the obligations spelt out by the IWT and toward this end search for the assistance and support of the United Nations and other significant multilateral affiliations and talks.

The Government of Pakistan should look into a spirit of uplifting demeanor and basic trust in the guidance began by the World Bank to decide the back and forth movement contrasts among India and Pakistan on addressing the issues about the structures of the Kishenganga hydro-electric errand being worked by India on the Jhelum conduit in congruity with the final award of the Court of Arbitration in December 2013 and the Ratlay hydro-electric endeavor. The two nations should make a sweeping committee on trans-limit waters, which should address all issues of stress to the two countries. The World Bank had a particularly problematic task as a go between the two gatherings being arbiter. Its basic employment was to support India and Pakistan in their correspondences with each other. In any case, anyway a great deal of dialog happened, with India and Pakistan talking at each other, alongside no 'tuning in' went with the methodology. This was a component of the two-sided dealings that had happened before the bank mediated and it was imitated in the interceded talks.

The inspiration of the committee should consolidate, anyway not be limited to, measures to improve the viability of the Permanent Indus Commission to fill in as a viable institutional framework for progressing wide going support, including snappy idea of India's uses on the western surges of the basin in congruity with the IWT. The Government of Pakistan should consider supporting the proposition made by a couple of India-Pakistan Track II discussions held starting late calling for joint assessments by the huge particular establishments and masters of the two countries to create legitimate data to fill in as purpose behind fundamental administration on focuses and issues whose criticalness was not clearly known during the years the IWT was masterminded. The overriding and enduring subject all through the procedure of intervention was the fear of beginning a pattern that the other party could then use to promote their potential advantage. Regardless, it was not just a question among India and Pakistan. Inside limits the inward powers likewise impact the national intrigue especially in Pakistan, affected the Pakistani arrangement's bargaining position.

Rivers flowing in India and Indian-included Kashmir with the ultimate objective of neutralizing defilement of the conduit streams entering Pakistan. Indian press appears to have a uniform view on water issues, in connection to Pakistan. With regards to Kashmir and the IWT is viewed as a basic piece of Kashmir, the service of outside undertakings (India's remote service) educates the media about what they are permitted to state. In specific cases, India is glad to conflate the Kashmir and water issues, though in exchanges with Pakistan it might want to manage them as unmistakable and discrete. Deductively, valid evaluations of the impacts of natural change on the IRB, including through an arrangement of hydro meteorological

checking stations for watching the direct and components of Karakorum high glaciers and ice sheets whose available ice condense and melts to feed the basin.

Exchange of data and related information on stream flows, evaporation and water quality after tempest examples and capriciousness utilizing remote distinguishing developments and telemetry. Checking the measures of conduit streams and agreeing measures to respond to watched decline in stream streams coming about in view of deferred times of dry season or various impacts of natural change got ready for blocking mistakes and boosting normal trust. India is building various dams on the Jhelum and Chenab rivers (the two of which begin in Kashmir, for example, the Kishenganga, Dal Huste, Sawalkot and so forth. The IWT enables India to bridle the hydropower capability of the Jhelum and Chenab rivers, as long as it doesn't diminish or defer the supply to Pakistan. India in this way keeps up that its ventures are in consistence with the arrangement and sees no contention with Pakistan on these issues. The locale of Kashmir sees itself losing extensively from the IWT since it isn't permitted to completely misuse the hydropower capability of its own streams. Given that both Pakistan and India are hazardously vitality and water starved and no place near a concurrence on Kashmir, collaborated with the effect of environmental change and populace weights the guess on the Indo-Pak water issue including Kashmir is definitely not positive.

Evaluation should be done to measure the absolute impacts of falls of hydro-electric endeavors on the Western rivers built or organized by India, on India's capacity to control the rivers entering Pakistan and Azad Jammu Kashmir and measures made arrangements for keeping an eye on Pakistan's stresses in such way. Despite the fact



that the Indian side is permitted to utilize 20 percent of the western streams, it has barely utilized in excess of 4 percent of the waters of the western waterways and all the more significantly Indian ranchers have not completely used even the waters of eastern streams either, along these lines giving the waters a chance to stream uninhibitedly into Pakistan. Unexpected that Indian Punjab would give up waters to Pakistan than offer some with their own brethren in Haryana. The IWT does not allow India to construct stockpiling dams on the waterways implied for Pakistan however permitted to make restricted use for power age. This would signify "keep running of the stream plans" which would in any case need some constrained stockpiling.

The Baglihar venture just as two different undertakings, the Kishenganga and the Satle which have been questioned by Pakistan and looking for the World Bank Help for mediation are altogether ~~kept~~ "running of the waterway plans" completely defended in the bargain. Characteristic streams in the three eastern rivers to be allowed by India in order to restore the natural practicality of the Indus Basin. A broad assessment of the state of trans-limit springs and measures should be prepared for ensuring their doable use, including improvement of appropriate authoritative structures for viable ground water levels. Distinguishing proof of regions of joint effort in progressing composed water resource the board in the IRB with one of a kind focus on redesigned provincial water the officials and water saving techniques. The rundown of difficulties is long declining supply stockpiling because of sedimentation; water logging and saltiness, loss of gainful rural land, land debasement, defilement of surface and groundwater assets; an expansion in natural

streams to support biological systems inside the waterways and the Indus delta, yet additionally to avert further salt water interruption in the delta.

The IWT should represent different such ecological elements that could possibly influence water accessibility in India and Pakistan, considering the per capita accessibility is on a lofty decrease in both the nations. This turns into even more significant for Pakistan as the nation is completely subject to the surface and ground waters of the Indus Basin for its survival. For India as well, waters of the Indus Basin have a key task to carry out in guaranteeing the nation's nourishment security as they feed the most basic horticultural area of India. Environmental change is another issue that both the nations need to consolidate in respective exchanges for long haul water security and soundness in the district. The Indus stream framework is said to have most extreme reliance on frigid melt water. Despite the fact that temporarily, expanded temperatures and frigid retreat in the Himalayas could result in expanded water accessibility, over the long haul water accessibility is relied upon to diminish significantly, particularly in the spring and summer seasons. A decrease in water accessibility could even raise political and financial requests for renegotiating or checking on the IWT.

The Indian government has been confronting fire over the flow appropriation of waters with the state administrations of Jammu and Kashmir, Punjab and others lying in the Indus Basin charging that the bargain was marked without an appraisal of things to come accessibility of water in the Indus framework. In specific occasions, even remuneration for the farming misfortunes acquired because of the settlement has been looked for. These issues were not tended to, conceived or comprehended when the IWT was

handled, yet preferable late over never. The Government should figure out how to empower and reinforce the Pakistan Indus Commission by adequate qualified HR in structure, regular safeguarding, water, hydrology, glaciology and law office of the Pakistan Indus Commissioner.

As a component of endeavors to verify Pakistan's trans-limit water resources, Pakistan should begin raised level gatherings with Afghanistan inciting courses of action on a settlement concerning the perfect utilization of the normal Kabul River reliant on shared advantage. Pakistan should search for the assistance of the World Bank or another pariah to empower the discourses and trades. Since the Indus Basin involves India and Pakistan, yet additionally China and Afghanistan, there should be provincial coordination among all the four nations albeit geopolitically this appears a long ways. Water is an existential issue and nations need to go past legislative issues to collaborate on Indus Basin the executives.

Pakistan's water security, which is a basic fundamental of our sustenance and imperativeness security depends upon fused water resource the officials subject to reasonable market enthusiasm including adequate water storing authentic help of water structure to confine mishaps in transmission assurance of water and updated water use proficiency accumulating of food water storm gathering introduction of water saving water framework techniques and ensuring the idea of water for human usage and water framework as long pending National Water Procedure should be formalized without delay.

Last but not least, there is a need to ensure powerful coordination among the diverse water-related associations and statutory bodies at present working in segregated

storage facilities. In order to resolve the water issue bilaterally, composite Dialogue provides a framework but there is requirement that would be to institutionalize the accommodative initiatives. The water wing of the Federal Ministry of Water and Power ought to be reviewed for better efficiency. Urgent attention to resolve Indus water resource and the Kashmir dispute is need of hour.

Pakistan also discussed advantages of sharing information. Pakistan ought to contribute upstream and receive rewards downstream. Through this, Pakistan can assist Afghanistan with its KRB hydro ventures. Pakistan should devise a component for Chitral River, which will satisfy the water needs of FATA. This will help annihilate fear mongering by inspiring the financial states of the zone. Information sharing ought to be made through research organizations and logical channels and a dynamic methodology be embraced with the consideration of logical on-screen characters. In such manner, coordinated effort with India and Afghanistan on information sharing ought to be made.

IWT has been hailed as the biggest and most successful confidence-building measure between the two countries. But with increased temperatures and glacial retreat in the Himalayas could result in increased water availability, in the long run water availability and groundwater recharge is expected to decrease dramatically, especially in the spring and summer seasons. A reduction in water availability could even raise political and socio-economic demands for renegotiating or reviewing the IWT. The lines to be followed in order to pave the IWT revisit is clearly mentioned which could serve as a milestone in improving the political relationship between Pakistan and India. To make a conclusion on the dispute resolution agreement, IWT

a fresh look has been taken that explored some factors like changing technological, ecological, demographic and economic trends in past six decades. A need for making diversified multi-lateral approach for co-operative environment and sustainable development of trans-boundary water management among India and Pakistan is needed.

To reassess the efficacy of the IWT, there is a need to examine the effectiveness of various water-related institutions currently functioning in both countries. Several India- Pakistan Track II dialogues held in recent years have highlighted a need of suggestions by the relevant technical institutions and water experts of the two countries to serve as basis for decision making on climatic changes that had developed recently and those issues neglected during the years when IWT was negotiated. To address these issues there is a serious need to survey the feasibility of IWT the same number of specialists from the two India and Pakistan feel that the bargain is obsolete. It does not take into account an ideal utilization of the Indus water assets and in this manner the settlement ought to be relooked at and adjusted with one which lays accentuation on joint sharing as opposed to regional division of waters. This requests a typical water vision by India and Pakistan that will be founded on the acknowledgment of the significance of the mutual waterways just like a characteristic asset that is basic to their endurance. Let India, Pakistan or some other nation oppose from utilizing water as political instrument. It is, as well, risky to deal with it that way. Water like, air and sun is a common property of the mankind, an endowment of nature not to be vandalized for the political reasons.

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(Daniel Haines is Lecturer in Environmental History at the University of Bristol. He has previously taught at Royal Holloway, University of London and Quaid-i-Azam

University, Islamabad. He is the author of Building the Empire, Building the Nation: Development, Legitimacy and Hydro-Politics in Sindh, 1919-1969.)

Interview with Mehmood Hasssan Siddique, Punjab Irrigation Department Lahore, 3 August 2017.

(He was Assistant Director at Punjab Irrigation Department, Lahore. He has also contributed in different meeting with Indian delegation on water related issues with India.)

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(Dr. Muhammad Abid is an Assistant Professor at Centre for Climate Research and Development, COMSATS Institute of Information Technology, Islamabad.)

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(Mr. Fazal Elahi was Assistant Director at Punjab Irrigation Department, Lahore. He has also contributed in different meeting with Indian delegation on water related issues with India.)

Interview with Mr. Nadeem Anjum, (PCRWR), Lahore, 13 June 2017.

(Mr. Nadeem Anjum is Deputy Director at Pakistan Council of Research in Water Resources (PCRWR). PCRWR was established in 1964 and is working as body corporate vide PCRWR Act 2007 under Ministry of Science and Technology (MoST). PCRWR is mandated to conduct, organize, coordinate and promote research on all aspects of water, specifically irrigation, drainage, surface & groundwater management, groundwater recharge, watershed management, rainwater harvesting, desertification control, water quality and overall environment.)

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(Mr. Ayub Ahmad, is Assistant in Ministry of Water Resources, Islamabad.)

Interview with Mr. Azam Khan, in Water Resources Development, Agriculture and Dam Engineering Sector, Islamabad, 22 March 2018.

(Mr. Azam Khan is water expert in Water Resources Development, Agriculture and Dam Engineering Sector. NESPAK provides complete spectrum of consultancy services for projects related to harnessing and use of water for agriculture, hydropower generation and environment. The services provided for the Sector cover all aspects from conceiving an idea to completion of a project, including master planning, pre-feasibility and feasibility studies, project planning, physical and simulation model studies, software development and applications, detailed designs, specifications and tender documents, construction supervision and contract management, preparation of operation & maintenance manuals, performance and benefit monitoring, periodic inspections of large projects.

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(He is a professor of history at GC University, Lahore. He is a specialist in the recent history of South Asia and particularly Pakistan and the partition of India).

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(He was in charge of Record at Punjab Irrigation Department, Lahore.)

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(He is Engineer at Punjab Irrigation Department, Lahore.)

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(He is Assistant at Pakistan Council of Research in Water Resources (PCRWR). PCRWR was established in 1964 and is working as body corporate vide PCRWR Act 2007 under Ministry of Science and Technology (MoST). PCRWR is mandated to conduct, organize, coordinate and promote research on all aspects of water, specifically irrigation, drainage, surface & groundwater management, groundwater recharge, watershed management, rainwater harvesting, desertification control, water quality and overall environment.)

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(He is Assistant in Ministry of Water Resources, Islamabad.)

Interview with Mr. Amjad Saleem, in Water Resources Development, Agriculture and Dam Engineering Sector, Islamabad, 22 March 2018.  
(Mr. Amjad Saleem is water expert in Water Resources Development, Agriculture and Dam Engineering Sector. NESPAK provides complete spectrum of consultancy services for projects related to harnessing and use of water for agriculture, hydropower generation and environment. The services provided for the Sector cover all aspects from conceiving an idea to completion of a project, including master planning, pre-feasibility and feasibility studies, project planning, physical and simulation model studies, software development and applications, detailed designs, specifications and tender documents, construction supervision and contract management, preparation of operation & maintenance manuals, performance and benefit monitoring, periodic inspections of large projects.)

Interview with Prof. Dr. Irfan Waheed, Government College University, Lahore, 25 October 2017.  
(He is a professor of history at GC University, Lahore. He is a specialist in the recent history of South Asia and particularly Pakistan and the partition of India.)

Interview with Mr. Karamat Ali, Punjab Irrigation department, Lahore, 13 June 2017.  
(He is Engineer at Punjab Irrigation Department, Lahore.)

Interview with Mr. Saleem Arshad, in Water Resources Development, Agriculture and Dam Engineering Sector, Islamabad, 22 March 2018.  
(Mr. Saleem Arshad is water expert in Water Resources Development, Agriculture and Dam Engineering Sector. NESPAK provides complete spectrum of consultancy services for projects related to harnessing and use of water for agriculture, hydropower generation and environment. The services provided for the Sector cover all aspects from conceiving an idea to completion of a project, including master planning, pre-feasibility and feasibility studies, project planning, physical and simulation model studies, software development and applications, detailed designs, specifications and tender documents, construction supervision and contract management, preparation of operation & maintenance manuals, performance and benefit monitoring, periodic inspections of large projects.)

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## APPENDICES

### Appendix A

#### Interviews Guide

1. Please introduce yourself.
2. How do you view the water dispute between India and Pakistan?
3. Do you think the Indus Waters Treaty served the interests of India and Pakistan?
4. Pakistan's Federal Minister for Water and Power Khawaja Asif has said that the Indus Waters Treaty is not in Pakistan's interest. Is his objection valid?
5. Pakistani officials say that India has violated the Indus Waters Treaty many times by constructing 3200 dams and barrages on the river Jhelum, which deprives Pakistan of this major source. What are your thoughts?
6. How much impact do you think the water dispute has had on ties between India and Pakistan?
7. What do you think are the factors behind Pakistan's water crisis? And why is India not to be blamed?
8. Some analysts worry that the diminishing availability of water may actually culminate in a war between India and Pakistan in the future. What are your thoughts about this?
9. What do you think India and Pakistan need to do to resolve their water dispute?
10. What is the water dispute between India and Pakistan?
11. What is the main territorial conflict on water resources between India and Pakistan?
12. What is the changing water game between India and Pakistan from 1947 to 1960?
13. What is the role of Permanent Indus Commission in future water conflict resolution?
14. What are the main sources of water in Pakistan?
15. What are the main sources of water in India?
16. Why Pakistan claims Kashmir?

17. Do you think water dispute between India and Pakistan is a perennial saga that will last a life time?
18. If Article IX can fully justify the method of resolving dispute and differences in future?
19. Do You think Article VI of Indus Water Treaty on exchange of Data have ever violated?
20. Can India stop Pakistan Water?
21. Why India Pakistan water crisis is a bone of contention other South Asian countries?
22. If impacts of Indian partition still alive in creating water dispute of India?
23. Do you think the welcoming remarks of Nehru on signing Indus Water Treaty could resolve Kashmir issue if he lived one more decade?
24. If there was any interest of US in mediating India Pakistan for resolving water dispute?
25. Why World Bank sorted financial aid for infrastructure development of Indus Water Treaty?



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## Appendix B

### Inter dominion Agreement, Between The Government Of India And The Government Of Pakistan, On The Canal Water Dispute Between East And West Punjab

1. A dispute has arisen between the East and West Punjab Governments regarding the supply by East Punjab of water to the Central Bari Doab and the Dipalpur canals in West Punjab. The contention of the East Punjab Government is that under the Punjab Partition (Apportionment of Assets and Liabilities) Order, 1947 and the Arbitral Award the proprietary rights in the waters of the rivers in East Punjab vest wholly in the East Punjab Government and that the West Punjab Government cannot claim any share of these waters as a right. The West Punjab Government disputes this contention, its view being that the point has conclusively been decided in its favour by implication by the Arbitral Award and that in accordance with international law and equity, West Punjab has a right to the waters of the East Punjab Rivers.
2. The East Punjab Government has revived the flow of water into these canals on certain conditions of which two are disputed by West Punjab. One, which arises out of the contention in paragraph 1, is the right to the levy of seignorage charges for water and the other is the question of the Madhavpur [sic] Head Works and carrier channels to be taken into account.
3. The East and West Punjab Governments are anxious that this question should be settled in a spirit of goodwill and friendship. Without prejudice to its legal rights in the matter the East Punjab Government has assured the West Punjab Government that it has no intention suddenly to withhold water from West Punjab without giving it time to tap alternative sources. The West Punjab Government on its part recognises the natural anxiety of the East Punjab Government to discharge the obligation to develop areas where water is scarce and which were underdeveloped in relation to parts of West Punjab.
4. Apart, therefore, from the question of law involved, the Governments are anxious to approach the problem in a practical spirit on the basis of the East Punjab Government progressively diminishing its supply to these canals in order to give reasonable time to enable the West Punjab Government to tap alternative sources.
5. The West Punjab Government has agreed to deposit immediately in the Reserve Bank such ad-hoc sum as may be specified by the Prime Minister of India. Out of this sum, that Government agrees to the immediate transfer to East Punjab of sums over which there is no dispute.
6. After an examination by each party of the legal issues, of the method of estimating the cost of water to be supplied by the East Punjab Government and of the technical survey of water resources and the means of using them for supply to these canals, the two Governments agree that further meetings between their representatives should take place.
7. The Dominion Governments of India and Pakistan accept the above terms and express the hope that a friendly solution will be reached.

(Signed)  
Jawaharlal Nehru  
Swaran Singh  
N. V. Gadgil  
New Delhi, May 4, 1948

(Signed)  
Ghulam Mohammad  
Shaukat Hyat Khan  
Mumtaz Daultana

Source :- National Documentation Wing, , Islamabad, 1953

## Appendix C

### Aide Memoire, 21 May 1956

1. Cooperative work on the Indus Basin question was resumed in November 1954 on the basis of "Terms of Reference and Procedure" proposed by the Bank and accepted by the Government of India and the Government of Pakistan. The objective of this latest phase of the cooperative work has been to prepare a comprehensive plan for the consideration of Governments, on the basis of the Bank proposal of February 5, 1954, taking as a starting point the division of waters envisaged therein.

2. The Delegations of India and Pakistan, together with the Bank Group, have now been at work for almost 18 months. During this time a series of studies have been carried out by both Delegations and numerous memoranda have been submitted by each side bearing on the various issues arising out of Paragraphs 2 and 3 of the Terms of Reference. The Bank has also arranged for the Bank Consultants (TAMS) to carry out a series of independent studies of the same nature.

3. The present status of the discussions can be summarized as follows:

[a] It has not been possible to secure full agreement between the two Delegations on:-

[i] the quantitative aspects of certain of the uses specified in Paragraph 2 and in Paragraph 3 of the Terms of Reference.

[ii] certain technical considerations involved (e.g. the effect of the proposed changed regime of the rivers on "Gains and Losses")

[b] In the absence of agreement on the points mentioned in [a] above, it has not been possible to secure a common approach to the actual engineering features of a "Comprehensive Plan."

4. The Bank continues to hold the view that the "division of the waters" contemplated by the Bank Proposal of February 1954 affords the best prospects for a settlement of the Indus Waters question; that out of the flow-cum-storage potential of the rivers allocated to them, India and Pakistan could each develop very substantial irrigation uses, additional to those that they now enjoy; and that no insuperable engineering difficulties are likely to arise in either country in constructing the physical works necessary to develop these additional supplies. The works would, however, be costly; and their financing would present a serious financial problem.

5. The Bank is of the opinion that no useful purpose is likely to be served by continuing to devote the cooperative work to an attempt to obtain agreement of the two Delegations on the issues arising out of Paragraph 2 and Paragraph 3 of the Terms of Reference. The Bank, however, feels it desirable, at the stage which the discussions have now reached, that the Bank should consider, in the light of the studies made by the consultants, whether any "adjustment" in the Bank Proposal of February 1954 is called for, and also to make proposals to the two Governments with regard to future Bank participation.

#### Paragraph 2 Uses and Surplus

6. [a] The Bank's consultants have studied the extent to which the flow of the Western Rivers will meet the uses envisaged in Paragraph 2 of the Terms of Reference and the nature and extent of any surplus.

[b] For this purpose, the Bank asked its Consultants to adopt the following quantum of uses:-

[i] Historic withdrawals of all canals (except the Pakistan Sutlej Valley Canals);

[ii] Allocations for the Pakistan Sutlej Valley Canals (11.1 MAF)\*;

[iii] 3.6 MAF for Thal\*;

[iv] 9.5 MAF for Kotri.\*

(\* With distribution shown in Appendix A).

[c] These studies have led the Bank Group to the conclusion that, after taking into account the possibilities of the transfer of flow supplies of the Indus, Jhelum and Chenab by a system of link canals:-

[i] There would be no shortages in Kharif, except for occasional 10-day periods in April and September in occasional years.

[ii] There would be consistent surpluses in Kharif, significant in quantity, duration and frequency.

[iii] There would be consistent shortages in Rabi, occasionally beginning in late September of extending into early April (see [i] above), of a degree, duration and frequency which the Bank Group could not regard as tolerable”.

### Paragraph 3 Uses

7. [a] Additional Requirements of Sukkur and Gudu Pakistan has claimed for Sukkur substantial additional uses both in Rabi and in Kharif and for Gudu substantial additional uses during Kharif only. If the pre-partition regime of the six rivers were to continue undisturbed, no significant additional Rabi irrigation at Sukkur could be developed on any dependable basis, from flow alone. Consequently, none could be developed only from the flow of the Western Rivers. So far as Kharif uses at Sukkur and at Gudu are concerned, the Kharif surplus referred to in Paragraph 6[c] [ii] above is available to allocate to new Kharif uses at these two projects and to employ as a substitute for –Sailab.”

[b] Future Development in the State of Jammu and Kashmir India has claimed that some part of the flow of the Jhelum and Chenab should be reserved for future development in the State of Jammu and Kashmir. It has been stated by India that this development would involve –relatively insignificant consumptive uses.” This question should, in the Bank’s view, be postponed until the point has been reached when the provisions of an international water treaty might be under consideration.

### “Adjustments” to the Bank Proposal

8. [a] In the light of the conclusions at which the Bank has arrived, as set out in Paragraphs 6 and 7 above, the Bank feels that an adjustment in its Proposal of February 1954 is called for. This adjustment should, in the Bank’s view, assure to Pakistan –timely” water sufficient to eliminate the shortage referred to in Paragraph 6[c] [iii].

[b] The adjustment referred to in [a] above might take any of the following forms, or a combination of any two or all of them:-

[i] Supplies from tubewells.

[ii] Continued deliveries to Pakistan of –timely” water from the Eastern Rivers.

[iii] Construction of storage on the Western Rivers.

[c] When the Bank made its proposal of February 1954, the possibility, both in India and in Pakistan, of supplementing flow by supplies from tube-wells was realized. But this source of supply is not, in the Bank’s view, an appropriate means, over the long term, of eliminating any part of the disclosed shortage. Accordingly and if the Division of Waters contemplated by the Bank Proposal is maintained, the adjustment should be in the form of storage on the Western Rivers.

9. The system of works to implement the Bank Proposal, as adjusted, should, therefore, in the Bank’s view, be based on the principle that, for the purpose of meeting the –Paragraph 2 Uses,” flow of the Western Rivers (Indus, as well as Jhelum and Chenab) should be exploited to the maximum possible extent and that the minimum inroads should be made on Pakistan’s limited storage capacity. In the Bank’s view, the cost of this system of works should be the basis of the calculation of India’s financial liability.

10. The Bank now wishes to propose to the two Governments the following course of action:-

[a] The completion of negotiations with the two Delegations of ad hoc amounts for Indian withdrawals from the Eastern Rivers during the period 1st April 1956 to 31st March 1957.

[b] A continuance of the period of the cooperative work until 31st March 1957.

[c] After the two Governments had agreed to [b] above, the conclusion of an inter-Governmental Agreement to cover [a] above.

[d] That the Bank should then proceed to use its good offices to bring about acceptance of an appropriate adjustment of the Bank Proposal of February 1954, along the lines indicated.

11. The Bank feels that if, by 31st March 1957, the Bank should see no reasonable prospects for a settlement on the basis of the Bank Proposal, with an appropriate adjustment, the Bank would have to consider whether the employment of its good offices could make any further contribution to a solution.

Source :- National Documentation Wing, , Islamabad, 1956

## Appendix D

### The Indus Waters Treaty, 1960

#### Preamble

The Government of India and the Government of Pakistan, being equally desirous of attaining the most complete and satisfactory utilisation of the waters of the Indus System of Rivers and recognising the need, therefore, of fixing and delimiting, in a spirit of goodwill and friendship, the rights and obligations of each in relation to the other concerning the use of these waters and of making provision for the settlement, in a cooperative spirit, of all such questions as may hereafter arise in regard to the interpretation or application of the provisions agreed upon herein, have resolved to conclude a Treaty in furtherance of these objectives and for this purpose have named as their plenipotentiaries:

The Government of India:  
Shri Jawaharlal Nehru,  
*Prime Minister of India,*

and

The Government of Pakistan:  
Field Marshal Mohammad Ayub Khan, HP., H.J.,  
*President of Pakistan;*

who, having communicated to each other their respective Full Powers and having found them in good and due form, have agreed upon the following Articles and Annexures:-

#### Article I *Definitions*

As used in this Treaty:

[1] The terms Article and Annexure mean respectively an Article of and an Annexure to, this Treaty. Except as otherwise indicated, references to Paragraphs are to the paragraphs in the Article or in the Annexure in which the reference is made.

[2] The term Tributary of a river means any surface channel, whether in continuous or intermittent flow and by whatever name called, whose waters in the natural course would fall into that river, e.g. a tributary, a torrent, a natural drainage, an artificial drainage, a *nadi*, a *nallah*, a *nai*, a *khad*, a *cho*. The term also includes any sub-tributary or branch or subsidiary channel, by whatever name called, whose waters, in the natural course, would directly or otherwise flow into that surface channel.

[3] The term The Indus, The Jhelum, The Chenab, The Ravi, The Beas or The Sutlej means the named river (including Connecting Lakes, if any) and all its Tributaries: Provided however that [i] none of the rivers named above shall be deemed to be a Tributary; [ii] The Chenab shall be deemed to include the river Panjnad; and [iii] the river Chandra and the river Bhaga shall be deemed to be Tributaries of The Chenab.

[4] The term Main added after Indus, Jhelum, Chenab, Sutlej, Beas or Ravi means the main stem of the named river excluding its Tributaries, but including all channels and creeks of the main stem of that river and such Connecting Lakes as form part of the main stem itself. The Jhelum Main shall be deemed to extend up to Verinag and the Chenab Main up to the confluence of the river Chandra and the river Bhaga.

[5] The term Eastern Rivers means The Sutlej, The Beas and The Ravi taken together.

[6] The term Western Rivers means The Indus, The Jhelum and The Chenab taken together.

[7] The term the Rivers means all the rivers, The Sutlej, The Beas, The Ravi, The Indus, The Jhelum and The Chenab.

[8] The term Connecting Lakes means any lake which receives water from, or yields water to, any of the Rivers; but any lake which occasionally and irregularly receives only the spill of any the Rivers and returns only the whole or part of that spill is not a Connecting Lake.

[9] The term Agricultural Use means the use of water for irrigation, except for irrigation of household gardens and public recreational gardens.

[10] The term Domestic Use means the use of water for:

[a] drinking, washing, bathing, recreation, sanitation (including the conveyance and dilution of sewage and of industrial and other wastes), stock and poultry and other like purposes:

[b] household and municipal purposes (including use for household gardens and public recreational gardens); and

[c] industrial purposes (including mining, milling and other like purposes); but the term does not include Agricultural Use or use for generation of hydroelectric power.

[11] The term Non-Consumptive Use means any control or use of water for navigation, floating of timber or other property, flood protection or flood control, fishing or fish culture, wild life or other like beneficial purposes, provided that, exclusive of seepage and evaporation of water incidental to the control or use, the water (undiminished in volume within the practical range of measurement) remains in, or is returned to, the same river or its Tributaries; but the term does not include Agricultural Use or use for the generation of hydroelectric power.

[12] The term Transitional Period means the period beginning and ending as provided in Article II [6].

[13] The term Bank means the International Bank for Reconstruction and Development.

[14] The term Commissioner means either of the Commissioners appointed under the provisions of Article VIII [1] and the term Commission means the Permanent Indus Commission constituted in accordance with Article VIII [3].

[15] The term interference with the waters means:

[a] Any act of withdrawal therefrom; or

[b] Any man-made obstruction to their flow which causes a change in the volume (within the practical range of measurement) of the daily flow of the waters: Provided however that an obstruction which involves only an insignificant and incidental change in the volume of the daily flow, for example, fluctuations due to afflux caused by bridge piers or a temporary by-pass, etc., shall not be deemed to be an interference with the waters.

[16] The term Effective Date means the date on which this Treaty takes effect in accordance with the provisions of Article XII, that is, the first of April 1960.

## **Article II** ***Provisions Regarding Eastern Rivers***

[1] All the waters of the Eastern Rivers shall be available for the unrestricted use of India, except as otherwise expressly provided in this Article.

[2] Except for Domestic Use and Non-Consumptive Use, Pakistan shall be under an obligation to let flow and shall not permit any interference with, the waters of the Sutlej Main and the Ravi Main in the reaches where these rivers flow in Pakistan and have not yet finally crossed into Pakistan. The points of final crossing are the following: [a] near the new Hasta Bund upstream of Suleimanke in the case of the Sutlej Main and [b] about one and a half miles upstream of the syphon for the B-R-BD Link in the case of the Ravi Main.

[3] Except for Domestic Use, Non-Consumptive Use and Agricultural Use (as specified in Annexure B), Pakistan shall be under an obligation to let flow and shall not permit any interference with, the waters (while flowing in Pakistan) of any Tributary which in its natural course joins the Sutlej Main or the Ravi Main before these rivers have finally crossed into Pakistan.

[4] All the waters, while flowing in Pakistan, of any Tributary which, in its natural course, joins the Sutlej Main or the Ravi Main after these rivers have finally crossed into Pakistan shall be available for the unrestricted use of Pakistan: Provided however that this provision shall not be construed as giving Pakistan any claim or right to any releases by India in any such Tributary. If Pakistan should deliver any of the waters of any such Tributary, which on the Effective Date joins the Ravi Main after this river has finally crossed into Pakistan, into a reach of the Ravi Main upstream of this crossing, India shall not make use of these waters; each Party agrees to establish such discharge observation stations and make such observations as may be necessary for the determination of the component of water available for the use of Pakistan on account of the aforesaid deliveries by Pakistan and Pakistan agrees to meet the cost of establishing the aforesaid discharge observation stations and making the aforesaid observations.

[5] There shall be a Transition Period during which, to the extent specified in Annexure H, India shall

[i] limit its withdrawal for Agricultural Use,

[ii] limit abstractions for storages and

[iii] make deliveries to Pakistan from the Eastern Rivers.

[6] The Transition Period shall begin on 1st April 1960 and it shall end on 31st March 1970, or, if extended under the provisions of Part 8 of Annexure H, on the date up to which it has been extended. In any event, whether or not the replacement referred to in Article IV [1] has been accomplished, the Transition Period shall end not later than 31st March 1973.

[7] If the Transition Period is extended beyond 31st March 1970, the provisions of Article V [5] shall apply.

[8] If the Transition Period is extended beyond 31st March 1970, the provisions of Article V [5] shall apply during the period of extension beyond 31st March 1970.

[9] During the Transition Period, Pakistan shall receive for unrestricted use the waters of the Eastern Rivers which are to be released by India in accordance with the provisions of Annexure H. After the end of the Transition Period, Pakistan shall have no claim or right to releases by India of any of the waters of the Eastern Rivers. In case there are any releases, Pakistan shall enjoy the unrestricted use of the waters so released after they have finally crossed into Pakistan: Provided that in the event that Pakistan makes any use of these waters, Pakistan shall not acquire any right whatsoever, by prescription or otherwise, to a continuance of such releases of such use.

### **Article III** ***Provisions Regarding Western Rivers***

[1] Pakistan shall receive for unrestricted use all those waters of the Western Rivers which India is under obligation to let flow under the provisions of Paragraph [2].

[2] India shall be under an obligation to let flow all the waters of the Western Rivers and shall not permit any interference with these waters, except for the following uses, restricted (except as provided in item [c] [ii] of Paragraph 5 of Annexure C) in the case of each of the rivers, The Indus, The Jhelum and The Chenab, to the drainage basin thereof:

[a] Domestic Use;

[b] Non-Consumptive Use;

[c] Agricultural Use, as set out in Annexure C; and

[d] Generation of hydro-electric power, as set out in Annexure D.

[3] Pakistan shall have the unrestricted use of all waters originating from sources other than the Eastern Rivers which are delivered by Pakistan into The Ravi or The Sutlej and India shall not make use of these waters. Each Party agrees to establish such discharge observation stations and make such observations as may be considered necessary by the Commission for the determination of the component of water available for the use of Pakistan on account of the aforesaid deliveries by Pakistan. [4] Except as provided in Annexures D and E, India shall not store any water of, or construct any storage works on, the Western Rivers.

### **Article IV** ***Provisions Regarding Eastern Rivers and Western Rivers***

[1] Pakistan shall use its best endeavours to construct and bring into operation, with due regard to expedition and economy, that part of a system of works which will accomplish the replacement, from the Western Rivers and other sources, of water supplies for irrigation canals in Pakistan which, on 15<sup>th</sup> August 1947 were dependent on water supplies from the Eastern Rivers.

[2] Each Party agrees that any Non-Consumptive Use made by it shall be so made as not to materially change, on account of such use, the flow in any channel to the prejudice of the uses on that channel by the other Party under the provisions of this Treaty. In executing any scheme of flood protection or flood control each Party will avoid, as far as practicable, any material damage to the other Party and any such scheme carried out by India on the Western Rivers shall not involve any use of water or any storage in addition to that provided under Article III.

[3] Nothing in this Treaty shall be construed as having the effect of preventing either Party from undertaking schemes of drainage, river training, conservation of soil against erosion and dredging, or from removal of stones, gravel or sand from the beds of the Rivers: Provided that

[a] in executing any of the schemes mentioned above, each Party will avoid, as far as practicable, any material damage to the other Party;

[b] any such scheme carried out by India on the Western Rivers shall not involve any use of water or any storage in addition to that provided under Article III;

[c] except as provided in Paragraph [5] and Article VII [1] [b], India shall not take any action to increase the catchment area, beyond the area on the Effective Date, of any natural or artificial drainage



or drain which crosses into Pakistan and shall not undertake such construction or remodeling of any drainage or drain which crosses or falls into a drainage or drain which crosses as might cause material damage in Pakistan or entail the construction of a new drain or enlargement of an existing drainage or drain in Pakistan; and

[d] should Pakistan desire to increase the catchment area, beyond the area on the Effective Date, of any natural or artificial drainage or drain, which receives drainage waters from India, or, except in an emergency, to pour any waters into it in excess of the quantities received by it as on the Effective Date, Pakistan shall, before undertaking any work for these purposes, increase the capacity of that drainage or drain to the extent necessary so as not to impair its efficacy for dealing with drainage waters received from India as on the Effective Date.

[4] Pakistan shall maintain in good order its portions of the drainage mentioned below with capacities not less than the capacities as on the Effective Date:-

[i] Hudiara Drain

[ii] Kasur Nala

[iii] Salimshah Drain

[iv] Fazilka Drain.

[5] If India finds it necessary that any of the drainages mentioned in Paragraph [4] should be deepened or widened in Pakistan, Pakistan agrees to undertake to do so as a work of public interest, provided India agrees to pay the cost of the deepening or widening.

[6] Each Party will use its best endeavours to maintain the natural channels of the Rivers, as on the Effective Date, in such conditions as will avoid, as far as practicable, any obstruction to the flow in these channels likely to cause material damage to the other Party.

[7] Neither Party will take any action which would have the effect of diverting the Ravi Main between Madhopur and Lahore, or the Sutlej Main between Harike and Sueimanke, from its natural channel between high banks.

[8] The use of the natural channels of the Rivers for the discharge of flood or other excess waters shall be free and not subject to limitation by either Party and neither Part shall have any claim against the other in respect of any damage caused by such use. Each Party agrees to communicate to the other Party, as far in advance as practicable, any information it may have in regard to such extraordinary discharges of water from reservoirs and flood flows as may affect the other Party.

[9] Each Party declares its intention to operate its storage dams, barrages and irrigation canals in such manner, consistent with the normal operations of its hydraulic systems, as to avoid, as far as feasible, material damage to the other Party.

[10] Each Party declares its intention to prevent, as far as practicable, undue pollution of the waters of the Rivers which might affect adversely uses similar in nature to those to which the waters were put on the Effective Date and agrees to take all reasonable measures to ensure that, before any sewage or industrial waste is allowed to flow into the Rivers, it will be treated, where necessary, in such manner as not materially to affect those uses: Provided that the criterion of reasonableness shall be the customary practice in similar situations on the Rivers.

[11] The Parties agree to adopt, as far as feasible, appropriate measures for the recovery and restoration to owners, of timber and other property floated or floating down the Rivers, subject to appropriate charges being paid by the owners.

[12] The use of water for industrial purposes under Articles II [2], II [3] and III [2] shall not exceed:

[a] in the case of an industrial process known on the Effective Date, such quantum of use as was customary in that process on the Effective Date;

[b] in the case of an industrial process not known on the Effective Date:

[i] such quantum of use as was customary on the Effective Date in similar or in any

way comparable industrial processes; or

[ii] if there was no industrial process on the Effective Date similar of in any way

comparable to the new process, such quantum of use as would not have a substantially adverse effect

on the other Party.

[13] Such part of any water withdrawn for Domestic Use under the provisions of Articles II [3] and III [2] as is subsequently applied to Agricultural Use shall be accounted for as part of the Agricultural Use specified in Annexure B and Annexure C respectively; each Party will use its best endeavours to return the same river (directly or through one of its Tributaries) all water withdrawn therefrom for industrial purposes and not consumed either in the industrial processes for which it was withdrawn or in some other Domestic Use.

[14] In the event that either Party should develop a use of the waters of the Rivers which is not in accordance with the provisions of this Treaty, that Party shall not acquire by reason of such use any right, by prescription or otherwise, to a continuance of such use.

[15] Except as otherwise required by the express provisions of this Treaty, nothing in this Treaty shall be construed as affecting existing territorial rights over the waters of any of the Rivers or the beds or banks thereof, or as affecting existing property rights under municipal law over such waters or beds or banks.

#### **Article IV** ***Financial Provisions***

[1] In consideration of the fact that the purpose of part of the system of works referred to in Article IV [1] is the replacement, from the Western Rivers and other sources, of water supplies for irrigation canals in Pakistan which, on 15th August 1947 were dependent on water supplies from the Eastern Rivers, India agree to make a fixed contribution of Pounds Sterling 62,060,000 towards the costs of these works. The amount in Pounds Sterling of this contribution shall remain unchanged irrespective of any alteration in the par value of any currency.

[2] The sum of Pounds Sterling 62,060,000 specified in Paragraph [1] shall be paid in ten equal annual instalments on the 1st of November of each year. The first of such annual instalments shall be paid on 1st November 1960, or if the Treaty has not entered into force by that date, then within one month after the Treaty enters into force.

[3] Each of the instalments specified in Paragraph [2] shall be paid to the Bank for the credit of the Indus Basin Development Fund to be established and administered by the Bank and payment shall be made in Pounds Sterling, or in such other currency or currencies as may from time to time be agreed between India and the Bank.

[4] The payments provided for under the provisions of Paragraph [3] shall be made without deductions or set-off on account of any financial claims of India on Pakistan arising otherwise than under the provisions of this Treaty: Provided that this provision shall in no way absolve Pakistan from the necessity of paying in other ways debts to India which may be outstanding against Pakistan.

[5] If, at the request of Pakistan, the Transition Period is extended in accordance with the provisions of Article II

[6] and of Part 8 of Annexure H, the Bank shall thereupon pay to India out of the Indus Basin Development Fund the appropriate amount specified in the Table below:-

<i>Period of Aggregate Extension of Transition Period</i>	<i>Payment to India</i>
---	-------------------------

One year	£Stg. 3,125,000
Two years	£Stg. 6,406,250
Three years	£Stg. 9,850,000”

[6] The provisions of Article IV [1] and Article V [1] shall not be construed as conferring upon India any right to participate in the decisions as to the system of works which Pakistan constructs pursuant to Article IV [1] or as constituting an assumption of any responsibility by India or as an agreement by India in regard to such works.

[7] Except for such payments as are specifically provided for in this Treaty, neither Party shall be entitled to claim any payment for observance of the provisions of this Treaty or to make any charge for water received from it by the other Party.

#### **Article VI** ***Exchange of Data***

[1] The following data with respect to the flow in and utilisation of the waters of, the Rivers shall be exchanged regularly between the Parties:-

[a] Daily (or as observed or estimated less frequently) gauge and discharge data relating to flow of the Rivers at all observations sites.

[b] Daily extractions for or releases from reservoirs.

[c] Daily withdrawals at the heads of all canals operated by government or by a government agency (hereinafter in this Article called canals), including link canals.

[d] Daily escapages from all canals, including link canals.

[e] Daily deliveries from link canals. These data shall be transmitted monthly by each Party to the other as soon as the data for a calendar month have been collected and tabulated, but not later than three months after the end of the month to which they relate: Provided that such of the data specified above as are considered by either Party to be necessary for operational purposes shall be supplied daily or at less frequent intervals, as may be requested. Should one Party request the supply of any of these data by telegram, telephone, or wireless, it shall reimburse the other Party for the cost of transmission.

[2] If, in addition to the data specified in Paragraph [1] of this Article, either Party requests the supply of any data relating to the hydrology of the Rivers, or to canal or reservoir operation connected with the Rivers, or to any provision of this Treaty, such data shall be supplied by the other Party to the extent that these are available.

## **Article VII** ***Future Co-operation***

[1] The two Parties recognize that they have a common interest in the optimum development of the Rivers and, to that end, they declare their intention to co-operate, by mutual agreement, to the fullest possible extent. In particular:-

[a] Each Party, to the extent it considers practicable and on agreement by the other Party to pay the costs to be incurred, will, at the request of the other Party, set up or install such hydrologic observation stations within the drainage basins of the Rivers and set up or install such meteorological observation stations relating thereto and carry out such observations thereat, as may be requested and will supply the data so obtained.

[b] Each Party, to the extent it considers practicable and on agreement by the other Party to pay costs to be incurred, will, at the request of the other Party, carry out such new drainage works as may be required in connection with new drainage works of the other Party.

[c] At the request of either Party, the two Parties may, by mutual agreement, cooperate in undertaking engineering works on the Rivers. The formal arrangements, in each case, shall be as agreed upon between the Parties.

[2] If either Party plans to construct any engineering work which would cause interference with the waters of any of the Rivers and which, in its opinion, would affect the other Party materially, it shall notify the other Party of its plans and shall supply such data relating to the work as may be available and as would enable the other Party to inform itself of the nature, magnitude and effect of the work. If a work would cause interference with the waters of any of the Rivers but would not, in the opinion of the Party planning it, affect the other Party materially, nevertheless the Party planning the work shall, on request, supply the other Party with such data regarding the nature, magnitude and effect, if any, of the work as may be available.

## **Article VIII** ***Permanent Indus Commission***

[1] India and Pakistan shall each create a permanent post of Commissioner for Indus Waters and shall appoint to this post, as often a vacancy occurs, a person who should ordinarily be a high-ranking engineer competent in the field of hydrology and water use. Unless either Government should decide to take up any particular question directly with the other Government, each Commissioner will be the representative of his Government for all matters arising out of this Treaty and will serve as the regular channel of communication on all matters relating to the implementation of the Treaty and, in particular, with respect to

[a] the furnishing or exchange of information or data provided for in the Treaty and

[b] the giving of any notice provided for in the Treaty.

[2] The status of each Commissioner and his duties and responsibilities towards his Government will be determined by that Government.

[3] The two Commissioners shall together form the Permanent Indus Commission.

[4] The purpose and maintain co-operative arrangements for the implementation of this Treaty, to promote co-operation between the Parties in the development of the waters of the Rivers and, in particular,

[a] to study and report to the two Governments on any problem relating to the development of the waters of the Rivers which may be jointly referred to the Commission by the two Governments: in the event that a reference is made by one Government alone, the Commissioner of the other Government shall obtain the authorization of his Government before he proceeds to act on the reference; [b] to make every effort to settle promptly, in accordance with the provisions of Article IX [1], any question arising thereunder;

[c] to undertake, once in every five years, a general tour of inspection of the Rivers for ascertaining the facts connected with various developments and works on the Rivers;

[d] to undertake promptly, at the request of either Commissioner, a tour of inspection of such works or sites on the Rivers as may be considered necessary by him for ascertaining the facts connected with those works

[e] to take, during the Transition Period, such steps as may be necessary or sites; and for the implementation of the provisions of Annexure H.

[5] The Commission shall meet regularly at least once a year, alternately in India and Pakistan. This regular annual meeting shall be held in November or in such other month as may be agreed upon between the Commissioners. The Commission shall also meet when requested by either Commissioner.

[6] To enable the Commissioners to perform their functions in the Commission, each Government agrees to accord to the Commissioner of the other Government the same privileges and immunities as are accorded to representatives of member States to the principal and subsidiary organs of the United Nations under Sections 11, 12 and 13 of Article IV of the Convention on the Privileges and Immunities of the United Nations (dated 13th February, 1946) during the periods specified in those Sections. It is understood and agreed that these privileges and immunities are accorded to the Commissioners not for the personal benefit of the individuals themselves but in order to safeguard the independent exercise of their functions in connection with the Commission; consequently, the Government appointing the Commissioner not only has the right but is under a duty to waive the immunity of its Commissioner in any case where, in the opinion of the appointing Government, the immunity would impede the course of justice and can be waived without prejudice to the purpose for which the immunity is accorded.

[7] For the purposes of the inspections specified in Paragraph [4] [c] and [d], each Commissioner may be accompanied by two advisers or assistants to whom appropriate facilities will be accorded.

[8] The Commission shall submit to the Government of India and to the Government of Pakistan, before the first of June of every year, a report on its work for the year ended on the preceding 31<sup>st</sup> March and may submit to the two Governments other reports at such times as it may think desirable.

[9] Each Government shall bear the expenses of its Commissioner and his ordinary staff. The cost of any special staff required in connection with the work mentioned in Article VII [1] shall be borne as provided therein.

[10] The Commission shall determine its own procedures.

### **Article IX** ***Settlement of Differences and Disputes***

[1] Any question which arises between the Parties concerning the interpretation or application of this Treaty or the existence of any fact which, if established, might constitute a breach of this Treaty shall first be examined by the Commission, which will endeavour to resolve the question by agreement.

[2] If the Commission does not reach agreement on any of the questions mentioned in Paragraph [1], then a difference will be deemed to have arisen, which shall be dealt with as follows:

[a] Any difference which, in the opinion of either Commissioner, falls within the provisions of Part 1 of Annexure F shall, at the request of either Commissioner, be dealt with by a Neutral Expert in accordance with the provisions of Part 2 of Annexure F;

[b] If the difference does not come within the provisions of Paragraph [2] [a], or if a Neutral Expert, in accordance with the provisions of Paragraph 7 of Annexure F, has informed the Commission that, in his opinion, the difference, or a part thereof, should be treated as a dispute, then a dispute will be deemed to have arisen which shall be settled in accordance with the provisions of Paragraph [3], [4] and [5]: Provided that, at the discretion of the Commission, any difference may either be dealt with by a Neutral Expert in accordance with the provisions of Part 2 of Annexure F or be deemed to be a dispute to be settled in accordance with the provisions of Paragraphs [3], [4] and [5], or may be settled in any other way agreed upon by the Commission.

[3] As soon as a dispute to be settled in accordance with this and the succeeding paragraphs of this Article has arisen, the Commission shall, at the request of either Commissioner, report the fact to the two Governments, as early as practicable, stating in its report the points on which the Commission is in agreement and the issues in dispute, the views of each Commissioner on these issues and his reasons therefore.

[4] Either Government may, following receipt of the report referred to in Paragraph [3], or if it comes to the conclusion that this report is being unduly delayed in the Commission, invite the other Government to resolve the dispute by agreement. In doing so it shall state the names of its negotiators and their readiness to meet with the negotiators to be appointed by the other Government at a time and place to be indicated by the other Government. To assist in these negotiations, the two Governments may agree to enlist the services of one or more mediators acceptable to them.

[5] A Court of Arbitration shall be established to resolve the dispute in the manner provided by Annexure G

[a] upon agreement between the Parties to do so; or

[b] at the request of either Party, if, after negotiations have begun pursuant to Paragraph [4], in its opinion the dispute is not likely to be resolved by negotiation or mediation; or

[c] at the request of either Party, if, after the expiry of one month following receipt by the other Government of the invitation referred to in Paragraph [4], that Party comes to the conclusion that the other Government is unduly delaying the negotiations.

[6] The provisions of Paragraphs [3], [4] and [5] shall not apply to any difference while it is being dealt with by a Neutral Expert.

#### **Article X** ***Emergency Provision***

If, any time prior to 31st March 1965, Pakistan should represent to the Bank that, because of the outbreak of large-scale international hostilities arising out of causes beyond the control of Pakistan, it is unable to obtain from abroad the materials and equipment necessary for the completion, by 31<sup>st</sup> March 1973, of that part of the system of works referred to in Article IV [1] which relates to the replacement referred to therein, (hereinafter referred to as the "replacement element") and if, after consideration of this representation in consultation with India, the Bank is of the opinion that [a] these hostilities are on a scale of which the consequences is that Pakistan is unable to obtain in time such materials and equipment as must be procured from abroad for the completion, by 31st March 1973, of the replacement element and [b] since the Effective Date, Pakistan has taken all reasonable steps to obtain the said materials and equipment and, with such resources of materials and equipment as have been available to Pakistan both from within Pakistan and from abroad, has carried forward the construction of the replacement element with due diligence and all reasonable expedition, the Bank shall immediately notify each of the Parties accordingly. The Parties undertake, without prejudice to the provisions of Article XII [3] and [4], that, on being so notified, they will forthwith consult together and enlist the good offices of the Bank in their consultation, with a view to reaching mutual agreement as to whether or not, in the light of all the circumstances then prevailing, any modifications of the provisions of this Treaty are appropriate and advisable and, if so, the nature and the extent of the modifications.

#### **Article XI** ***General Provisions***

[1] It is expressly understood that

[a] this Treaty governs the rights and obligations of each Party in relation to the other with respect only to the use of the waters of the Rivers and matters incidental thereto; and

[b] nothing contained in this Treaty and nothing arising out of the execution thereof, shall be construed as constituting a recognition or waiver (whether tacit, by implication or otherwise) of any rights or claims whatsoever of either of the Parties other than those rights or claims which are expressly recognized or waived in this Treaty. Each of the Parties agrees that it will not invoke this Treaty, anything contained therein, or anything arising out of the execution thereof, in support of any of its own rights or claims whatsoever or in disputing any of the rights or claims whatsoever of the other Party, other than those rights or claims which are expressly recognized or waived in this Treaty.

[2] Nothing in this Treaty shall be construed by the Parties as in any way establishing any general principle of law or any precedent.

[3] The rights and obligations of each Party under this Treaty shall remain unaffected by any provisions contained in, or by anything arising out of the execution of, any agreement establishing the Indus Basin Development Fund.

## **Article XII** ***Final Provisions***

[1] This Treaty consists of the Preamble, the Articles hereof and Annexures A to H hereto and may be cited as ~~“The Indus Waters Treaty 1960.”~~

[2] This Treaty shall be ratified and the ratifications thereof shall be exchanged in New Delhi. It shall enter into force upon the exchange of ratifications and will then effect retrospectively from the first of April 1960.

[3] The provisions of this Treaty may from time to time be modified by a duly ratified treaty concluded for that purpose between the two Governments.

[4] The provisions of this Treaty, or the provisions of this Treaty as modified under the provisions of Paragraph [3], shall continue in force until terminated by a duly ratified treaty concluded for that purpose between the two Governments.

IN WITNESS WHEREOF the respective Plenipotentiaries have signed this Treaty and have hereunto affixed their seals.

Done in triplicate in English at Karachi on this Nineteenth day of September 1960.

FOR THE GOVERNMENT OF INDIA:

(Sd) Jawaharlal Nehru

FOR THE GOVERNMENT OF PAKISTAN:

(Sd) Mohammad Ayub Khan

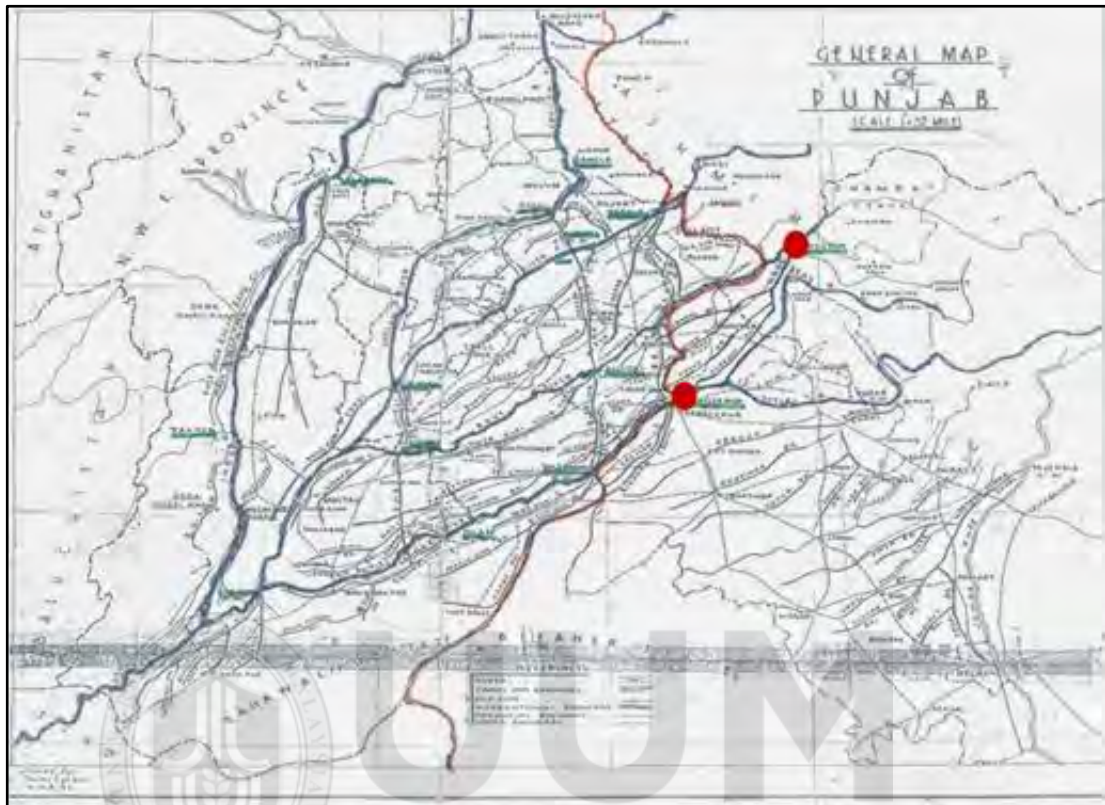
*Field Marshall, H.P., H.J.*

FOR THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT for the purposes specified in Articles V and X and Annexures F, G and H:

Sd) W. A. B. Iliff

## Appendix E

### General Map of Punjab with Irrigation System



Source:- Punjab Irrigation Department, Punjab, Lahore, 1980, pp. 1.

## Appendix F

### The Indus: A Moral for Nations

The New York Times  
December 11, 1960

## The Indus: A Moral for Nations

The head of the World Bank tells how negotiations finally settled a bitter involving that mighty river that threatened war between India and Pak

By EUGENE R. BLACK

**T**HIS is the story of how a bank—the World Bank—helped to resolve a dispute that might well have caused war between India and Pakistan. The dispute was over the river system of the Indus, one of the great rivers of the world. Had war broken out, it would have involved the almost 500,000,000 people who live in the two countries—nearly a fifth of the world's population—and would have had unforeseeable consequences for the rest of the world. But war did not break out. It did not for reasons that shall be related here.

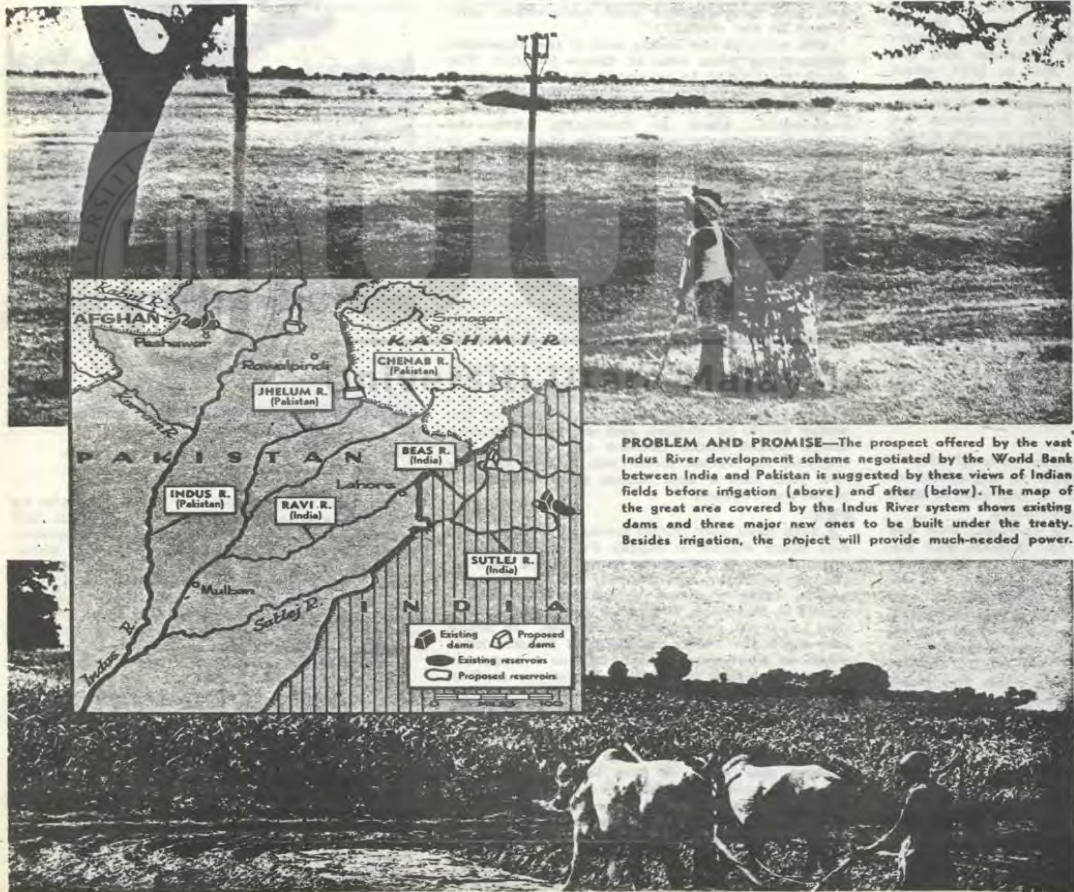
The Indus River rises high in the Himalayas. Before it finally flows into the Arabian Sea, far to the south, it has covered 1,800 miles, a distance as great as from New York to Denver. As it flows southward, it is fed from the east by the waters of five other rivers: the Jhelum, the Chenab, the Ravi, the Sutlej and the Beas.

Without these rivers the broad Indus Valley—with less than ten inches of rain a year—would be a desert to rival the Sahara. As it is, however, the valley supports some 50,000,000 people—

10,000,000 in India and 40,000,000 in Pakistan.

What makes this possible is that the rivers support the largest irrigation system in the world. This system has taken a century to develop. It consists of literally hundreds of canals, crisscrossing an area almost as large as New England.

Elaborate as it is, the system has its shortcomings. The rivers themselves are notoriously temperamental. They spring chiefly from melting snow and their flow varies from torrent in summer to trickle in winter and by as



Source:- The Indus: A Moral for Nations:, *The New York Times*, 11 December 1961, pp. 1.

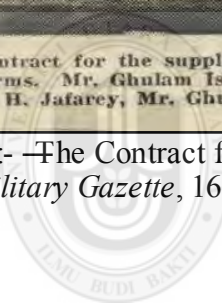


## Appendix G

### The Contract for the supply of aggregate for the Indus Basin Project




Source:- "The Contract for the supply of aggregate for the Indus Basin Project", *Civil and Military Gazette*, 16 September 1961, pp. 1.



Universiti Utara Malaysia

**Appendix H**  
**Indus Basin Project**

 The image part with relationship ID rId37 was not found in the file.



Source:- "Indus Basin Project", *The Pakistan Times*, 11 September 1961, pp. 1.

## Appendix I

### Indus Basin Replacement Scheme

SCHEDULE I

WATER AND POWER DEVELOPMENT AUTHORITY  
WEST PAKISTAN

INDUS BASIN REPLACEMENT SCHEME

Preliminary Estimate of Cost of Barrages as at June, 1960

SUMMARY

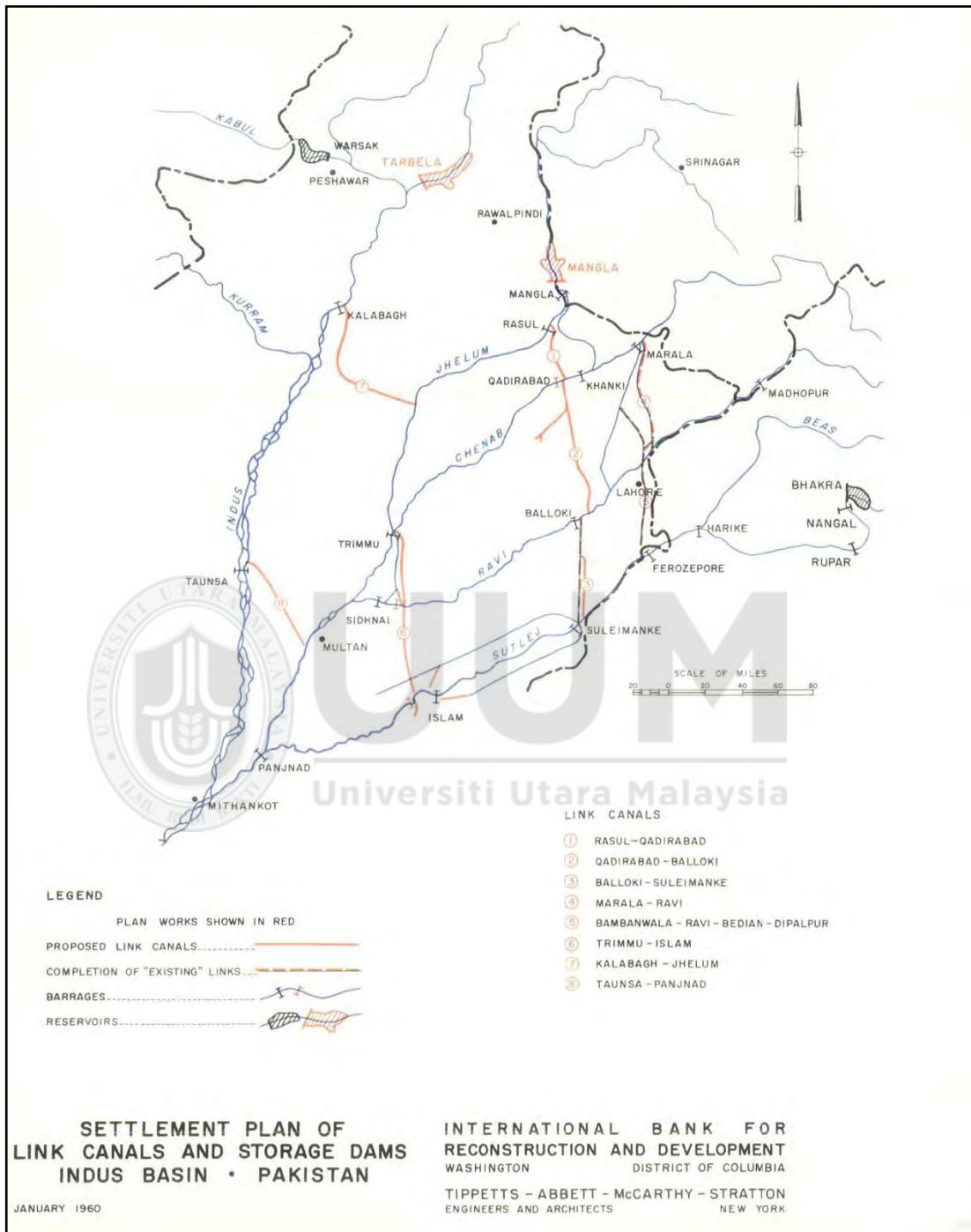
Barrage	Design Discharge cusecs	Total in Rupees		Total estimated Cost			Currency	
		Contractual items	Non-contractual items	Rupees	Dollars	Local Rupees	Pounds Sterling	or Dollars
MAILSI	400,000	47,993,000	3,661,000	51,654,000	10,847,350	20,661,600	2,324,430	6,508,404
NEW SIDHNAI	206,000	45,985,000	3,224,000	49,209,000	10,333,900	19,683,600	2,214,405	6,200,334
QADIRABAD	1,250,000	100,361,000	7,269,000	107,630,000	22,602,300	43,052,000	4,843,350	13,561,380
RASUL	900,000	79,420,000	3,845,000	83,265,000	17,485,660	33,306,000	3,746,925	10,491,390
CHASHMA	1,000,000	112,288,000	6,487,000	118,775,000	24,942,720	47,510,000	5,344,875	14,965,650
	Total	386,047,000	24,486,000	410,533,000	86,211,930	164,213,200	18,473,985	51,727,158

or  
£ 30,789,975  
or  
\$ 86,211,930

Source :- Folder Title: Indus Basin Dispute - Bank Settlement Plan - Documents 01  
Folder ID: 1787764 Dates: 6/1/1960 - 7/1/1960, pp. 2.

## Appendix J


### Settlement Plan of Link Canals and Storage Dams Indus Basin - Pakistan



Source:- File No. 44405I. Cost Estimates of the Settlement Plan - Indus Basin, Pakistan - Part 1 - Cost Estimates Tippetts-Abbett-McCarthy-Stratton Engineers and Architects Item ID: Dates: 2/1/1960 - 2/1/1960, pp. 2.

## Appendix K

### Inspection of works and areas by the World Bank Mission

 The image part with relationship ID rId40 was not found in the file.



Source:- Folder Title: Indus Basin Dispute - Canal Project Data - Pakistan Canals - Bahawalpur - Correspondence 01 Folder ID: 1787928 Dates: 3/1/1955 - 3/31/1955, pp. 1.

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Nearly 62,000 acres. This is a very fertile area and the irrigation figures for 1945-46 were 74,000 acres in Kharif and Rabi, including 24,000 acres cultivated on rains called Barani. A population of nearly 22,000 was dependent for their very livelihood on this Canal.

The soil is light and more suitable for Rabi crops than for Kharif crops and therefore Kharif to Rabi ratio obtaining was roughly 1 : 3.5. Since stoppage of water by India all the irrigation has been lost with a consequent decrease in food production. The Barani cultivation has also greatly deteriorated in yield on account of the sub soil water going down rapidly after the canals stopped functioning.

Quite a large acreage was cultivated twice a year both in Kharif and Rabi. It is for that reason the total irrigated and Barani cultivated area during 1945-46 was 76,000 acres against total C.C.A. of about 62,000 acres.

The yield of wheat and gram per acre on an average was almost a ton per acre. The stoppage of water by India has caused a reduction of food grain production in this area to the tune of 30,000 tons.

The population of this area has greatly dwindled on account of stoppage of water but even now according to the census figures of 1951-52 about 15000 souls live on the land, hoping that some day their channels will flow again. Meanwhile they depend on whatever inferior Barani crops they can raise or work as casual labour on the adjoining lands of Sadiqia Canal.



*Bahawalpur Sita*

WORKS AND AREAS INSPECTED BY THE PARTY IN BAHAWALPUR STATE  
ON THE 10TH MARCH, 1955.

The Party entered the Bahawalpur State from the western end. They drove along the Karachi - Lahore Road upto Sadiqabad and then turned left to Jamaldinwali situated some 17 miles from Sadiqabad. The area traversed is situated at the Tail end of Panjnad Canal System and receives non-perennial supplies. The Party saw considerable area under wheat and other Rabi crops. These crops are sown after heavy waterings towards the end of September and in early October and have been subsequently given water from wells for growing and maturing. It is possible to work the wells in this area, as it borders the Indus river and consequently the sub-soil water is fit for irrigation.

It was explained to the Party that the Panjnad Canal was originally designed and constructed for a non-perennial capacity of 9,567 cusecs, whereas the Abbasia Canal was designed and constructed with a perennial capacity of 1,032 cusecs. The Abbasia Canal with its distribution system cost about Rs. ten millions. Soon after the construction of the Sutlej Valley Canals in Bahawalpur State, when colonisation was started it was found to be a difficult task on account of serious shortage of water in the river Sutlej Valley and a big slump having started in the market value of land and its produce due to world wide depression. Also the Crown waste land in the State was thought to be comparatively inferior in quality to those in the old Punjab Colonies. In connection with the shortage of colonists at that time it may be stated that in 1932 due to opening up of two very big irrigation Projects, namely the Sutlej Valley Project and the Sukkur Barrage Project about 15 million acres of land became available for colonisation at one time, and the number of colonists available at that time could not occupy the whole of it. The demand for land became slack, helped by the fall in prices of agricultural produce. Accordingly in 1932 the Darley Committee recommended that the Abbasia Canal may be abandoned and the tail area of the Panjnad Canal lying to the south of the Railway line may be converted into perennial. The Anderson Committee in 1935 reduced the non-perennial capacity of Panjnad Canal to 8,000 cusecs and provided a Rabi capacity of 1,500 cusecs. The system started functioning on this pattern. During the World War II the Government of India asked for Post-war Development Projects. The Abbasia Canal Extension Project was one of the Projects submitted by the Bahawalpur Government for early execution. A detailed survey was done in 1943-44 and a Project for the development of the Abbasia area was sanctioned in 1946. The remodelling of the abandoned Abbasia Canal was taken in hand in December, 1946 and the canal started functioning in May, 1948. Water was made available by special consent of the lower

(2)

riparian, Sind. This consent was first given in 1942 for Growing More Foodgrains and has since then continued being renewed every year.

The pressure on land has increased due to the population multiplying in the canal colonies since ~~the~~ their opening and this pressure has further increased as a result of refugee influx. The development in the Abbasia is thus proceeding apace. It is necessary that water should be provided for the development of this area, which measures about 2,74,000 acres culturable commanded.

The Project is split up into two stages. Stage I covering an area of about 1,35,000 acres has already been completed, wherein the area cultivated during 1953-54 was 63,000 acres. Fifty thousand acres have been allotted to the refugees at 12½ acres per family. Thus 4,000 families at an average of 5 persons per family have settled down already.

The latest available irrigation figures for the Panjnad Canal for the year 1953-54 are given below:-

		G.C.A.	Irrigated in 1946-47.	Irrigated in 1953-54.
Panjnad	Perennial	3,61,000	2,62,000	3,08,000
Panjnad	Non-perennial	9,18,000	<u>5,85,000</u>	<u>6,83,000</u>
	Total.		8,47,000	9,91,000

It was pointed out to the Party that the river is only about 3 - 4 miles from Panjnad Canal and considerable Sellab Irrigation is done inside of the Flood Protection Band. It was also pointed out that there are additional areas in the eastern part of the State, which could be commanded from the Canals taking of from the Ghara river and can be successfully cultivated if there were water. This area was in fact at one time included in the Sulej Valley Project and the canals constructed were ~~be~~ abandoned in 1932 on the basis of the Darley Committee's Report on account of shortage of water.

From Jamaldinwali the Party travelled along the Dallas Branch and then to the Tail of Panjnad Canal upto the crossing of Khanpur - Chachran Road. Turning to the south they travelled to Khanpur through the command of Panjnad.

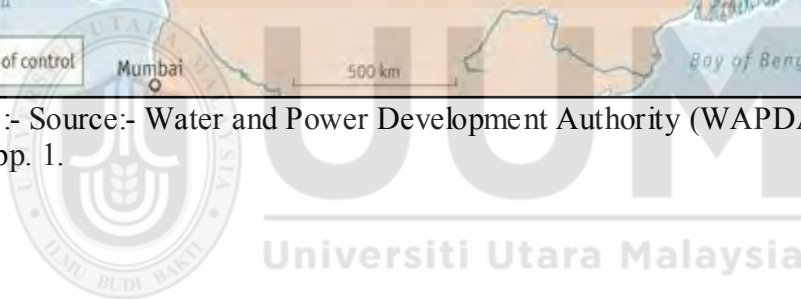


## Appendix L

### Baglihar and Kishanganga Dam



Source:- Source:- Water and Power Development Authority (WAPDA), Islamabad, 2005, pp. 1.



## Appendix M

### Tarbela Dam



Source :- Punjab Irrigation Department, Punjab, Lahore, 2018, pp. 1.



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## Appendix N

### Indus River



Source:- Punjab Irrigation Department, Punjab, Lahore, 2018, pp.1.