The present chapter explores the history of major development in the Indus Basin and the various water related disputes between the shareholders before partition. This is followed by the event of partition, creation of the two countries and dispute over the share of water. It further explores the role of external parties (World Bank) for helping settle the growing dispute and subsequent formulation of Indus Water Treaty.


Indus River Basin one of the largest river basins in the world, comprises the main Indus River and its tributaries. It is mainly shared by India and Pakistan; out of about 190 million people 72 percent Pakistan and 23 percent Indian live in Indus Basin. These people are mainly dependent on agriculture and water of Indus Basin Rivers which play significant role in the development of their agriculture. The river is blessing for Indo-Pak inhabitants.

Indus and many of its tributaries get usually large flow of waters during summers because of the melting snow in their high reaches. It is the period when rains usually follow and the silt which these rivers carry is rich in alluvial and makes the riverine tracks very fertile and productive. Hence the lands across Indus and its tributaries considered among the most productive lands throughout the sub-continent are also considered as vital to the socio-economic development of the region. The Indus River once hosted the mighty civilization the Indus Valley Civilization along its banks. The Indus Civilization one of the first major human settlements in the sub-continent, discovered in 1921-22 dates back to 3500 BCE.

The Indus Valley Civilization, now called Harappan Civilization was spread over a large area than thought earlier. It encompassed an area from Sutkagen Dor in Baluchistan (Pakistan) in the western end to the Alamgir Pur in Utter Pradesh (India), a long distance of 1600 km in between. Its northern peripheries included Munda in Jammu and Kashmir and Diamabad in Maharashtra in the south, again a long distance of 1400 km in between. The bases of this civilization were mainly agriculture and animal husbandry.

The evidence supports the view that it was well settled civilization and agriculture was the mainstay of the people. The evidence has further revealed that Indus River was the main reason behind their economic development and agricultural prosperity. To enhance the agricultural production, excellent irrigation and water management system was practiced along the Indus River. There is some evidence coming from some sites of Harappa Civilization which allude to the practice of canal irrigation. The rain water was used for irrigation purposes by storing it and channelizing it. Even spill over water is also used for irrigation purposes. H.T. Lambrcik in his book, Sind before the Muslim Conquest, History of Sindh, writes “the whole operation involves an absolute minimum skill, labour and aid of implementing”. The people of Indus Valley Civilization were in know of the advantages and techniques of harnessing the inundated Indus. Cultivation of crops such as wheat, barley and peas were generally sown in spring. Surplus food production on a regular basis in the Indus plain attracted non-agrarian communities such as, traders artisans who along with the rulers have made a significant contribution to knowledge of pottery, grain storage, agriculture, irrigation and food preservation.

Subsequent to the ruin of Indus Valley Civilization, later ruling dynasties like Shakes, Pallavas and Pandyas also paid due attention to the development of the Indus Basin. Earlier development of water courses continued with new energy and

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5 Jean Fairly, *The Lion River: the Indus* (Lahore: Brother Publisher, 1993), 175.
techniques. Water supply and sanitation system were well managed according to the norms. The infrastructures of dams and dikes were enlarged and developed for agriculture and irrigation purposes.\textsuperscript{6}

4.1.2. Water resource development in the Indus Basin during Sultanate period

When the Arabs conquered the Sindh in the 8\textsuperscript{th} century they too embraced the techniques of water development from previous dynasties. They settled a good agricultural society in the Indus plain. Owing to the needs and demands of the agricultural land, the Muslim rulers focused their attention on the development of a good canal system.\textsuperscript{7}

In order to harness the full advantages of land and agriculture, the water development was once again promoted when Delhi Sultanate was established. With the expansion of the empire, growing population needed more food and this led to more agriculture activities. The Sultans dealt with water development as an exigent issue for the prosperity of the region. The climate of Punjab plain is very hot and the land surrounding the Indus River and its tributaries is mostly arid. Therefore, there was a dire need to provide water to plain areas by artificial sources. Thus, the Sultans constructed water reservoirs and lakes. These sources were utilized for both irrigation and drinking purposes.\textsuperscript{8}

The first multi-purpose lake that provided clean drinking water was constructed by Sultan Iltumish in the 12\textsuperscript{th} century. Soon afterwards, Sultan Feroz Shah Tughlaq (1351-1388) constructed Western Yamuna Canal (1355), to take water from the Yamuna River to his hunting ground in Hissar (Haryana).\textsuperscript{9} This canal was extended by the Mughal rulers.\textsuperscript{10} Over the same period different methods and techniques were introduced to enhance the agricultural productivity and development

\textsuperscript{7} Jean Fairly, \textit{The Lion River: the Indus}, 207.
of irrigation systems. Certain policies were implemented to encourage the farmers. Emperor Muhammad Bin Tughlaq encouraged the farmers to build their own rain water wells and harvesting systems. Thus the farmers of Punjab plain were able to cultivate two seasonal crops in a year—Kharif\(^{11}\) and Rabi.\(^{12}\)

Babar, the founder of Mughal dynasty, defeated the last ruler of the Delhi Sultanate and became the first Mughal Emperor in 1526.\(^{13}\) The development of water took new priority again. The land of Punjab during the Mughals comprised of five Doabs.\(^{14}\) The first Doab or the-Bai Jallandhar Doab was spread between the Sutlej and the Beas; the Bari Doab formed the area between the Beas and the Ravi, the Richna Doab covered the area between the Ravi and the Chenab; Chaj Doab lay between the Chenab and the Jhelum River and the last one Sind Sagar Doab stretched between the Indus River and the Jhelum River.\(^{15}\)

The Mughals developed and improved their irrigation system, road and communication network, constructed wells and Baolis (water tank), which were ideally spaced at three-mile intervals on all roads.\(^{16}\) Babarnamah gives a detailed description of the prevalent modes of irrigation practices in India during Mughal rule. Mughals constructed a perennial\(^{17}\) canal system with permanent head-works. The perennial canal system used to supply water to cultivable land throughout the year.\(^{18}\) Emperor Akbar (1556-1605), renovated the Yamuna Canal in 1568 which was built by the Sultan Feroz Shah Tughlaq in 1351. Soon afterwards, Emperor Jahangir (1605-1627), built a similar type of (perennial) canal in the seventeenth century from the Ravi River to a garden on the other bank of the river from Lahore. His son, the next Emperor Shah Jahan (1628-1658), built a canal from the Ravi River to provide water to the Shalamar garden of Lahore. Later on, the Sikhs in 19th century carried out an

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\(^{11}\) Kharif Crops: These crops are grown in the beginning of rainy season in May and June and harvested by September and October. These crops are also called summer season crops.

\(^{12}\) Rabi Crops: These crops are grown in winter season in October and November and harvested by March and April. These crops are also called winter season crops.

\(^{13}\) Fairly, *The Lion River: the Indus*, 206.

\(^{14}\) Doab is a Persian word made up of two words-'do' meaning two and 'ab' meaning water, “doab” is a tract of land lying between two rivers flowing in the same direction.

\(^{15}\) Michel, *The Indus Rivers: A Study of the Effects of Partition*, 42.

\(^{16}\) Ibid., 49.

\(^{17}\) Perennial canals system is able to utilize the water even the reduced winter flow of the rivers.

extension of this canal in Amritsar (Punjab) and filled the tank at their sacred Golden Temple.19

In 1707, the Mughal irrigation system was most enlarged and extensive, as much as the Valley of Indus had never seen before. Of the Mughals, Emperor Aurangzeb (1658-1707), is credited with having taken an interest in developing lakes, tanks, and canals for the development of agriculture and among his famous canal works were the western Yamuna Canal, Halsi Canal, Shah Nehr Canal and a series of other inundation canals.20 Mughal rulers, being lovers of gardens, built some canals not only for irrigation but also to provide water to the parks and gardens of the Mughal royalty.21 From the early sixteenth century onward, ground water of the Indus plain is extensively used for agricultural and irrigation activities. Dug Wells and Karez (underground water canals) were often constructed after the sixteenth century. These methods of irrigation are heavily in practice in the Indus plain in the present times as well.

Many of the canals in the Indus plain were also built by the Kalhora dynasty (1701-1783) and the subsequent Talpur dynasty (1783-1843) in Sindh province. The Kalhoras had built the 10-mile long Nurwah Canal, the inundation canal of Begari, 2-mile long Shah-JI-car and 20-mile long Date-JI-Kur Canal, which are now merged in Warah Canal (constructed during British rule). Though the Kalhoras did not have a sound knowledge of hydraulic engineering, but their irrigation system was managed more efficiently.22 As a result of these developments, a large tract of barren and unoccupied land in Sindh was converted into fertile and productive one.

Foregoing paragraphs bring into our minds a picture of the Indus River, its tributaries and how they played a pivotal role in shaping the economies of all ruling dynasties. Since time memorial various methods and techniques were practiced to utilize the water from the Indus river system in the best manner. Proper management and regular availability of water provided an aid in flourishing the agriculture which

19 Jean Fairly, The Lion River: the Indus, 207.
20 Inundation canals have no control at the off-take point and need the river to be in high flood. This limits the operating period, which begins between May and early July and goes on through to the end of September or early October.
22 Ibid.
thereby became the mainstay of the people and main source of revenue. However, all ruling dynasties dealt with the management of water and agriculture as an existential issue.

4.1.3. Water resource development in the Indus Basin during British period

The Battle of Plassey in 1757 is generally considered the dawn of Colonial rule in India. The East India Company led by Robert Clive dethroned the Nawab of Bengal and presented himself as a key player in Indian politics. After the Battle of Buxar in 1765, the company expanded its control over Bengal, Orissa and Bihar. With the death of the Tipo Sultan in 1799, most part of South India came under direct or indirect control of the British East India Company. Subsequently, the colonial rule got strengthened and it took over the sub-continent completely by the third Anglo-Maratha war of 1818. Soon afterward, the British East India Company conquered the Punjab in Anglo-Sikh war of 1849 by overcoming Maharaja Ranjit Singh’s successors.\(^{23}\) Eventually, after the fall of Punjab, except for the remaining Princely States, all of India came under the direct or indirect rule of the British and the British East India Company.\(^{24}\)

When the British Government settled in Punjab, it initiated different programs to regularize yield from the agriculture, which was at the time the main source of revenue. Thus, several schemes of canals were launched to utilize the wealth of waters of the Indus basin in the best possible ways.

In the beginning, the Britishers had no problem with in irrigation system, as it was already there for the sophisticated agricultural system. Moreover, the amount of water for irrigation was plenty because of regular rainfall. To develop the irrigation system on modern lines, they surveyed the perennial, non-perennial canal, the inundation canals and Mughal works. Meanwhile, they sent their engineers to Mediterranean countries to gain advanced knowledge of water management. The engineers then applied their knowledge and experience of water management in the


\(^{24}\) Michel, The Indus Rivers: A Study of the Effects of Partition, 57.
The British interest in developing the water resources Indus Basin was closely related with plans for large-scale agriculture production in the sub-continent which subsequently would be boost the British Empire.

Under the colonial policy of the British, a number of dams and dikes were built across the Indus River and its five tributaries. The preference was given to the reclamation of large barren and unoccupied wastelands and transforming them into productive land. There were a well-developed canal command areas or colonies, which cultivated a variety of crops, such as cotton, rice, wheat, barley, sugarcane among others.

New colonies and towns were established. The British administration from 1860 to 1947 made large investments in the Indus Basin irrigation system, making it the largest contiguous irrigation system in the world, with a command area of roughly 20 million hectares and annual irrigation capacity of more than 12 million hectares. The conversion of vast desert land into one of the leading agricultural regions in Asia was the excellent engineering achievement of the colonial rule.

From the middle of the 19th century onward, various new irrigation canals were constructed gradually to provide water for the highlands between five doubles. The concept of construction was entirely new, introducing perennial and rotational canal system in the Indus Basin. Inundation canals were converted into perennial canals in Punjab and Sindh.

Among the first new works in 1859, the Upper Bari Doab Canal (UBDC) from Ravi River was constructed with nineteenth century enthusiasm and confidence. This project had triggered political confrontation between Punjab and Sindh, when Sindh as lower riparian objected that the project has potential threats to its agriculture and economy. The confrontation between Punjab and Sindh could be thought of as the first instance of water dispute in the Indus Basin.

Next to the Upper Bari Doab Canal, the second major work was Sirhind Canal, constructed in 1872, to protect the existing precarious cultivation of about a million acres of land in Punjab and neighbouring princely states. In 1878, a severe famine hit north India, and the Government of British India was concerned about the need for greater food production, and then the British authorities determined that the Indus plain should be developed as the granary of India.\textsuperscript{28} To meet the emerging challenges, various irrigation schemes were introduced with the help of local governments. This initiative had a great significance in achieving maximum food production.

Over the same period, the British administration and engineers had devoted themselves to consider the Indus Basin as a whole and for the first time a new concept, entirely original at that time, was adopted. The link canal system was put into practice to fill one river using the waters of another river. The Jhelum River was connected by canal to the Chenab River and then Chenab River to Ravi River.\textsuperscript{29} Simultaneously, the Colonial irrigation system was undertaken in two steps. Firstly, the existing canals were renovated while in the second step, inundation canals were developed into perennial canals. Thus, Punjab became the main area of canal building and extension activity\textsuperscript{30}

In 1867, the position of Inspector General of irrigation offices was created to look after the irrigation development, which paid considerable attention in the expansion of irrigation network.\textsuperscript{31} From 1876 to 1885, about thirteen major canals were constructed that include Khanwah, Katora and Gray Canal on Sutlej River, the Para and Sohag Canal on Ravi River.\textsuperscript{32}

In 1892, a major link canal, the Lower Chenab Canal, was constructed to bring water to wasteland between the Chenab and Ravi rivers. In addition to this, the work on the Lower Jhelum Canal was undertaken in 1901 to provide water to the wasteland between the Jhelum and Chenab rivers. Construction of such a huge irrigation

\textsuperscript{28} Michel, \textit{The Indus Rivers: A Study of the Effects of Partition}, 74.
\textsuperscript{29} Gulhati, \textit{Indus Water Treaty: An Exercise in International Mediation}, 43.
\textsuperscript{30} Siddiqui, \textit{Authority and Kingship under Sultans of Delhi: Thirteenth-Fourteenth Centuries}, 263.
\textsuperscript{32} Siddiqui, \textit{Authority and Kingship under Sultans of Delhi: Thirteenth-Fourteenth Centuries}, 263.
network was the result of excellent engineering works. By these developments, the barren and unoccupied land transformed into productive lands. The colonial rule had not only given the Indus Basin the most extensive irrigation system in the world but also developed modern techniques and formulae now used in the irrigation system, which provide the framework for achieving maximum production.

Punjab and Sindh were not only provinces to benefit from the irrigation network; it was also considerably expanded in neighbouring provinces. In North West Frontier Province (NWFP), the Lower Swat Canal 1885, the Kabul River Canal 1892 and two other canals were constructed and came into operation in 1907 and 1914 respectively. Limited canal system was constructed in J&K state, which includes the Ranbir and the Partap Canal from Chenab River and non-perennial Kashmir Canal from the Ravi River. Small hydroelectric plant was also set up in Jammu upstream of the Madhopur on the Ravi River. Renovation of Shahkul Canal in Kashmir Valley and construction of Mahora hydroelectric plant in Baramulla district of Kashmir was also carried out in the same period.

4.2. Origin of Water Dispute over the Indus Basin

As Britishers were on the mission of exploiting more and more from their colonies, they had developed tools and mechanism to develop the production of raw materials for their industrial growth. For this purpose, they introduced a large-scale development and management of water resources of the sub-continent. The objectives were to exploit the maximum agricultural potential and enhance the European industrial growth and market. To achieve these goals, the regional and the local administration played a pivotal role in the identification of feasible water projects. Meanwhile, the management of developed water resources was handed over to provincial departments.

The provincial department as the custodian of the water promised to provide the water to every region. But, the physical integration of the canal system and scattered population made the development of water resource an issue of confrontation among provinces and states. These conflicts were mostly reflected by the conflicting demands of the regional, provincial and state levels and resulted in

33 Ibid.
water conflicts. Consequently, these water conflicts stirred up socio-political conflicts in the post-colonial era.\textsuperscript{34}

Another reason of water conflicts between provinces and states was that the lack of storage facilities for expanding irrigated lands and some drawbacks of the developed canal system built during the British period as it widened the gap between upstream and downstream provinces over water distribution. The production and revenue that was being generated from irrigated lands was attracted to provincial bodies, for which they wished to continue the development of their own irrigable land. As the work progressed, provinces and regional bodies came to compete for the allocation of water, which resulted in conflicts over water allocation.

4.3. Development of Water Disputes in Pre-Partition Period

4.3.1. Punjab-Sindh dispute over water: The annals of Indus Basin records the fact that before the British colonial rule, water of Indus Basin was not seen as a source of conflict. It was only in the mid of the 19\textsuperscript{th} century under the British colonial rule that the availability of Indus Basin water became really an issue between Punjab and the princely states of Bahawalpur and Bikaner. Bahawalpur State, as a lower riparian of Punjab and Bikaner, objected to any withdrawal of water from Sutlej and Beas River by Punjab and Bikaner state, which affected the inundation canals of Bahawalpur. This dispute was resolved by mutual understanding, followed by an agreement which was signed in 1920 between Punjab and the princely states of Bahawalpur and Bikaner. It was the first agreement over the sharing of Indus Basin and is known as the Sutlej Valley Tripartite Agreement.\textsuperscript{35} The settlement of disputes and subsequent agreement had opened up ways for future projects in the Indus Basin, especially for Sutlej Valley Canal Project.

The Bombay Government (Sindh was part of Bombay presidency till 1935) also objected to Punjab’s withdrawal of water, which affected the irrigation system in Sindh. Therefore, it has submitted its complaint against Punjab to the Central Government of India. This case was important for two parties as it was related to their economic prosperity. The Central Government tried to do justice but found it


complex, problematic, and thereby, referred it to the Secretary of State for India in London to find a solution of the problem. The Secretary of State had used the authority to settle the conflicts by an executive order. He did it and sanctioned Sutlej Valley Project in Punjab and Sukkar Projects in Sindh, after holding discussions with interested sections.36

Sindh’s Sukkar project was submitted to the Secretary of State in 1920 and it was approved in 1923. The construction started in 1923 and it became operational in 1932. As the immediate result of this project, almost 7.5 million acres of cultivable lands were brought under irrigation.37 When the Secretary of State for India sanctioned Sukkar project to Sindh, as against this, Punjab had three more projects in its proposal. But, the decision on these projects was to be taken after accurate availability of rivers flow discharge data. In 1921, Government of India appointed “Indus Discharge Committee” to observe the daily flow of rivers at different places. Punjab and Sindh were also directed to cooperate with the Committee regarding the collection of data. Finally, the Committee had prepared its report following recommendations for the Haveli Project in Punjab.38

During this period, Punjab had put forward the proposal of Thal Project, which was strongly opposed by Bombay Government. The case was again referred to the Secretary of State for approval but the Bombay Government raised voice against it, because this was detrimental to the lower riparian Sindh. Because of this, the project was not taken into consideration by the Secretary of State. The Punjab was not happy about the rejection of its project, and repeatedly insisted on its approval. Subsequently, the Government of India was compelled to constitute an eight member committee under the Chief Engineer of UP, Mr. Anderson.39

As per the recommendations of the 1935 Anderson Committee, there should be no fresh withdrawals of water by the upper riparian Punjab, which may be detrimental to the other riparian states or may affect not only the existence but also the future rights of such riparian over the water of the Indus river system40 Though the

36 B.A. Malik, Indus Water Treaty in Retrospect, 294.
38 B.A. Malik, Indus Water Treaty in Retrospect, 294-95.
39 Palijo, Sindh-Punjab Water Dispute 1859-200, 12-14.
40 Ibid., 12.
project remained a source of political confrontation, the Secretary of State for India resolved it in a constructive manner.

This dispute was not the last one over the share of Indus Basin water. Punjab as upper riparian with already substantial command area wanted to increase its irrigated areas through the building of canals and dams from the Indus River and its tributaries. It had started the construction of another project (Bhakra project) on Sutlej River, which became a major cause of dispute between Punjab and Sindh.

4.4. Dispute over the Construction of Bhakra Project

This dispute was related to the possible prejudicial effect of the Bhakra project on the Sutlej River, contemplated by Punjab on Sind’s inundation canals.\(^{41}\) The construction of the project on the Sutlej River by Punjab could have affected the irrigation system in Sindh. Therefore, the Sindh, alarmed by the cumulative impact of several new irrigation schemes through the Bhakra project, complained to the Governor General of India about the Bhakra project.

Sindh’s second complaint was over the Thal and Haveli projects, which would create a serious shortage of water at Sukkar in lean months and also affect the proper working of the irrigation channels and Barrages in Sindh.\(^{42}\) During 1930s, the sub-continent witnessed political upheaval, which resulted in the separation of Burma from India. To resolve the emerging political disorder, Government of India Act was enacted in 1935 and various reforms were introduced, e.g. greater autonomy was awarded to the provinces. As a result of this award, Sindh was separated from Bombay presidency which represented the culmination of provincial autonomy not only in irrigation related issues but in most areas of economic planning and overall development.

Under the same Act, water was put under provincial jurisdiction with a clause to Governor General’s intervention in case of dispute between provinces or princely states.\(^{43}\) However, the Governor General set up a special Commission is known as the

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Sections 130 to 134 in the 1935 Act dealt with the problem of “interference with water supplies”. The provisions led down that provinces or princely states could complain to the Governor General of India, if their interests were prejudicially affected in the water supplies from a natural source,
“The Rau Commission” (also known as Indus Commission) on September 11, 1941, under the chair of Justice B.N. Ra, then the judge of the Calcutta High court and two Chief Engineers from Utter Pradesh and Madras. The Commission submitted its report in July 1942.44

After a careful consideration, the Commission members opined that the withdrawal of water by Punjab would probably cause physical damage to the inundation canals in Sindh, especially in the month of September. Therefore, the Commission made some specific recommendations on the sharing of Indus river system water.45 It also recommended that Punjab had to give RS. 2 Crores for building two barrages in Sindh at Guddu and Kotri; and would not take any action on the proposed project up to October 1945, which was, however, rejected by Punjab, whereas Sindh was not too satisfied with the decision of settling the financial issue. Hence, the outcomes of the commission were neither accepted by Punjab nor Sindh.

Consequently, both parties appealed to the Central Government for a better solution. Actually, this was referred to London as the last resort; the Central Government of India advised the Chief Engineers of two provinces (Punjab and Sindh) to hold meetings informally between 1943 and 1945 for mutual agreement. They prepared a draft agreement on 28 September 1945, but it was again rejected by both the provinces and the dispute remained unresolved for the next couple of years. In 1947, it was referred to the Secretary of State in London for the verdict. Thus, the issue lingered until the Indian Independence Act of July 1947 was passed, creating two independent dominions of India and Pakistan.46 However, due to the partition of the sub-continent and its political ramifications, the water dispute remained unresolved.

due to the action of another province or princely state. If the Governor General considered that the issues involved were of sufficient importance, he was required to appoint a commission to investigate the matter and to report to him. After considering the report he was to give a decision he deemed proper. In effect, this arrangement provided for binding arbitration: in the end, the Governor General of India could theoretically impose his decision.

4.4.1. Issues involved in shaping the water dispute

A recapitulation of disputes in the Indus Basin would bring out some issues that engendered the peace and harmony between the provinces during the British Rule between provinces:

- From 1920 to 1945 there was a lack of storage facilities along the Indus Basin, due to which water could not be stored, and flowed unutilized. It was the lack of storage facilities which increased the tension between upstream and downstream provinces, since water supply was not available throughout the year to meet requirements of irrigation. These problems could have been solved through technical solution, such as by the construction of storage.

- The existing canal system was not enough to meet the requirements for increasing population in the basin, as new areas were being converted, all the time to under agricultural lands, which increased the demand for irrigation water and maximised the chances for conflicts;

- Another issue which increased the rivalries over share of water was the revenue generated from agricultural land. Provincial bodies wanted to retain generated their provinces because it was a main source of provincial economy. They wished to develop land and water resources without taking into account the needs and demands of other provinces, which consequently resulted in conflicts and hostilities.

- Water from the canals had a significant role in achieving the maximum agricultural production. However, the complex structure of the canal system and the idea of equal distribution made water a political issue between provinces.

4.5. Independence and the Creation of Two Countries

The Indian subcontinent is the home to various ethnic and religious groups (including two dominant groups Hindu and Muslim). The common features of these groups were brotherhood, unity and patriotism. After the war of 1857, these various groups got united and struggled together for independence from the British yoke. Initially, both the groups were fighting against colonial rule under the banner of ‘Congress Party’
formed in 1885, a party that included all Indians without any bias to any specific religious group or community. However, during the early decades of the 20th century, the disappointed section of Muslims refused to accept the Congress as an inclusive party, accusing it of being a cover for Hindu dominance. The political groups other than Congress, claiming to represent various religious or ethnic communities opened their own fronts against the colonizers.

The Muslim League was established in 1906, to represent the Muslim grievances, demanded separate electorates which would safeguard Muslim interests. In 1935 the pressure for independence mounted, and the Government of India Act was approved. The decision facilitated self-rule at the provincial level. In essence, the 1935 Act led to the termination of the British Rule and eventually paved way to the partition of British India into the independent states of Pakistan and India which became a reality on 14 and 15 August 1947 respectively.

4.5.1. Immediate Consequences of Partition

India and Pakistan attained independence from colonial rule in a remarkably peaceful manner when Britain relinquished its almost 200 year rule in the sub-continent, and handed over the land to the political leaders of Congress and Muslim League. Against the peaceful transfer of authority, few political decisions altered the course of history in dramatic fashion. The partition turned out to be highly painful. Right from 1947 till now, the people of sub-continent have been suffering from post-traumatic problems and the message given by partition is unbearable and horrible. The hasty British departure along with the unimaginative surgical partition of the Punjab created many complex issues for the successor nations of British India.

Poorly handled partition and the violent mass migration of people exacerbated the tensions between the two leading nations of the subcontinent to decades of conflict. Most of Hindus, Muslims and Sikhs were unconcerned and indifferent with

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these newly created geographical entities.\textsuperscript{49} They were needlessly caught up in the fire of religious hatred. Many were dragged out of their homes, others drifted from one place to another because of fear, panic and sense of hopelessness. The Congress and the Muslim League had no empathy for a vast number of people who were committed neither to Hindu homeland nor to Dar-al Islam. They had no destination to reach and no marriage to pursue. They were unsure whether Lahore or Gurdaspur would be in India or Pakistan.\textsuperscript{50}

A massive mass movement took place after the partition, accompanied by outbreaks of inter-communal violence. It is estimated that nearly 15 million people migrated to areas which they believed safe and secure and in which their religion was dominant. In addition, the sectarian violence within newly created India and Pakistan caused social and economic upheaval. The displacement of people escaping from this violence disrupted food production in Punjab—the breadbasket of India—just as there were millions of refugees to cater. The tragedy of partition separated 400,000,000 people from each other and created the basis for subsequent India-Pakistan tension.\textsuperscript{51} It has also led to a number of disputes over certain parts of the sub-continent, which continued till date. The violence not only disrupted cultivation but also destroyed irrigation channels. On the traumatic story of partition Aloys Arthur Michel stated;

\begin{quote}
\textit{\textquoteleft\textquoteleft on the face of it, it would certainly seem that the partition could have been accomplished in a less hasty manner; that the boundaries could have been drawn more carefully had six months been allowed instead of six weeks; that the boundary award could have been published before, rather than after independence was proclaimed; that the Indian Army and Civilian Service could have been separated into Hindu-Sikh and Muslim elements before rather than during the transfer of power; that sufficient safeguards for the population could have been organised; that in particular the Punjab Boundary Force, in size and deposition, could have been less inadequate for its monumental task; and that the transfer of power and population might have been made during the autumn or}
\end{quote}

\textsuperscript{49} Gulhati, \textit{Indus Water Treaty: An Exercise in International Mediation}, 50-53.  
\textsuperscript{50} Mushirul Hassan, \textit{Legacy of a Divided Nation} (New Delhi: Oxford University Press, 1997), 128-129.  
\textsuperscript{51} Gulhati, \textit{Indus Water Treaty: An Exercise in International Mediation}, 49.
spring fallow period rather than in the heat, rain, and mud of late summer, with the untended crops going to waste in the field".  

### 4.5.2 New geopolitical boundary across the Indus Basin

The new geopolitical boundary between India and Pakistan which ran right through Punjab etched a hard border, cutting the Indus River system and disrupted its well-managed integrated irrigation canal network. The geography of the partition was such that the diversion structure of the canal system was located in India, while the distribution network was in Pakistan. Many of the canal head-works, such as of the Upper Bari Doab Canal, and the Sutlej Valley Canals fell in India, while the land being irrigated by their water fell in Pakistan.

Hence, the partitioning of the canal network created a dispute between the two countries over the right to the use of Indus Basin water. Even before the partition of India and Pakistan, the Indus water created problem between states of British India, but most of the disputes were resolved by executive order of the Central Government of India. The dispute over water became international in its character only after the demarcation of new political boundary, which increased hostilities and exacerbated the tension between the two nations.

### 4.6. Water Dispute and Negotiation Process from 1947 to 1950

In fact, when the British Parliament passed the Indian Independence Act on 18 July, 1947, the boundary line that divided Punjab between the two countries did not provide the mechanism for the continuation of water supply, so drawing a boundary line between the two countries was a difficult task. The Boundary Line Commission realized that the issue was problematic by the existence of the canal system and the high dependency of agriculture upon canal water. Thus, the nature of the integrated canal system exacerbated the difficulties in deciding the new boundary. In this situation, Redcliff contacted the leaders of both countries—Jawaharlal Nehru and Muhammad Ali Jinnah—with the idea that the Punjab irrigation system should be a

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joint venture run by both countries. However, Redcliff was rewarded for his suggestion by a joint Hindu-Muslim rebut. Muhammad Ali Jinnah told him to get on with his job and stated that he would rather have Pakistan desert than fertile fields watered by the courtesy of Hindus. Jawaharlal Nehru curtly informed him that what India did with India’s rivers was India’s internal affair. Both leaders were obviously furious with him and hinted that he was playing politics.\textsuperscript{56}

Redcliff was well aware about the need for joint control of canal head-works, but could not do more than hope for joint India-Pakistan control of a head-works. Meanwhile, when the state of Bahawalpur and Bikaner asked Redcliff to take into account their rights in the canals and head-works located in Punjab, he refused to consider this question. Redcliff pointed out that the division of the Province did not affect the rights of private property.\textsuperscript{57}

In order to resolve the India-Pakistan issues, numbers of committees were set up including “Committee B.” The Committee B was constituted by the Government of India and entrusted to make arrangements for the division of the water of Indus Rivers between the two countries. Both governments were required to place their problems regarding the distribution of water before the Committee B. The report of the Committee B came up before the Punjab Partition Committee, (Chaired by the Governor of Punjab and consisting of equal representation of East Punjab and West Punjab). The Partition Committee accepted the points on which committee B was in agreement, “that the pre-partition shares of West Punjab and East Punjab in the canal waters would be maintained.” But Partition Committee, like Committee B, was unable to agree on the valuation of the canal system. Therefore, finally, the Punjab Partition Committee decided to refer the case to the Arbitral Tribunal.\textsuperscript{58}

This Tribunal was headed by the Chief Justice of India, Sir Patrick Spense and its tenure was up to 31\textsuperscript{st} March 1948. Disputes and difficulties between two countries

\textsuperscript{56} Michel, The Indus Rivers: A Study of the Effects of Partition, 164.

\textsuperscript{57} Gulhati, Indus Water Treaty: An Exercise in International Mediation, 73.

\textsuperscript{58} Muhammad Ali Choudhury, The Emergence of ‘Pakistan (Lahore: Research Society of Pakistan, 1989), 318.
over the division of assets or liabilities formed by the partition could, therefore, be placed before the Tribunal until December 1947.\footnote{Palijo, *Sindh-Punjab Water Dispute 1859-200*, 22.}

In regards to the distribution of water, there are two different views: N.D Gulhati is of the view that by 30 November 1947, five issues had been placed before the Arbitral Tribunal, which was formed by the partition of Punjab. All these issues referred to the financial adjustments needed for: (1) the irrigation system; (2) the crown waste lands; (3) irrigated forest plantations; (4) seigniorage charges for canal use in transporting water around the Indus Basin; and (5) the general ratio for calculating the financial adjustment needed. With the Chairman’s permission, West Punjab submitted its claim to the Mandi hydroelectric plant, on 22 December 1947.\footnote{Gulhati, *Indus Water Treaty: An Exercise in International Mediation*, 49.}

Contrary to this, Muhammad Ali states that the most vital national interest (Water) was not put forward in the Arbitral Tribunal, because of the agreement reached by Committee B and the Punjab Partition Committee that the pre-partition shares of water would be maintained.\footnote{Muhammad Ali Choudhury, *The Emergence of Pakistan*, 318.}

The Dispute arose between East Punjab and West Punjab over the continuation of water supply from the Ferozepur head-works (in East Punjab) to the UBDC (West Punjab). When the East Punjab (India), as an upstream user of the three eastern rivers, claimed that the property rights in the waters of East Punjab’s rivers are vested in itself and the West Punjab (Pakistan) could not make a claim on those waters as of right (under the Punjab partition-appointed Assets and liabilities Order, 1947, and the Arbitral Award of Property rights). In contrast, the west Punjab’s standpoint was that the Arbitral Award protected its rights and also as per the International Law and justice, the West Punjab has rights to the waters of Eastern Rivers.\footnote{Tabassum, *River Water Sharing Problem between India and Pakistan: Case Study of Indus Water Treaty*, 10.}

The real problem behind this spiralling dispute was that, out of 26 million acres of land irrigated annually by Indus Basin river canal system, 21 million acres and ten canals remained in Pakistan and 5 million acres of land and only two canals in India. Most of the developed canal system and the famous canal colonies, the granary
of the Punjab was in West Punjab (Pakistan).\textsuperscript{63} India, as the upper riparian, wanted to develop new irrigation facilities for it’s those lands which were not under irrigation, while Pakistan wanted to maintain the existing supply for its developed canal network.

According to Michel (1967), dispute aroused between East and West Punjab when monsoon flows receded in the autumn of 1947. To resolve it, the chief engineers of East and West Punjab met and signed “Standstill Agreement,” on 18 December 1947, which froze water allocations allowing discharges from head-works on the Upper Bari Doab Canal (UBDC), the Dipalpore Canal and the Bahawalpur Canal system.\textsuperscript{64} This Standstill Agreement was to continue until 31 March, 1948, and it was stipulated that a further agreement for any period subsequent to the aforementioned date could be negotiated. Both the parties agreed to the Standstill Agreement with the hope that any solution to the problem would be found within the functioning period of aforesaid agreement, but either deliberately or circumstantially West Punjab did not take any initiative until 31 March, 1948, the date of expiry of the agreement.\textsuperscript{65}

A full-blown water conflict was reported on 1\textsuperscript{st} April, 1948 when East Punjab discontinued the delivery of water from the Ferozepur head-works to Dipalpore Canal and two main branches of the UBDC, within its territory and there was a clamor in Pakistan. In the absence of any formal water agreement with West Punjab, the East Punjab acquired legal rights in the use of water of eastern rivers.\textsuperscript{66}

The shutting off of the canal’s water in west Punjab (Pakistan) marked strained political relations between the two countries. However, to resolve this dispute, the East Punjab invited the Chief Engineers of West Punjab to meet their East Punjab counterparts at the province’s new headquarters in Simla on 15 April, 1948, to renegotiate resumption of the water supply. Subsequently, Standstill Agreement was signed on 18 April, 1948.\textsuperscript{67}

\textsuperscript{64} Michel, \textit{The Indus Rivers: A Study of the Effects of Partition}, 195.
\textsuperscript{66} Gulhati, \textit{Indus Water Treaty: An Exercise in International Mediation}, 63.
\textsuperscript{67} Ibid., 60.
India’s action, shutting-off the canal’s water to West Punjab in the sowing season of the wheat crop, affected 1.7 million acres of cultivable land in Pakistan and threatened the loss of about one million tons of wheat output. Moreover, the city of Lahore was deprived of its municipal water, and the distribution of power supply from the Mandi Hydroelectric scheme was cut off.\textsuperscript{68} Gulhati, the Designee Engineer to the Indus Water Treaty, he admitted that the effect of water stoppage made “some irrigation channels near Lahore became dry.”\textsuperscript{69} Some opinions about India’s action at time some are as follows:

- India as upper riparian claimed its sovereign rights on UBDC;
- It intended to create pressure on Pakistan to withdraw from Kashmir;
- It endeavoured to demonstrate Pakistan’s dependence on India in the hope of forcing reconciliation.\textsuperscript{70}

Another interpretation is that the shutting-off the canals was taken by the East Punjab without the consent of the Central Government of India.\textsuperscript{71}

The Indian standpoint is recounted by Gulhati, who is of the view that under the British Rule most of the expansion and modernisation that occurred in the irrigation system took place in the territory that later went to West Punjab. East Punjab, formed after partition, regarded this as an injustice, especially as any future development would now need expensive storage facilities. Using the 1941 census, it claimed there were 21 million people in Indian Punjab and 25 million in Pakistani Punjab, yet out of 105,000 km\(^2\) irrigated annually in the Indus Basin less than 20 percent or 21,000 km\(^2\) was in East Punjab territory. Therefore, East Punjab wanted to correct the situation by establishing its own claim to the water of Eastern Rivers.\textsuperscript{72}

\footnotesize
\textsuperscript{69} Gulhati, \textit{Indus Water Treaty: An Exercise in International Mediation}, 60.
\textsuperscript{70} Michel, \textit{The Indus Rivers: A Study of the Effects of Partition}, 195.
\textsuperscript{71} R. K. Arora, \textit{The Indus Water Treaty Regime}, 53.
\textsuperscript{72} Gulhati, \textit{Indus Water Treaty: An Exercise in International Mediation}, 59.
Whatsoever the motive of East Punjab, this incident precipitated the formal dispute and created animosity between the two countries, and also destroyed the hopes (joint control of head-works) expressed by Redcliff.

Following the incident of 1st April, 1948, Pakistan dispatched a ministerial delegation to New Delhi for resumption of water supply. As a result, an Inter-Dominion Agreement was signed on 4 May, 1948, in New Delhi, which is also known as Delhi Agreement. It was signed by the Prime Minister of India, Jawaharlal Nehru, Indian Minister for Irrigation-East Punjab, Srawan Singh, and from Pakistan, Minister for Finance, Ghulam Muhammad, and Ministers for West Punjab including Sardar Shoukat, Hayat Khan and Mumtaz Daultana, signed the agreement.

This reconciliation provided a temporary agreement requiring East Punjab (India) to release sufficient waters to Central Bari Doab Canal (CDBC) and the Dipalpore Canal until West Punjab (Pakistan) developed alternative water resources. In Delhi Agreement, it was also decided that Pakistan, in return, would make annual payments to India for the cost of transporting water through canals in East Punjab, and give its share of any maintenance costs, which is to be deposited in the reserve Bank of India. Both East and West Punjab agreed to settle the issue by in spirit of goodwill: “The position existent at the time of partition will not be disturbed and water shall be divided equally.”

Though both countries agreed at the time of the agreement and since India was in control of a head-works, Pakistan’s motive were to secure the ownership of waters and it later expressed in a note dated 16 June, 1949, calling for ‘equitable apportionment of all common waters’ and suggested turning jurisdiction of the case over to the International Court of Justice.
The shutting-off canal water in 1948 inflicted heavy damage on the Pakistan’s Kharif crops, fodder plantation and livestock, and hence, it anticipated that the Court would not refuse its rights on the waters of the Eastern Rivers. But, India suggested that a committee consisting of three members be nominated by each side to resolve their differences before turning the problem over to International Court of Justice. India also wished that the 1948 Inter-Dominion Agreement be made as permanent. Pakistan rejected these suggestions altogether. The difference persisted and the deadlock also continued without any resolution. Meanwhile, the water supply continued according to the Agreement of 4 May, 1948, and Pakistan was regularly paying the seigniorage charges to India.

Again competition over water reached to head-on when Pakistan started the construction of irrigation channels from the Sutlej River to connect Dipalapur Canal, where it is upstream of India. But India as lower stream protested on Pakistan’s new construction on the basis that bypassing would be detrimental to its canal network. It was the only point where geographical location of the canals was in favour of Pakistan, but realising the weakness of its geographical location, India started the construction of Harike Barrage upstream of Pakistan to safeguard upstream diversions proposed in the Pakistani project.

Subsequently, series of telegrams were exchanged between Zafrulla Khan the Pakistani Minister for Foreign Affairs and Jawaharlal Nehru the Indian Prime Minister. Pakistan’s point was that the digging of canals is a precautionary measure against East Punjab (India) shutting-off the water supply in future to Dipalapur Canal to West Punjab. While the Indian representative replied that the diversion of water from the Sutlej River upstream of Ferozepur would endanger the safety of the Ferozepur headworks, which could be damaged as a result. Therefore, India warned that it would take retaliatory action, and dig a channel further upstream of Pakistan's channel.

81 Gulhati, Indus Water Treaty: An Exercise in International Mediation, 82-84.
82 Ibid., 71.
83 Gulhati, Indus Water Treaty: An Exercise in International Mediation, 71.
Apart from this project, both the countries started construction of new projects in the Indus river basin; while as Pakistan was constructing new irrigation schemes on Chenab, Indus and Ravi rivers, India was also started construction of some projects the Sutlej, Beas and Ravi rivers. Among India’s projects, Bhakra dam project was a major which was earlier feared to deprive Pakistan of water supply; the project was large enough to store the entire Sutlej River. Consequently, the construction of projects increased hostilities and led high tension between the two countries over the share of water. To resolve it, a meeting was called in Lahore which headed by Zafurrulla Khan from Pakistan and N. Gopalaswami Ayyangar from India but the meeting achieved no result and the difference remained persistent.

From July 1950 onward, Pakistan stopped depositing the amount (which was fixed in the agreement of 4 May 1948) and stated that this amount would be paid only after this dispute is taken to the International Court of Justice or UN Security Council or any other international organisation. Pakistan also rejected the 4 May, 1948, Agreement and stated that the agreement was accepted under ‘compulsion’ and signed under ‘duress’ and it had given notice of its termination. To this claim, India replied that there was no question of ‘duress’ and in fact this agreement was one of the happiest agreement that arrived in a friendly, cooperative atmosphere, and no one then or for long afterwards ever raised the complaints, which has recently been made by Pakistan.

From the early 1950, discussions over share of water reached a deadlock due to various differences between two countries, and there was no communication on the water dispute for a long time. This stalemate stayed up to the year 1951. The communication restarted when both parties accepted the offer of the World Bank’s good office at the end of 1951. In fact, the World Bank was involved in the water

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dispute between the two countries over Sutlej River dispute in 1949, but its nature of involvement changed in 1951 when David Lilienthal visited the sub-continent and presented his principles over the sharing of Indus Basin.

**4.7. External Intervention for Water Dispute Management**

**4.7.1. David Lilienthal suggestions for water dispute management**

The standoff in negotiation over water dispute could have continued for a much longer time if David A. Lilienthal, the former Chairman of Tennessee Valley Authority (TVA) had not visited India at the invitation of Indian Prime Minister, Jawaharlal Nehru, as a personal guest. He visited India as a functionary of the World Bank to write some articles for *Collier's Magazine* and to bring peace in the sub-continent through unified development of the Indus River system possibly in line of TVA as in the United States of America (USA). However, Malik (2005) is of the view that his real motive was to serve an important strategic mission for his country, i.e. to bring India closer to the U.S. and to prevent it from falling to the then communist bloc.

During his first visit to the sub-continent, he did not visit Pakistan but it was Walter Lippmann, a renowned American Journalist, on whose advice Lilienthal visited Pakistan. During his sojourn in Pakistan, he met Prime Minister Liaqat Ali Khan and discussed many issues with him including Kashmir. While in India, he discussed with Jawaharlal Nehru about Indo-U.S relations in the context of the lack of the understanding and friendliness.

He visited some projects in Indus Basin and discussed with engineers at work about the disputes related to the development and use of Indus water. Mr. Lilienthal was of the view that if the water issue is referred to the International Court, (as Pakistan had already invoked) it might protect Pakistan’s rights, but the decision of the court would not be adequate for maintaining peace and sufficient food for the

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88 The Tennessee Valley Authority (TVA) was created in 1933 which is a federal corporation with a limited geographic mission, is authorized to build dams and other projects, and to manage the Tennessee River, which drains parts of seven states. The TVA also owns and operates coal and nuclear power plants. (For the home page of the Tennessee Valley Authority, see www.tva.gov)

89 B. A. Malik is a hydrologist of Pakistan and worked as Chief Technical Advisor of United Nations Organizations (UNO).


91 Ibid.
people of the Indus Basin. On the other hand, he remained busy in long discussions with the leaderships of both the countries. Meanwhile, David Lilienthal envisioned that the Tennessee Valley Authority water management system could have helped in the development of Indus Basin for the betterment of both the countries. On his return to the U.S., Lilienthal published an article on August 4, 1951 and proposed some suggestions:

- The whole Indus Basin must be developed as a unit—designed, built and operated as a unit as in the seven-state TVA system back in the United States;
- International financing be arranged, perhaps by the World Bank, to fund the work and Indus engineering corporation be founded;
- Representatives are included from both countries as well as from the World Bank;
- Greater storage facilities and cooperative management be implemented. The David Lilienthal proposal was based on joint management of the Indus Basin which would be helpful for the future development of the Indus Basin irrigation system.

The article was read by Lilienthal’s close friend David Eugene R. Black, the then president of the World Bank, who reacted enthusiastically and called him for his recommendations. Lilienthal suggested that Black should write directly to the leaders of two countries.

4.7.2. Role of World Bank in water dispute management

World Bank accepted the suggestion of Lilienthal and subsequently Mr. Eugene R. Black invited the leaders of both countries for negotiation. Contrary to what was anticipated, both India and Pakistan accepted mediation from the good office of the World Bank. Black explicitly outlined “essential principles” that might be followed for conflict resolution in a letter:

- The Indus Basin had enough water for both countries:

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• In resolving the Sutlej river dispute, the basin would be treated as a single unit and all the rivers were to be discussed;

• The negotiations would put aside past grievances and retain a technical rather than a political focus.94

4.7.3. Road to the settlement of the dispute

The first meeting of the Working Party included Indian and Pakistani engineers, along with a team from the Bank, as envisioned by Eugene Black, met in Washington at World Bank Headquarter in May 1952. The stated agenda was to prepare an outline for a programme, including a list of possible technical measures to increase the available supplies of Indus water for economic development. After three weeks of an intensive discussion, a draft was agreed to, whose points included:

• determination of total water supplies, divided by catchment and use;

• determination of the water requirements of cultivable irrigable areas in each country;

• calculation of data and surveys are necessary, as requested by both sides;

• preparation of cost estimates and a construction schedule of new engineering work which might be included in a comprehensive plan.

Notably, the parties requested that any data from either side would be collected and verified when possible, but the acceptance of the data, or the inclusion of any topic for study, would not be committed to either side to its relevance or materiality.95

In the next two meetings in Karachi in 1952 and in Delhi in 1953, the two countries were unable to agree on any common approach for dealing with the waters of the Indus Basin. However, the protracted differences between the two parties were sufficient for the World Bank to ask the Indian and Pakistani delegations to prepare their own plans.


After field trips for data collection, both countries submitted their plans to the World Bank on 6 October, 1953, and each country mostly agreed with the supplies available for irrigation, but differed largely on how these supplies should be allocated. (Table 1) The Indian proposal allocated 29 Million Acre Feet (MAF)\(^{96}\) per year to India and 90 MAF to Pakistan, totalling 119 MAF=1233.48 million cubic meters. The Pakistani proposal, in contrast, allocated 15.5 MAF to India and for herself 102.5 MAF, for a total of 118 MAF.

<table>
<thead>
<tr>
<th>Plan</th>
<th>India</th>
<th>Pakistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Indian</td>
<td>29.0 MAF</td>
<td>90.0 MAF</td>
</tr>
<tr>
<td>Initial Pakistani</td>
<td>15.5 MAF</td>
<td>102.5 MAF</td>
</tr>
<tr>
<td>Revised Indian</td>
<td>All of the eastern rivers and 7% of the western rivers</td>
<td>None of the eastern rivers and 93% of the western rivers</td>
</tr>
<tr>
<td>Revised Pakistani</td>
<td>30% of the eastern rivers and none of the western rivers</td>
<td>70% of the eastern rivers and 93% of the western rivers</td>
</tr>
<tr>
<td>Bank Proposal</td>
<td>Entire flow of the eastern rivers 2</td>
<td>Entire flow of the western rivers 3</td>
</tr>
</tbody>
</table>

Initial estimates of supplies available differed slightly, with the Indian Plan totalling 119 MAF and the Pakistani Plan arrives at 118 MAF. The “Eastern Rivers” consist of the Ravi, Beas, and Sutlej tributaries; the “Western Rivers” comprise of the Indus, Jhelum, and Chenab. India would agree to continue to supply Pakistan with its historic withdrawals from these rivers for a transitional period to be agreed upon, which would be based on time necessary to complete Pakistani link canals to replace supplies from eastern rivers. The only exception would be an “insignificant” amount of flow from the Jhelum, used at the time in Kashmir. The two sides were persuaded to adjust their initial proposals to some extent, but the modified proposals of each side still had too much difference to overcome.\(^{97}\)

The modified Indian plan called for all of the eastern rivers (Ravi, Beas, and Sutlej) and 7 percent of the western rivers (Indus, Jhelum and Chenab) to be allocated to India, while Pakistan would be allocated the remainder or 93 percent of the western

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rivers. The modified Pakistani plan called for 30 percent of the eastern rivers to be allocated to India, while 70 percent of the eastern rivers and all of the western rivers would go to Pakistan. Under these circumstances, the World Bank concluded on 5 February, 1954, that without any new developments, there would be no prospect of further progress in the working party. The World Bank then came up with its own proposal that had the concurrence of the engineering consultants, and therefore, was put forward with the full support of the management of the Bank.

The World Bank proposal called for the entire flow of the eastern rivers (the Ravi, the Sutlej and the Beas) to be allocated to India and all the western rivers (the Jhelum, the Chenab and the Indus) with the exception of a small amount from the Jhelum presently used in Kashmir to be allocated to Pakistan. According to the proposal, the two sides would agree to a transition period while Pakistan would complete link canals dividing the watershed, during which period India would continue to allow Pakistan’s historic use of water from the Ravi, Beas and Sutlej River.

Pakistan felt the 1954 plan left insufficient water to meet its needs. Politically, Pakistan could not afford to give away water, since it was devoid of the finances to build storage facilities unilaterally. Thus, it refused the 1954 plan and at the same time, a combination of the complex geographical infrastructure of canals, the projected financial concerns from the potential loss of the eastern rivers, and political instability within the country made Pakistan cautious in its negotiations.98

Pakistan persuaded the World Bank to accede to its requirements for the construction of the most compulsory storage facilities sidelined by the 1954 plan which was in need of an amendment in the light of 1956 Aide Memories—envisaging the storage facility on western rivers. India was, in no case in mode of acceding to any further financial obligation in favour of Pakistan.99 Hence, it tried to retain the discussion over the issue around 1954 plan which it had obligingly acceded to.

Separate discussions were held at many levels on various interconnected issues.

- Pakistan needed technical assistance;

Historical background of the Indus Water Treaty

- It needed finance for any super structure build up;
- It needed time to meet the various requirements for a near profitable solution but it needed and needed most immediately a continuous flow of water for its waters starved lands in the West Punjab.

India had the necessary technical know-how, financial position and/or the reputation to meet its goal ranges of water requirements. The western rivers all fell in Kashmir, under dispute between the two countries, contesting for water. It was the time when India was finding itself under acute pressure over the Kashmir from UNO and in general and America and his close allies in Europe in particular.\(^{100}\) India was not much convinced over the Kashmir remaining its integral part for long.\(^{101}\)

Separate discussion were held at many level on various interconnected issues Pakistan needed technical assistance; it needed finance for any super structure build up; it needed time to meet the various requirements for a near profitable solution but it needed and needed most immediately a continuous flow of water for its waters starved lands in the west Punjab. Taming of the Sindh, for the present, was a far cry.

From 1\(^{st}\) April, 1955 to 31\(^{st}\) March 1960, (save a period between) 1\(^{st}\) October 1957 to 30 September 1958, many ad-hoc agreements were signed to ease the situation. Under such agreement India reluctantly and with strong conditions agreed to help Pakistan with water for a specified period and in a specified quantity in a year. Pertinent to mention, the period of no-negotiation from 1\(^{st}\) October 1958 to 30 September could have created havoc in Pakistan but the rain in Kashmir which subsequently flooded Pakistan gave it some relief with a pain to negotiate surplus water.\(^{102}\)

The political instability, economic deterioration and alienation of the people (s) of Pakistan encouraged its military to take over the power and dismiss existing political institutions. The new military ruler Field Marshal Muhammad Ayub Khan, claimed legitimacy on the promises to rectify the law and order situation in Pakistan,

\(^{100}\) After the partition of the sub-continent into India and Pakistan, Kashmir became a focal point of political bargaining between the two countries which was actually supported by their allies. Especially in 1954, after joining SEATO and CENTO Pakistan was supported by America and Britain while India began to draw closer to the Soviet Union, which emerged as a supplier of economic assistance to it and supported India's position on Kashmir.

\(^{101}\) B.A. Malik, B.A. Malik, *Indus Water Treaty in Retrospect*, 162.

put its economy on wheels and solve the pending disputes with India—more importantly and was considered a huge impediment in the agriculture development of Punjab.

India’s stand was clear and found by the “technical mediating power” on water more practical and pragmatic, at that particular time, and hence offered to Pakistan with the commitment of appropriate financial and technical assistance. The India had by its political and practical action already divided the Indus Basin system into two—the Eastern under its possession and the Western Indus river system, out of India’s control. The World Body (World Bank) gave legitimacy to what had already, virtually happened after, convincing Pakistan on the postponement of its political issues with India. Pakistan well understood its economic gains and accepted the division of rivers as an only alternative feasible and pragmatic solution.

India had earlier understood the importance of its Punjab Rivers and their future utility for its developmental purposes. Western rivers were of less utility for it; both for east Punjab which was going to be the food basket of India in future and for its water starved region Rajasthan. India had already discussed the possibilities of extending eastern rivers (Sutlej, Ravi and Beas) to feed its Yumna Canal (In future) and to desert lands of Rajasthan.

So India gave Pakistan what Pakistan was, already without much-ado receiving of bought prosperity for its Punjab and a life for its future water strategy. Pakistan was to accept under duress as it later accepted the basic basin division plan of 1954. While political parties were opposed to it the formers of west Punjab were getting impatient for want of water.103 Pakistan was promised suitable funds and technical know-how by the negotiators in to realize its present position and requirements. The plan not only promised to it the help for the construction of the distribution system and linking of canals but also much needed electricity for its future.104

The articles and newspapers write-ups of the period in Pakistan could easily be divided into politically motivated and economic oriented ones. The East Pakistan, too

104 Tabassum, River Water Sharing Problem between India and Pakistan: Case Study of Indus Water Treaty, 19-20.
had a (potential) water sharing problem with India, therefore, the Pakistan had limited options. The needs of Indian Punjab could not be ignored. India had unilaterally taken many water rechanneling projects in hand. And Pakistan Military ruler Ayub Khan took the advice of his economic advisors and agreed to 1954 plan, (four years after) in October 1958 and to 1956 Aide-Memories in December 1958.

It was in October 1958 when Pakistan unconditionally accepted the 1954 plan (the division of the basin) and the 1956 Adie-Memoire (storage facilities on the Western Rivers in December 1958). Though India had already favoured 1954 plan but to settle various modalities and supplementary debates and questions it took two more years to draft the final version of treaty ready to be signed by the parties concerned. Karachi; the capital city of undivided Pakistan was destined to play host for this much publicized and bilaterally debated Indus Water Treaty. The treaty was signed in 1960 by Prime Minister of India Jawaharlal Nehru (1947-1964), the President of Pakistan Muhammd Ayub Khan (1958-1970) and from the World Bank W. A. Liff.

The treaty left Pakistan in the independent possession of its Western Rivers and India with the Eastern ones—of Beas and Ravi Sutlej. The mediators took least notice of amount of land to be irrigated or under irrigation in the two countries or the amount of water which the concerned rivers contained or the countries demanded. It was a compromise to ease the situation and let the two countries initiate their practical arrangements for the appropriate water management under their possession.

**Conclusion**

The society of Indian Sub-continent is the evolution of various social and cultural conglomerates which prevailed here from pre and Neolithic times with an evidence for its agrarian basis. Given the availability of water, fertilized soil because of the alluvial sedimentation and other natural conditions made agriculture as the main stay of the people. Though the Harappan civilization speaks about the trading and some limited pastoral activity but husbandry remained the central activity. There is an evidence for grid form ploughing which allows double-crop sowing and water management, not only to retain the spillover water and harvesting of rain water but also for channelling for water. Indus banks were generally left for forestation. During and in the post Harappan period, the revenue from land and agriculture produce
contributed significantly to the coffers of the authorities—whether chief or rajas. Most of the irrigation related works of minor nature such as repairs or laying out the water channels and de-siltification was carried out at local level through voluntarily contribution of labour. The major works were sponsored by the state in order to keep its subjects at least at a sustenance level, in increase its revenue returns and make its presence felt in the concerned areas and help feed the urban population on the crops produced by the ruler community.

In the later history, we often mention of official responsible for water related issues and sort of revenue collector on the canal water meant for irrigation. Mughals (1526-1758) called this officer Mir Bahri or (Mir-āb). There are number of incidents reported by the chronicles regarding water disputes and subsequent interventions by the states.

British colonizers were a thorough going trading community. Their politics revolved around their urge to earn more and more profits with least investments. Towards their end they introduced a number of crops (like Nile) which though detrimental to the concerned lands, were nevertheless more profitable. However, their appetite for more profit and to gain political advantages they helped to develop on most elaborate irrigation system in the Indus Basin. The distribution of the population concerned and location of the villages was much that gave rise to many a misgiving and disputes over the first priority on the use of water. Sindh, Bahawalpur, Bikaner and Punjab bilaterally contested the water.

The partition of India was finally done in a manner least respectful to the humans to be directly affected by it. Most important issue were passed on to the new regimes, unresolved. Water sharing between the two countries was such an issue. A basically economic and problem was soon allowed to accumulate all kinds of political dimensions. India had its own compulsions. East Punjab needed water to restart its agriculture sector but was devoid of necessary infrastructure of canals. West Punjab had the infrastructure of canals intact but the headwaters were within East Punjab India.

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Though India and Pakistan had no water dispute at the time of partition in August 1947, things were to change in 1948 when the international boundary between India and Pakistan cut across the hitherto irrigation system of Punjab, originally designed as one hydrological unit, in two parts. This division engendered the confrontation between the two countries. Pakistan struggled to safeguard its lower riparian rights, whereas India claimed the rights of the upper riparian over the water of the Indus Basin. Competition over share of water led to strong animosity between the two countries. Therefore, to come to a resolution of this dispute, a number of agreements and Memorandum of Understanding were signed between East and West Punjab. They did provide some mechanisms for dispute settlement, but no permanent solution was found. It was only in 1951 that the international community intervened to resolve this dispute, under the ages of the World Bank which resulted an agreement of the Indus Water Treaty 1960.