# Environmental Science Aimen*

Q3 Write in detail the history and main features of Indus Water Treaty with a special focus on its significance in the current scenario of water strees in Pakistan? (2022).

## Introduction:

As the mighty Indus river and its tributaries flow through both India and Pakistan, their waters have nurtured civilizations for millennia, but they have also been a source of contention between the two nations. The partition of sub-continent in 1947, which led to the creation of independent Pakistan and India, further complicated the issue, sparking dispules over water rights that threatened regional stability. In a region where water scarcity and disputes over shared river systems have often fueled animosity between nations, this historic agreement between Pakistan and India negotiated under the auspices of the World Bank, was signed in 1960 by then President Muhammad Ayub khan and Indian Prime Minister Jawaharlal Nehru. The agreement serves as a beacon of hope for

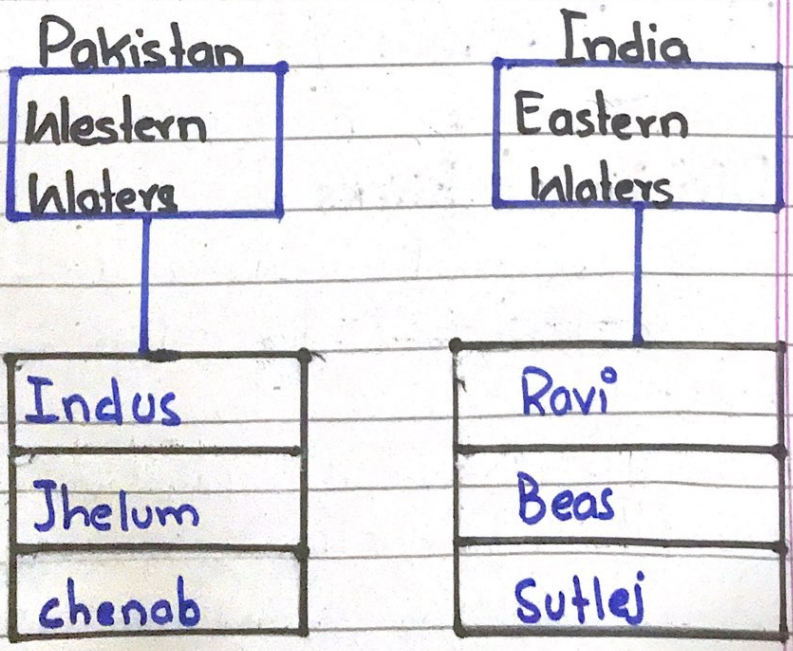
the equitable management of vital water resources.

## History:

As per **Pakistan's Foreign Policy** by **Abdul Sattar**, Pakistan is the gift of the Indus. Of the **37 million acre** of land irrigated by canals from the Indus River and its tributaries. In **1947** over thirty million acre were in Pakistan. The Indus and its major tributaries rise in or beyond the Himalayas and flow through Indian occupied Kashmir. Partition gave India stranglehold over the rivers flowing south into Pakistan. In **1948**, India decided unilaterally to cut off supplies to the canals flowing from headworks under its control, ignoring Pakistan's rights under international law. It also embarked on the construction of the Bhakra Dam on the Sutlej, in order to divert the entire water supply of the river. In **1950**, Pakistan proposed arbitration but India refused.

**David Lilienthal** wrote in an

article "No armies with bombs and shellfire could devastate a land so thoroughly as Pakistan could be devastated by the simple expedient of India's permanently shutting off the source of waters that keep the fields and people of Pakistan green." In **1952 World Bank** president **Eugene Black** offered his good offices for a solution of the dispute that would provide India additional supplies of water without damage to Pakistan, which the two countries accepted. Negotiations over the highly technical issues took eight years to resolve. The Indus water treaty was signed on **19-Sept-1960** in Karachi. It allocated the waters



The compromise conceded to India what it wanted, but the World Bank raised the requisite funds for the construction of two large dams at **Mangla** on the Jhelum and **Tarbela** on the Indus and 400 miles of link canals from the western rivers in Pakistan to replace the loss due to diversion of waters of the eastern rivers by India. The estimated expenditure of **1.3$** billion on replacement works, the treaty required India to pay **170$** million, while the **United States** contributed over **500$** million and the rest was donated by **Australia, canada, Germany, Britain and New zealand.**

## Main Features :

### @ Division of Rivers

The treaty categorizes the six rivers of the Indus river system into two sets: The Eastern Rivers and the Western Rivers. The Eastern rivers include the Sutlej, Beas, and Ravi, India has been allocated unrestricted use of these

rivers include the Sutlej on the other hand, the Western rivers consist of Indus, Jhelum, and Chenab, Pakistan has the exclusive right to use the waters of these rives. This division of rivers ensure that each country has control over specific water resources, preventing direct competition for the same rivers and reducing the potential for water related conflicts.

**(b) Limited use of Western Rivers by India:**

While Pakistan has exclusive rights over the western Rivers, India is allowed limited use of these rivers for specific purposes. such as agricultural irrigation and the generation of hydroelectric power. The treaty specifies the amount of water that India is permitted to use from the western Rivers ensuring that the rights of Pakistan are protected

**(c) Permanent Indus Commission:**

The treaty establishes the permanent Indus Commission (PIC), consisting of commissioners from both India and Pakistan. The PIC serves as a bilateral mechanism

for addressing issues, sharing data, and resolving disputes related to the implementation of the treaty. The PIC allows regular communication between the two countries facilitating the exchange of information and cooperation on matters concerning water resources. It plays a crucial role in addressing potential conflicts and finding amicable solutions through dialogue and negotiation.

**(d) Dispute Resolution Mechanism:**

If disputes cannot be resolved through the PIC, the treaty provides for the appointment of neutral experts or the involvement of the World Bank for mediation. This dispute resolution mechanism ensures that any conflicts related to the treaty can be peacefully addressed through international cooperation.

**(e) Monitoring and Exchange of Data:**

Both Pakistan and India are required to share data and information related to river flows, water utilization, and

any developments that could impact water resources. The regular exchange of data promotes transperancy and cooperation allowing both countries to make informed decisions about water management.

## Indus Water Treaty: Overview of current Circumstances

Pakistan is highly vulnerable to the impads of climate change, including water scarcity, extreme weather events, and declining crop yields. According to **United Nations report**, Pakistan is now one of the top ten nations impacted by global warming and may soon become one of the most water-stressed countries in the world as the shortages increase.

Water security is, rightly linked to human rights, with the right to access to clean water considered the basic human right of every citizen. However, due to growing population, careless use of water along with changes in weather patterns because of global warming countries around the world, both wealthy and

Poor, face increasing water Scarcity in the 21st century. As per **United Nations report** that globally three billion people are facing water Shortage and one billion facing hunger today. Moreover the **Global risk report** of the **World Economic forum** ranked water crisis as the third most important global risk in terms of impact on humanity.

Water Scarcity has become a serious threat to the sustainability and economic growth of Pakistan. The country ranks **14** among **17** 'extremely high water risk' countries of the world. Pakistan's ground water resources, the last resort of water supply are severly overdrawn, mainly to supply water irrigation. if the situation remains unchanged, the whole country may face severe water Scarcity by 2025, as per **UN report**. The situation is strategically more complicated, as Pakistan is the lower riparian country to India and 78 percent of its water inflows from therein. over the last few years Pakistan has drastically changed from being a water abundant

country to a water stressed country. With 2.8 percent of the global population. Pakistan accounts for 0.5 percent of global renewable water resources. Worldwide, Pakistan ranks 36th in total renewable water resources.

Pakistan's dependence on a single river system is extremely risky. The Indus River system accounts for 95.8% of the total renewable water resources of Pakistan. The fertile plains alongside the Indus River and its tributaries serve as the backbone of Pakistan's agriculture, sustaining major crops like wheat, rice, cotton, and sugarcane. Furthermore, the Indus River system plays a vital role in generating hydropower, a crucial component of Pakistan's energy supply. Hydro electric power plants, such as the Tarbela Dam, and Mangla Dam, contribute significantly to electricity generation, providing energy to millions of people and powering industries across the nation. The river system is not only crucial for agriculture and power generation but also serves as a primary source of drinking water for communities residing along its banks and surrounding areas

Access to clean water is fundamental for public health and well being, making the Indus River a lifeline for many Pakistani. but the reliance on single river system can have far reaching consequences. climate change remains a significant threat, causing erratic weather patterns and exacerbating the unpredictability of water availability with the majority of agriculture activities and livelihoods dependent on the Indus Rivers flow, any deviation can lead to water scarcity or devasting floods, directly impacting food security and economic stability.

## Conclusion:

The Indus water Treaty holds immense significance in Pakistan's current scenario of water stress, as it regulates water sharing with India and provide stability and water availability. Despite challenges posed by climate change and increasing water demand: to effectively address water stress, Pakistan must prioritize sustainable water management practices, conservation efforts

and engage in constructive regional cooperation to secure its water future.