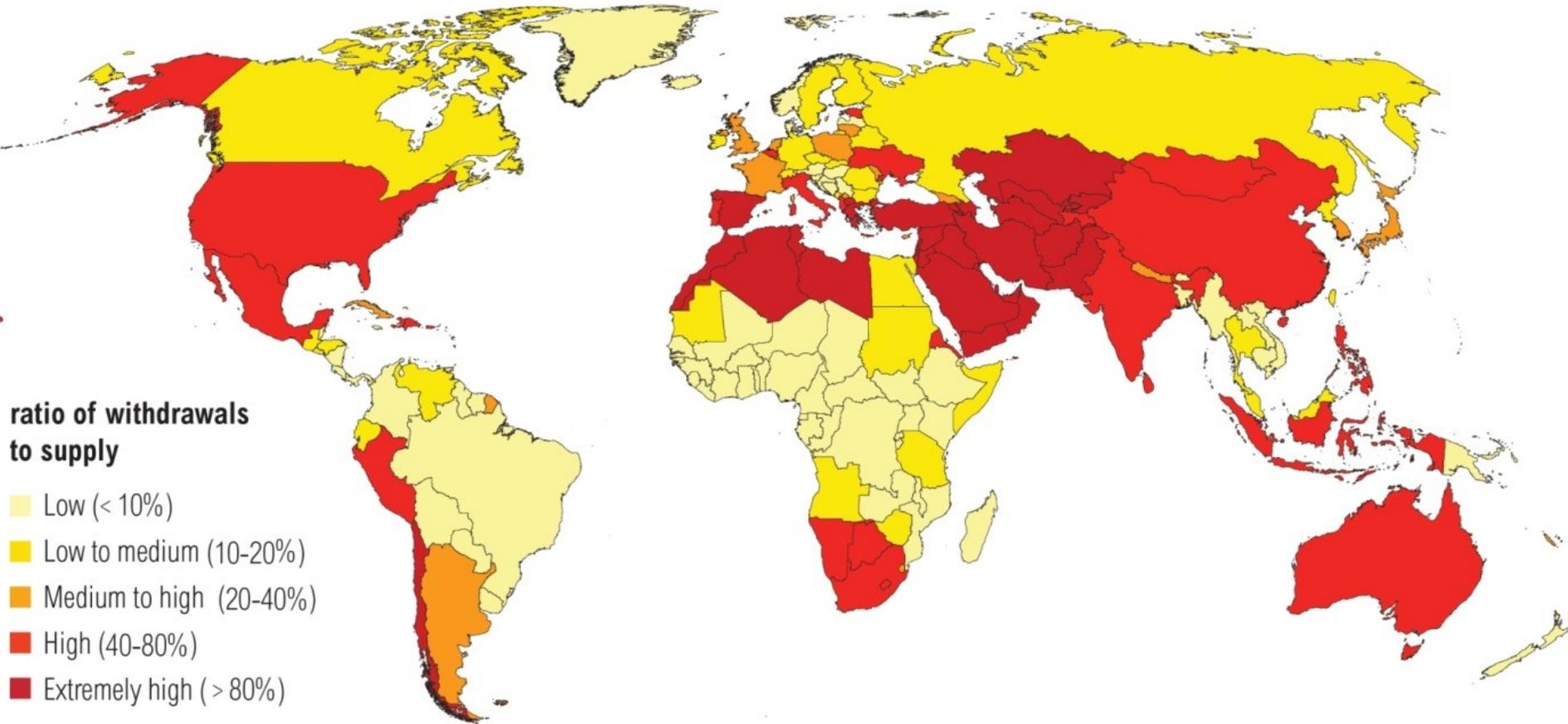




India's Water Disputes

Water Stress by Country: 2040



NOTE: Projections are based on a business-as-usual scenario using SSP2 and RCP8.5.

India Pakistan Water Dispute

- **Water one of the scarcest resources in many poor economies.**
- **The India-Pakistan water conflict is an example of conflict arising from struggle from scarce resources.**
- **The water dispute between Pakistan and India began during the early 1960s.**
- **Pak Claims :**
 - **A threat to the Pakistani economy. Could affect agricultural and animal rearing activities.**
 - **Ability to flood Pakistan during war times through releasing excess water.**
- **India always honoured Int. law and Indus water treaty 1960.**

INTERNATIONAL LAW

- **The Madrid Declaration of 1911-** The regime of rivers and lakes, contiguous or successive, could not be altered by one state to the detriment of a co-riparian without the consent of the other.
- Interference with the utilization of waters by other riparian is banned outright.
- **The Geneva Convention of 1923- Article 4-** if a state desires to develop hydraulic power, which might cause serious prejudice to any other contracting state, the states concerned shall enter into negotiations with a view to the conclusion of agreements which will allow such operations to be executed.

UN Convention 1937

- **Article 5**, requires that a State sharing an international water resource with other States, utilizes water in its territory in a manner that is **equitable and reasonable** vis-à-vis the other States sharing it.
- The Indus water treaty was developed to solve the water dispute between Pakistan and India during the 1960s.
- After the water systems were bifurcated with head works in India and canals in Pakistan.
- After the expiration of the short-term Standstill Agreement of 1947, on April 1, 1948, India began withholding water from canals that flowed into Pakistan.

- The Inter-Dominion Accord of May 4, 1948, required India to provide water to the Pakistani parts of the basin in return for annual payments.
- Involved world bank on suggestion of David Lilienthal, former head of both the **Tennessee Valley Authority** and the U.S. Atomic Energy commission.
- After six years of talks, both Govts signed the Indus Waters Treaty in September 1960.
- The world bank as an independent also signed it and even provided funds for construction of headworks and canals in Pakistan.
- Tarbela Dam on the Indus River and the Mangla Dam on the Jhelum river were funded by the world bank.

Indus Water Treaty 1960

- Treaty brokered by the world bank to use the water available in the Indus System of Rivers located in India.
- A nine years of negotiations.
- Treaty sets out a mechanism for cooperation and information exchange between the two countries regarding their use of the rivers,
- Seen as one of the most successful international treaties, it has survived frequent tensions, including conflict, and has provided a framework for irrigation and hydropower development for more than half a century.
- Three eastern rivers, the Beas, the Ravi and the Sutlej with mean flow of 33 million acre-feet (MAF) to India .

- Since Pakistan receives more water flow from India, the treaty allowed India to use western rivers for limited water irrigation and unrestricted other uses including for power generation.
- Three western rivers (Indus, Chenab and Jhelum) with mean flow of 80MAF with Pakistan.
- Treaty allowed India to use western rivers water for limited irrigation use and unrestricted use for power generation, domestic, industrial and non consumptive uses such as navigation, floating of property, fish culture, etc.
- Nearly **20%** of the total water carried by the Indus System of Rivers can be used by India while Pakistan can use the remaining.
- **Article IV (14) of IWT** states that any water use developed out of the underutilized waters of other country, will not acquire water use rights due to lapse of time.
- Laid down precise regulations for India to build projects.

- Transition period of 10 years was permitted in which India was bound to supply water to Pakistan from its eastern rivers until Pakistan was able to build the canal system for utilization of waters of the western rivers.
- **Article 5.1 of IWT**, India agreed to make fixed contribution of **\$62,060,000/=** towards the cost of construction of new head-works and canal system for irrigation from western rivers in Punjab province of Pakistan.
- India had to pay this amount in ten equal installments.
- India has never used the water as an instrument of war against Pakistan and displayed goodwill towards people of Pakistan even during wars though such capacity exists.

AFGHANISTAN

CHINA



Hotan

Kabul

Kandahar

Quetta

Larkana

Karachi

Hyderabad

Jodhpur

Jaipur

Delhi

Meerut

Moradabad

Aligarh

Agra

Faridabad

Ghaziabad

Saharanpur

Chandigarh

Ludhiana

Amritsar

Lahore

Gujranwala

Jammu

Srinagar

Islamabad

Peshawar

Swat

Kabul

Zhob

Gumal

Tochi

Kurram

Kabul

Kunar

Swat

Sohan

Jhelam

Chenab

Ravi

Sutlej

Beas

Zaskar

Shyok

Naubra

Kanhar

Neelum

Jhelum

Beas

Sutlej

Indus

Pan jnad

Chenab

Chenab

Indus

INDIA

NEPAL

How Treaty is Regulated ?

- **Permanent Indus Commission, which has a commissioner from each country.**
- **Questions are handled by the Commission;**
- **Differences are to be resolved by a Neutral Expert;**
- **Disputes are to be referred to a seven-member arbitral tribunal called the “Court of Arbitration.**
- **As a signatory to the Treaty, the World Bank’s role is limited and procedural.**
- **Designation of people to fulfill certain roles when requested by either or both of the parties.**

Disputes: Baglihar

- **In J&K all river projects in conformity to the treaty: run of the river projects.**
- **Technical expert's ruling was followed for clearing the Baglihar 450 MW project on Chenab.**
- **Pak objection “ India reduced the water flow to fill up the Baglihar dam lake in Jammu and Kashmir, causing a loss of agriculture for farmers in Pakistan.”**
- **India, on the other hand, has clarified that reduced flow in the Chenab river in Pakistan was a result of very little availability of water in a lean year.**
- **Swiss neutral expert, Raymond Lafitte has conceded three of its objections but upheld India's design to build spillway gates.**
- **Resolved 2010.**

Disputes: Kishan Ganga

- **Kishanganga 330 MW(Jhelum) and Ratle(Chenab) Power projects.**
- Questioned the technical Design.
- Pakistan asked COA whereas India, a Neutral Expert.
- On December 12, 2016, World Bank Group President Jim Yong Kim announced that the World Bank would pause.
- Operational in May 2018

Chenab Valley Project

- **Chenab Valley project-1,000 MW Pakal Dul, 624 MW Kiru and 540 MW Kwar.**
- **Ratle (850MW) run-of-river hydroelectric power project being built on the Chenab River in the Kishtwar.**
- **URI 480 MW on Jhelum.**
- **Potential to produce 16,475 MW of hydro power as per the assessment made by Central Electricity Authority (CEA),**
- **out of total, 11,283 MW of hydro power can be produced on river Chenab, followed by 3,084 MW on river Jehlum and 1,608 MW on Indus river.**

Dispute Resolving

- Dialogue.
- Mediation
- Water conservation-Pakistan appears to have greater problems as far as water conservation is concerned.
- Negotiation of a new Treaty.
- The Ministry of External Affairs (MEA) publicly stated that IWT cannot be “one-sided affair” in the aftermath of the Uri attack.
- India and Pakistan have not engaged in any water wars.
- Most disagreements and disputes have been settled via legal procedures within the framework of the treaty .
- Threats - Terrorism and War
- Can we tinker with the treaty ? The biggest impediment for scrapping IWT is India -- a lower riparian state wants to conclude water sharing pact with China.

Water Issue :India and China

- India is middle Riparian state. Shares four rivers **Indus, Sutlej, Kosi and Ghagra.**
- No treaty.
- Hydrological Information not provided.
- During the visit of the President of People's Republic of China to India in **November 2006**, it was agreed to set up an **Expert-Level Mechanism** to discuss interaction and cooperation on provision of flood season hydrological data, emergency management and other issues of trans-border rivers between the two countries.
- 2008 MOU on Brahmaputra river. validity of five years. later extended to 2018

- **2011-MOU** for Provision of Hydrological Information of the Sutlej River signed .
- Recognizing that trans-boundary rivers are an important asset to the development of all riparian regions. Both countries agreed to **strengthen communication and strategic trust.**
- Ministry of Water resources of both India and China signed Memorandum of Understanding (MoU) on '**Strengthening Cooperation on Trans-Border Rivers**' in **2013.**
- Two sides recognized that trans-border rivers and related natural resources and the environment are assets of immense value to the **socio-economic development of all riparian countries.**
- Both sides agreed that cooperation on trans-border rivers will further enhance **mutual strategic trust and communication as well as strengthen the strategic and cooperative partnership.**
- The Chinese side agreed to extend the data provision period of the Yaluzangbu/Brahmaputra River,

- The wording of the MOU “**As a lower riparian state India appreciates and is not claiming right**” does not inspire confidence.
- There is no mention of dams, river projects or lower riparian or rights there.
- **Exchange views on other issues of mutual interest.**
- There is no dispute resolving mechanism.
- China considers India’s dam building plans a threat to the country’s water rights and a deliberate attempt to strengthen actual occupation of the **disputed Arunachal Pradesh**.
- China is home to **21% of the world’s population**, it contains only **7% of the world’s freshwater supplies**. Justifies diversion of water

India Bangladesh Water Dispute

- India and Bangladesh share 54 rivers between them.
- A successful water sharing arrangement with Bangladesh.
- To date, only one comprehensive river pact has been signed by India and Bangladesh – a 1996 bilateral treaty that established a 30-year water-sharing arrangement between the two countries.
- The **Barrage** serves water to the **Farakka Super Thermal Power Station**. ... The purpose of the **barrage** is to divert 40,000 cu ft/s of water from the Ganges to the Hooghly River for flushing out the sediment deposition from the Kolkata harbour without the need of regular mechanical dredging.
- Dispute over the Teesta River.

- **September 2011** was due to sign a pact with his Bangladeshi counterpart regarding access and use of the Teesta River.
- **An adhoc arrangement 1983**-both countries were allocated **39% and 36%** of the water flow respectively. New treaty with equal distribution not supported by WB Chief Minister.
- Although **Article 253 of the Indian constitution** gives power to the Union government to enter into any trans-boundary river water-related treaty with a riparian state, the Centre **cannot do it arbitrarily without taking into consideration the social, political and economic impact of such a treaty in the catchment area.**
- Rudra's study has probably proposed a **65/35 or 60/40** division of waters during the monsoons and on a **70/30** ratio during the dry season, when both North Bengal and northwestern parts of Bangladesh face drought situations.
- The success of the deal on the Teesta is considered to be a **political necessity for both governments.**

India Nepal Water Dispute

- The country's three biggest river systems - the **Kosi, Gandaki and Mahakali** - eventually flow into the Ganges river system.
- Nepal's mistrust has deepened due to the discriminatory treaties that were concluded with India from the **Sharada Dam construction (1927)**.
- **1954 Kosi treaty** between Nepal and India allowed India to build a Koshi Barrage inside Nepali territory and control it, including the gates.
- Due to the dam being problematic, India proposed constructing a high dam to hold more water. But around 75,000 Nepalis would be displaced by building it, hence Nepal rejected the proposal.

- These India financed projects in Nepal were increasingly being perceived as 'sell out' of the national interest by most of the Nepalese and has been the catalyst for popular opposition to any of India's new projects in Nepal.
- Construction of the **Pancheshwar Dam 4800MW** delayed since late 90s.
- Budhi Gandaki project, the Budhi Gandaki river

India and Bhutan

- 20 river systems.
- Bhutan operates five major power projects. Six are under construction ,Another five are proposed.
- All are run of the river projects.
- Aims to install **10,000 MW of hydropower by 2020**, 80% of which will be sold to India.
- Earlier international efforts were mostly supported by grants from India though later projects became majority loan-based.
- Bhutan began to shift its focus to public-private partnerships for future development.

- **A total of 1,615 MW** of hydropower capacity has been installed in the country to date.
- Bhutan's domestic demand for electricity is relatively low, but power exports to **India** are already an important source of revenue;
- Hydropower contributes over **27** per cent of government revenue and **14** per cent of Bhutan's GDP.