

China's Dam on Brahmaputra and India's Concerns

Mains: GS II - *India and its Neighbourhood- Relations*

Why in news?

Recently, China's construction of a massive dam on the Brahmaputra River close to the border with Arunachal Pradesh has raised concerns in India and Bangladesh.

What is China's project on Brahmaputra river?

- **Announced in** - 2001
- **Also known as** - **Medong county project.**
- **Location** - The dam is being built on the Yarlung Zangbo (or Tsangpo), as the Brahmaputra is known in Tibet, is being built at the Great Bend.

Great bend is the place where the river makes a U-turn in Medog County before entering India at Gelling in Arunachal Pradesh.

- The river Brahmaputra is called **Siang** in Arunachal Pradesh.



- **Electricity generation** - It will have a generation capacity of 60,000 MW.
- **Largest ever project** - The \$167.8 billion hydropower project, which will be the world's largest after completion.
- It is three times that of the Three Gorges Dam on the Yangtze, which is currently the world's biggest hydropower station.

What are the concerns for India?

- **Existential threat** – This project is seen as a potential water bomb and an “*existential threat*” to tribal and their livelihoods.

*An **existential threat** is a danger that endangers the very existence of something, whether it's a living being, a group, or an idea.*

- **Security threat** – It seems to be a far bigger issue than the military threat from China.
- **Risk of massive flooding** – Sudden release of water, the entire Siang belt would be destroyed.
- Risk due to the intentional or unintentional operation of reservoirs in Tibet.
- **Unforeseen hazards** – There are heavy chances for events such as dam failure, landslides, or earthquakes.
- **Chances of drought** – In the long run the Siang and Brahmaputra rivers could dry up considerably.
- **Seismically active region** – Tibet is located, where the Indian tectonic plate collides with the Eurasian plate, is a earthquake-prone and ecologically extremely fragile.
- **Challenges for Assam** – The Brahmaputra is the lifeline of Assam, fundamental to its economy, and central to its history, culture, and ecology.
 - Any significant disruption in the flow of the river in the state will have far-reaching consequences.
- **Future apprehensions** – China may seek to weaponise the dam project at some stage.
 - It may possibly build pressure on behalf of Pakistan after India suspended the Indus Waters Treaty against terror attack in Pahalgam.

How did India reacted to this project?

- **Continuous monitoring** – India is observing Chinese infrastructure interventions on the river.
- **Voiced the opinion** – As a lower riparian state with established user rights to the waters of the river, India have consistently expressed the views and concerns.
- **Stressing for dialogues** – The need for transparency and consultation with downstream countries were reiterated.
- **Protecting the overall Interest** – The China has been urged to ensure that the interests of downstream states of the Brahmaputra are not harmed by activities in upstream areas.
- **China's statement** – It claims that the dam project was fully within China's sovereignty.
 - **Cooperation** – It is engaged with downstream countries on sharing hydrological data, flood prevention and disaster reduction.
 - **Communication** – It has had the necessary communication with both India and Bangladesh.
- **Unintentional benefit for India** – In the unlikely event of China reducing water flow, it may actually help India mitigate the annual floods in Assam.

What are the recent developments in India - China Relations?

- **Agreement on patrolling** - This was made along the Line of Actual Control, leading to disengagement and a resolution of the issues that had arisen in these areas previously.
- **Strategic talks** - The two sides exchanged views on early resumption of cross-border cooperation and exchanges, including on trans-border Rivers.
- **Recommencing of Visa** - India would resume issuing tourist visas to Chinese nationals after a gap of five years.
- **Resuming of Yatra** - The annual Kailash Mansarovar Yatra, which had been on hold for the last five years, resumed.

What India should do?

- **Oppose vehemently** - India needed to raise its concerns with China forcefully.
- **Capacity building** - India may make scientific calculations about the Chinese dam project, and build its own capability and capacity to prevent any deliberate actions in the future.
- **Mitigation strategy** - India could plan storage on rivers of the Brahmaputra system to absorb potential variations in flows (periods of flooding and reduced flows).
- **The Upper Siang project** - In Arunachal Pradesh, the 300-metre-high dam, is seen as important not just for its formidable hydropower potential, but also as a strategic imperative in view of the Chinese projects in Tibet.
 - The dam's storage can serve as a buffer against variations in the flow of the river.
 - However, progress on the project has been slowed by local resistance against the potential adverse environmental impact of the dam.
- **Build more inland channels** - There is a need to build more inland channels to carry the flow of excess water in the future.

*The **National Water Development Authority** has proposed two links to connect the Brahmaputra and its tributaries to the Ganga basin with the aim of transferring surplus water to water-scarce regions.*

What lies ahead?

- India could seek detailed hydrological and project-related data from China in order to assess downstream impacts on a continuous basis.
- India could also have conversations with other low riparian neighbours, Bhutan, Bangladesh and even Myanmar on developing a coordinated protocol for advance warning and disaster preparedness.

Quick facts

River Brahmaputra

- **Origin** - It rises in the Chemayungdung glacier in south-western Tibet.
- **Left bank tributaries** - Lhasa, yang ,Parlung, Zangbo ,Lohit ,Dhanashri ,Kolong.
- **The right bank tributaries** - Kameng ,Manas, Beki,Raidak,Jaldhaka,Teesta,Subansiri.
- **Multiple source of water** - Brahmaputra is a mighty river and it is not dependent on a single source.
- It gets most of its waters from Bhutan, Arunachal Pradesh, and the rainwater and other forms of water from Assam.
- The Brahmaputra develops into a mighty stream only in Assam, fed by numerous tributaries and bountiful monsoon rain.
- The Brahmaputra is not a river India depends on upstream and China contributes only ~30-35% of the Brahmaputra's total flow — mostly through glacial melt and limited Tibetan rainfall.

Reference

[The Hindu| China's Dam Construction on Brahmaputra](#)

