

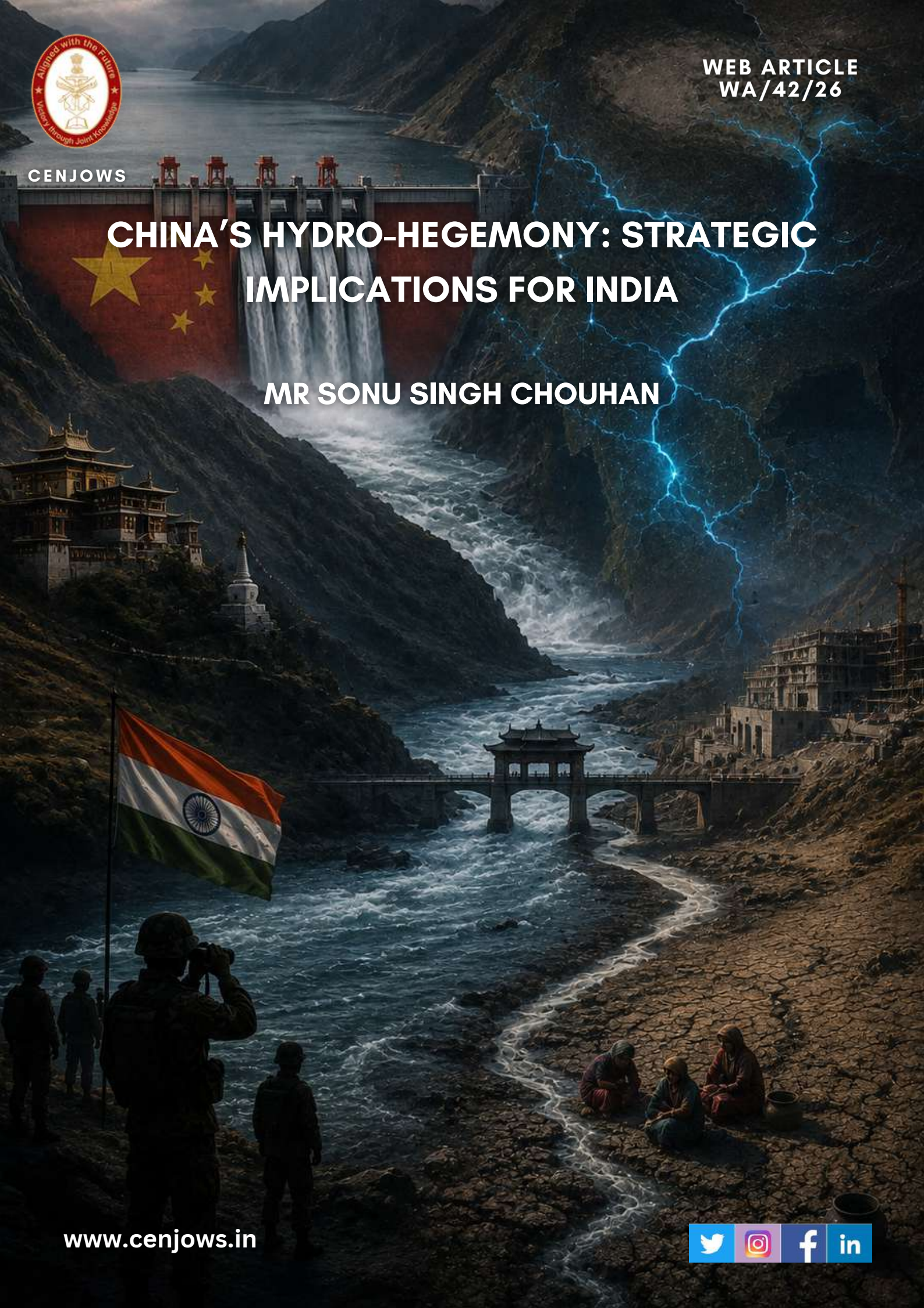


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CHINA'S HYDRO-HEGEMONY: STRATEGIC IMPLICATIONS FOR INDIA

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China's Hydro-hegemony: Strategic Implications for India



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The People Republic of China (PRC) has increasingly adopted a combination of diplomatic, intelligence, military, and dual-use infrastructure like Roads, Dams, Railway lines and Border defence villages (Xiaokang) to protect and advance its national interests. Instead of relying only on the traditional military power, China uses a mix of hybrid warfare and Gray-zone tactics to influence the decisions of other countries while avoiding direct armed conflict. Under the leadership of Xi Jinping, these approaches have become an important part of China's foreign and security policy, allowing the country to expand its strategic influence in different regions.

The Tibetan Plateau, often referred to as the "Water Tower of Asia," is one of the world's most important freshwater sources due to its vast glaciers, snowfields, and high-altitude transboundary rivers including the Brahmaputra (Yarlung Tsangpo), Indus, Mekong, Salween, Yangtze and Yellow.¹ Tibet's unique geography gives China strategic control over the headwaters of many of these rivers, allowing it to influence regional water security through dam construction, water diversion projects, and river management policies.² China is increasingly using infrastructure as a

strategic instrument to strengthen its influence and advance its national interests. While these projects are officially presented as efforts to improve economic growth and regional connectivity, they also serve important security and geopolitical objectives.

China's Medong Hydropower project, sanctioned in December, 2024 and started construction in mid-2025 has been stated to become the world's largest and a major hydropower project, with capacity of 60 GW and a predicted annual production of 300 billion kWh, perhaps three times more than the three Gorges Dam.³ As of July 2026, development has faced significant technical headwinds. A major study by Chinese researchers supervised by the state-owned China Geological Survey has confirmed that the site is situated directly over the Paizhen Fault. This has forced developers to confront the long-term structural risks posed by an active seismic Zone, experts urging the reinforcement of slopes and the installation of additional retaining structures to mitigate potential landslide and collapse hazards.⁴ China maintain that the Medong dam will be a "run-of-the-river project that neither diverts nor withdraws water but, under Great Western Route Project subset of the broader South-North Water Transfer Project proposal to build massive tunnels and canals near Great Bend of the Yarlung Tsangpo (near Namcha Barwa) to divert up to 200 billion cubic meters of water.⁵

The upper and lower riparian nations often make incompatible claims about their rights over river waters. The upper riparian nations base their claims on the principle of 'absolute territorial sovereignty'; meaning the right to use the river waters unilaterally regardless of lower riparian concerns, this often called as Harmon Doctrine.⁶ According to this doctrine, an upstream nation can freely utilize a river's flow within its boundaries without considering the effects on a downstream state.⁷ For lower riparian country like India and Bangladesh the fear is not necessarily that China will stop the river, but that it could manipulate flow of the river, withholding water during dry season or triggering sudden, unannounced releases during the monsoon and to exert coercive pressure during periods of border friction.

As per the estimates of the Chinese ministry of water resources, the Tibet Autonomous Region (TAR) has 448.2 billion cubic waters, which is strategically important since it give China an enormous edge over India in terms of control over water resources.⁸ The Chinese occupation of Tibet, wherein the most important river originate, de facto

assures China's hydro hegemony and de jure control over water resources is aided by the fact that China has made huge investments in dams and has not entered into any water sharing agreement with India.⁹

The Brahmaputra River in India flows through Arunachal Pradesh and Assam before entering Bangladesh to finally drain into the Bay of Bengal. It sustains irrigation, fisheries, inland transportation and enriches agriculture through fertile silt deposition. There are estimates that China can divert as much as 40 billion cubic meters of water, this could lead to a reduction of 11 percent of water supply to the major city of Guwahati, which is highly dependent on water intensive industry and farming.¹⁰ The effects of this would multiply in dry seasons, impacting the overall ecological balance of India's Northeast region. The Eastern Himalayas, where the dam is to be built are among the world's most seismically active zones and experience extreme weather conditions. Experts have warned that any structural failure, triggered either by natural disaster or technical error, could unleash devastation downstream and potentially flood Arunachal Pradesh and Assam with catastrophic force and threaten the agrarian economy of the northeast region but could impact the entire fragile Himalayan ecosystem.¹¹

Recommendations

To counter China's building of mega-dams like the 60,000 MW Medog project on the Yarlung Tsangpo (Brahmaputra), India needs a smart strategy that balances local development, technology, and international diplomacy.

India should speed up the construction of the 11,000 MW Upper Siang project in Arunachal Pradesh. Building this dam creates a large reservoir that can absorb sudden floodwaters if China opens its dam gates, while also storing water to prevent shortages during dry seasons. Doing this helps India claim its legal "first-user rights" over the river under international law. However, to make this work, the government must gain the support of local indigenous communities by offering fair compensation, local job opportunities, and transparent safety plans.

India should use technology and public data to hold China accountable. By setting up a dedicated satellite monitoring centre, India can track Chinese dam construction and water levels in real time without relying on Beijing's updates. Sharing this data openly

with international scientists will create global pressure on China to manage the river responsibly.

India must strengthen its relationships with other downstream countries like Bangladesh. Working together as a coalition makes it easier to push for binding water-sharing treaties, real-time data exchange, and strict environmental standards based on international rules like the 1997 UN Watercourses Convention. Combining strong local infrastructure with regional teamwork will help protect India's security and natural resources.

The Way Forward

India must clear the roadblocks in the way to the Upper Siang Project to ensure the security of its downstream communities in Assam and Arunachal Pradesh. The Upper Siang Hydroelectric project in Arunachal Pradesh has a proposed capacity of 11,000 MW and a storage capacity of 9 billion cubic meters (BCM).¹² The project would mitigate the risk posed by the Chinese actions jointly developed by National Hydroelectric Power Corporation (NHPC) and North East Electric Power Corporation Limited (NEEPCO) at an estimated cost of INR 1.13 Lakh crore, the project is designed to stabilize river flows, absorb excess floodwaters and ensure water security.¹³

The current arrangement relies on the “Expert Level Mechanisms” (ELM) that are often bypassed during geopolitical tensions to deal with its India should pursue a comprehensive, long term, a legally binding water-sharing treaty with China by this data-sharing obligations, Environment Impact Assessment (EIAs), and conflict resolving protocol can come into force.

India should more actively advocate for adherence to international principles, such as the 1997 UN Watercourses Convention, even if China is not a signatory.¹⁴ Championing these principles can build global diplomatic pressure.

Data Diplomacy can be used as a tool to frame water transparency as a global public good. By partnering with international scientific bodies to publish independent hydrological reports, India can expose discrepancies in China's data. India should invest in a dedicated National Transboundary River Monitoring Centres that utilizes high-resolution satellite imagery to track sediment movement, dam construction progress, and water storage levels in real-time.¹⁵ This reduces reliance on Chinese

data, providing Indi with Independent Evidence to hold China accountable in international forums.

Conclusion

The Brahmaputra River Basin has evolved from a vital shared lifeway into a complex theatre of geopolitical friction and non-traditional security challenges. China's expansion of upstream infrastructure on the Yarlung Tsangpo highlighted by the massive 60 GW Medog hydropower project underscores a clear shift toward strategic hydro-hegemony in the Eastern Himalayas. While China frames these developments as domestic energy initiatives, the lack of binding transboundary water treaties enables unilateral control over river flows, creating acute vulnerabilities for downstream states like India and Bangladesh. The downstream risks extend beyond artificial flow manipulation or seasonal retention they encompass catastrophic flood hazards, severe loss of agricultural silt, and heightened ecological fragility across a seismically active corridor.

In response, India's strategic approach requires a carefully calibrated, multi-dimensional policy. While local infrastructure efforts like the Upper Siang Multipurpose Project offer critical flood-buffering capacity and establish downstream water-use rights, relying solely on counter-dam engineering risks escalating a hydro-arms race in a fragile environment. Domestic security initiatives must therefore be matched with proactive data diplomacy, space based remote monitoring, and inclusive governance models that address indigenous community concerns in Northeast India. Internationally, India must lead a cohesive lower riparian coalition to champion open hydrological standards aligned with established international water law. Ultimately, safeguarding the Brahmaputra demands moving beyond ad-hoc bilateral mechanisms toward institutionalized, transparent river basin governance that balances national security with long-term ecological resilience.

DISCLAIMER

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ENDNOTES

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