Water Dispute between India and China: With Special Reference to Brahmaputra River

1Brijesh Chandra Srivastava

Research Scholar
Department of Political Science,
Central University of Haryana

Abstract: Due to glacial melt, intense monsoon rain, and increasing sea levels, the Brahmaputra River basin is one of the most vulnerable places. A new point of contention between China and India may be water. For the people of Tibet and the northeastern part of India, Brahmaputra River water is essential. Governments in lower river basins are extremely concerned about China’s construction of dams and water diversion projects in Tibet. China secretly desires the advancement of the Brahmaputra diversion project in order to employ millions of people. The Tsango-Brahmaputra River project is being implemented in China as a direct response to the pollution and population growth. This article's goal is to illustrate the significance of a water sharing deal between Asia's superpowers by comparing and contrasting the two nations' differing views on water diversion and its catastrophic ecological effects. Also mentioned are China's hegemonic inclinations along the Brahmaputra and its economic might. The way China treats international waterways does not augur well for its chances of a peaceful rise to power. It also discusses how crucial it is for the two nations to exchange knowledge, concepts, environmentally sound policies, and mutual respect. By doing this, it will be simpler to control the Brahmaputra River and to increase confidence between the two nations.

Keywords: Trans-Border, River Conflict, India, China, Water Governance

Introduction:

One of the largest rivers in Asia and a transboundary river, the Brahmaputra began as the Yarlung Tsangpo River in Burang County, Tibet, on the Tibetan side of the Himalayas. It begins in southern Tibet and descends the Yarlung Tsangpo Grand Canyon before entering Arunachal Pradesh (India), where it is referred to as Dihang or Siang. The Jamuna river flows into Bangladesh and the Brahmaputra river flows southwest into the Assam Valley. Before emptying into the Bay of Bengal, it joins the Padma, the Ganges' principal tributary, and the Meghna in the vast Ganges Delta (http://en.wikipedia.org/wiki/Brahmaputra_River, 2013). The PatkaiBum hills, the Assam lowlands, the northern slopes of the Meghalaya highlands, and sections of northern Bangladesh are all drained by this river. This system drains the PatkaiBum hills, the eastern section of Tibet, the central Tibetan Plateau above the Ganges basin, and the Himalayan range to the east of the Indo-Nepal border. Rainfall in Tibet is particularly high in the south. The only peak in the Brahmaputra basin that is higher than 8,000 metres is Kangchenjung (8,586 metres).

When the snows in the Himalayas eventually melt in the spring, the river is vulnerable to devastating floods. The river typically releases water at a rate of 19,300 cubic metres per second (680,000 cu ft/s). The pace, however, can rise to above 100,000 cubic metres per second (3,500,000 cu ft/s) during floods. One of the few rivers in the entire globe that exhibits a tidal bore is this one. It can almost entirely be travelled by ship. It wasn't until the 1884–1886 expedition that the upper course of the Brahmaputra was determined, and it wasn't until the 1960s that its affiliation with the Yarlung Tsangpo was confirmed. The river is also known as the Tsango-Brahmaputra River. Hindus attach great importance to the earth's underground regions. The Brahmaputra is said to as the "son of Brahma" in contrast to the many rivers in the Indian subcontinent that have female names (http://en.wikipedia.org/wiki/Brahmaputra_River2013).

The struggle over water between two Asian superpowers is the biggest obstacle to the basin's sustainable management. It is unsettling to consider the likelihood of conflict as a result of increasing water and energy needs, river damming, water transfer between basins, and water supply diversions. Due of the exceptionally wet monsoon and the exceptionally dry winter, the basin has significant seasonal variations in water availability (http://www.saciwaters.org/brahmaputra-dialogue/index.html). China and India are starting to place increasing emphasis on hydropower as a result of growing populations, rapid economic growth, and increased global competition for energy supply. The anticipated water diversion and hydropower projects as well as growing worries about water security are likely to cause increased tensions between these two nations.

Potential Causes of Water Diversion in China:

At the Anchorage, Alaska International Conference of the Global Infrastructure Fund in 1986, the idea of diverting water from the Brahmaputra was first discussed. This issue came to light in 2005 with the publishing of the book Tibetan Waters Will Save China (Li 2005). An earlier edition of The People's Daily said that a feasibility study on rerouting the Brahmaputra had begun in 2003. (Hughes) Due to efforts to guarantee the country's water supply, China's water resources are not divided equitably. China's aggressive river diversion activities, which it started in an endeavour to construct a massive South-North water diversion project, have worsened relations between the two countries since 1962. China's most pressing problems have gotten worse as a result of the nation's growing population and quick urbanisation.

According to recent estimates, China only has 7% of the fresh water resources required to supply 22% of the world's population. Unfortunately, there is an unfair distribution of water around the country. More over 700 million people live in China's southern...
region, which has access to 80% of the nation's fresh water, whereas 550 million people live in the northern region, which has access to only 20%. The decreased water flow and its effects on the ecosystem have had an impact on the local economy, irrigation practises, and the severity of the crisis. The Brahmaputra river is drying up and the Himalayan glacier is melting more and more as a result of rapid climate change. This has a major impact on people's health, the availability of water, and the quantity of diseases that are transferred by water.

China must quickly supply water to that region because the Gobi Desert, in the country's northwest, takes up more than half of its total land area. Only 7% of the world's fresh water resources are accessible to China. One of the largest deserts in the world, the Gobi Desert covers 1,300,000 square kilometres. Since 1950, the Gobi Desert has grown by 52 000 km², and it is now only 160 km away from Beijing. The Brahmaputra River travels through some of South Asia's most violent and unpredictable regions. India and China are at odds about which government should be in charge of the 83,000 kilometres of water in the basin. When rivers shift, fertile alluvial or "char" soil for cultivation is exposed, disputes frequently occur (CIA 1998 and IBRU 1999). The economies of China and India are suffering due to the lack of water. There has been a greater need for extra water as other businesses and irrigated crops have grown. Both of them are impacted by the global water issue. The need for the two nations to establish a dependable water supply is driven by factors like as population increase, water shortages, ineffective water sharing, and rising middle-class consumption. Tension will result as a result of the glaciers' melting having a negative effect on the rivers that drain the Tibetan Plateau. In order to address hydrological imbalance and ease water shortages in areas like Beijing and Tianjin, Chairman Mao first put forth concepts like the "South to North water diversion" in 1952. China proposed the South-North Water Diversion Project and the Great Western Route Diversion Project in response to a serious water crisis. There are two major phases to the Yuanzhu project's planning process. Yellow River dryness affects the Xinjiang and Gansu regions of northwest China. There, water from the Brahmaputra will be channelled to power factories and provide hydroelectricity.

Many of India's largest rivers originate in Tibet. It is the largest source of freshwater in the planet, second only to the polar ice caps in terms of volume. The Tibetan Plateau receives water from the Himalayan snowmelt through many upstream dams, barrages, and canals (Chellaney 2009). Ten significant rivers originate on the Tibetan Plateau, which also serves as Asia's largest watershed. The Brahmaputra, Indus, Yangtze, and Mekong are four of the top ten rivers in the world that originate in the Tibetan Plateau. Water is needed in large quantities to sustain China's extensive agricultural industry. Large-scale water transfer initiatives between various basins and rivers are highly valued in China. Before the Brahmaputra reaches India, China plans to redirect the river's waters northward. For China, the Brahmaputra is a significant source of freshwater. As the need for clean water has increased, man-made structures like dams and barrages have been built (Rashid 2013). China's main objective is to lessen its dependency on fossil resources. By 2020, China wants to enhance its present 960 GW capacity for producing electricity to 1,900 GW. The development of China depends on large-scale hydropower projects for energy and water diversion plans for agricultural security (Sinha 2012). The nation has the unpleasant distinction of being the top emitter of greenhouse gases globally as a result of its extensive coal use. Because of this, it was necessary to reconsider the "Scientific Progress Concept" in order for development to be both sustainable and balanced. Back then, hydropower and nuclear power were prioritised in China's new energy plan. The undiscovered natural riches of Tibet are expected to power eastern China's nuclear engines and advance Tibet's backward regions at the same time. The economic divide between China's western and eastern regions can be closed by investing in the country's hydroelectric resources. Greater cross-border integration favours Western China and is made possible by the sale of power to its neighbours. However, unless a dependable energy source is discovered, the enormous amounts of uranium, borax, chromite, copper, zinc, iron, and other materials in the TAR cannot be exploited.

**Indian Issues:**

More than a billion people rely on water downstream. The northeastern Indian plains suffer significant harm as a result of water diversion. North India would be shut off from a crucial supply chain as a result. China has attacked India using water as a political tool. The security of India's water supply is immediately threatened by China's actions. Management efforts to increase river flow have produced fatal flash floods rather than storing water. By keeping nutrient-rich sediments from entering the river delta via the reservoir, the soil in the area might be enhanced. Risk of a war on the ocean starting (Arpi 2003) India's water situation doesn't appear to be of interest to the Chinese authorities. There is nothing at all wrong with it. Rarely are the ecological and economic potential of the northeastern Indian states taken into account. It is debatable if it is useful to compare various Chinese perspectives on water consumption and commitment. Due to China's chronic food scarcity, experts predict that additional lower riparian nations may experience drought (Sinha 2012). Northeastern farmers in the area were particularly dependent on it. The environmental community as well as India's agriculture sector will gain from this scheme. The Brahmaputra's water constraints have made the area's poverty, migration, violence, and social discontent worse. It's possible that China will now have more sway over world affairs than India does as a result. The release of Tibet's Water, a book supported by the government, can be partly blamed for China's 2005 formal approval of the Brahmaputra's northward rerouting. According to Chellaney (2009), the amount of water accessible would decrease if China opted to store water in the higher stream, which has long caused Indians to be apprehensive of China. It would be detrimental to China's manufacturing and agricultural sectors.

A significant area of economic conflict between China and the new South Asian state will be around water allotment. The YarlungZangbo region will become a wetland after the reservoirs there are drained. India believes that China will likely participate in interceptions during the dry seasons and release them during the wet seasons in order to put pressure on the Indian administration. China will continue to have significant influence over India even as it moves into the upper riparian zone. Beijing failed to inform the Indian authorities before to the construction of the $1.2 billion Zangmu dam on the Brahmaputra. Because of this policy, the issue of diversion in China has never been brought up in public. The continuing dam construction by China on the higher reaches of the Brahmaputra may have an impact on the downstream regions of North-East India. Low water supplies would be detrimental to the region's economic, fishing, and agricultural sectors. If China continues with its Brahmaputra River construction projects, its...
neighbours will be impacted, and regional instability in South Asia may be precipitated. The lack of openness and the absence of water sharing agreements deeply concern India. There's a chance of a stealthy maritime conflict. Thanks to its competence in dam development, China is able to increase its power and influence while eroding less powerful riparian alliances. The southwestern neighbour of China suffers greatly as a result of the disruption caused by the construction of Chinese megadams to the regular flow of international water. There have been erected more dams than anywhere else in the world. Dam construction is detrimental to ecosystems and can have disastrous effects (Li 2005 and Chellaney 2011). India's top security worry with regard to Sino-Indian relations is China. Indian officials have regularly urged their Chinese colleagues to quit meddling with the river's natural flow and to be more transparent with their hydrological data (Chellaney 2009). It will be worse between the two Asian nations if China strives to have a stronger military than India (Gordon, 2009).

**The River's Importance to India**

People and towns that border the River Brahmaputra depend on it for their livelihoods through activities including herding cattle, fishing, growing a variety of crops, irrigation, and river transportation. There are 130 million people living in the Brahmaputra delta, and 600000 of them reside on riverine islands. These people depend on the yearly "normal" flood to replenish the floodplain soils with moisture and new sediments, which is essential for farming and aquaculture. The Brahmaputra River served as a crucial shipping route up until India's independence in 1947. The Indian stretch between Dhubri and Sadiya was designated as National Waterway No. 2 in the 1990s, and it provides opportunities for freight transportation. Additionally, it has the capacity to produce hydroelectric electricity. In Arunachal Pradesh, India is planning a 10,000 MW hydropower plant with many uses.

**Concern for China:**

India, according to the Chinese, opposes their plans to construct dams on the Brahmaputra River in order to obtain international backing. China's construction endeavours have not slowed the river's flow. China is unable to develop the water resources on the Tibetan Plateau because of India's presence (Zhiwei 2013). The overblown security concerns in India are attributable to the propaganda in that nation. China is eager to share the advantages of its plentiful energy and water with its neighbours. When dams are built, countries further downstream are also taken into consideration. India is erecting reservoirs on the Brahmaputra River in order to further solidify its authority over the contentious Arunachal Pradesh region. It has set up a large number of hydroelectric power plants to demonstrate that it actually controls and occupies the disputed land (Patranobis 2013). Chinese scientists claim that India is being selfish by withholding its fair portion of the water that comes into their country from the Himalayas. India intends to purposefully jeopardise China's water supplies. Some contend that Delhi has no right to demand China reduce its water use because Beijing consumes so much water (Holslag 2011). According to Rosenfield (2010), in order to overcome the energy shortages that stifle economic expansion, China views hydropower as a valuable resource. There seems to be a trend toward desertification in northern China. There are roughly 500 million people living in the north, but they only get around 20% of China's freshwater. The remaining 45% are distributed to the southern region, which is home to 700 million people. To maintain stability, China will need to increase water imports from the north (Mishra 2010). China has promised to preserve and responsibly utilise the trans-Himalayan rivers that carry water from the Tibetan and Chinese Himalayas to India. At an average height of around 4000 metres, the system will produce power and show that it is a useful mechanism in flood management measures. The practise of earlier appropriation is accepted and even promoted in China. Given that China is the origin of ten major rivers that flow into eleven different countries, it is not surprising that the country has become a leading hydroelectric dam function Object() [native code]. The water dispute has the potential to escalate if action is not taken. China constructs dams unilaterally and without warning its neighbours of the dangers they may pose. It pays no attention to the problems caused by the neighbouring building. And yet, China has not signed any water accords with its neighbours (Chellaney, 2011). China often pursues its geopolitical goals in isolation from its neighbours. It fails to account for the intricate web of relationships that form between upstream hydro projects and riparian nations. It claims it is not using any bilateral arrangement for its own water distribution purposes. Its goal is to become the regional water powerhouse that no other country can compete with. In light of China's contradictory stance, India is understandably anxious. China sees hydropower as a strategic priority because to the importance of water (Hukil 2013).

China has an immediate requirement for energy. With an annual consumption rate of 120 billion cubic metres, China is by far the world's greatest consumer of industrial water. It's a sign of social prestige in today's culture to want water. Beijing's continued pursuit of water sector dominance has exacerbated tensions between the two countries. With regards to water technology, China enjoys widespread praise as a pioneer. The inequitable distribution of transboundary water resources is a major barrier to the development of cooperative ties between China and India. China is plotting an aggressive dam-building strategy to expand into the territory of its riparian neighbours and grab control of their resources. China is working to improve the quality of its water for political, social, and economic reasons. As a result of China's unilateral resource extraction, water has become a potential cause of lengthy warfare between two Asian heavyweights. China does not have any water agreements with the countries that share a river with it. It is strongly opposed to the concept of communal water supply. Its water diversion structures near its borders have prompted concern and unease in countries farther downriver. China has run into diplomatic problems right in the middle of a region where it is trying to project an image of benign unity. China is continuously constructing dams, but most of them are small, on-the-fly dams whose primary purpose is to generate electricity rather than to store water for governments further downstream.

**The River's Importance to China:**

It is the only country in the region that is entirely upper riparian, giving it a unique advantage and the ability to control the flow of water to countries downstream. China has a long history of being a country with limited water resources that are dispersed unevenly.
The discrepancy in water resources between regions is substantial. To remedy the regional water distribution imbalance, China has launched massive water diversion projects like the South-North Water Transfer Project (SNWTP). Building a dam on the Great Bend of Yarlung, where the river curves into the Assamese plains of India, is part of this project's western line. A source of agriculture and drinking water for Tibet's arid regions is Yarlung Tsangpo. To reach China's projected objective of tripling its hydropower output to 300 GW, damming the Brahmaputra River and other transnational rivers is essential.

**Techniques for boosting confidence:**
A memorandum of understanding (MoU) was signed by the two nations in 1954 to exchange hydrological data. However, the 1962 border dispute put a stop to any further advancement. In order to help with flood forecasting in North Eastern India due to the Brahmaputra, the two parties signed a Memorandum of Understanding (MoU) in 2002 for a period of five years. According to the terms of the MOU, from June 1 to October 15 of each year, the Chinese side provided twice-daily transmissions of hydrological data (water level, discharge, and rainfall) for three stations on the Brahmaputra: Nugesha, Yangcun, and Nuxia. Since 1992, neither country has expressed any interest in the UN Economic Commission for Europe. (UNECFE). In April 2005, a new deal was made to share Satlej river levels during the wet season. In order to look at ways to cooperate during times of natural catastrophe, such as sharing hydrological data and emergency management, the two nations decided to establish an Expert-level Mechanism (ELM) in 2006. This decision was made during a visit by the Chinese president to India in 2006. (Raul 2013). The most recent memorandum of agreement (signed in 2013) states that the two parties will hold discussions on topics of shared interest. More than simply the Yarlung project is causing many to worry about China's ambition to redirect Brahmaputra water to its parched northern regions. In order to supply flood season data and disaster management, the Prime Ministers of the two nations decided in October 2013 to expand cooperation on trans-border rivers through the already-existing Expert Level Mechanism. The dam will not be able to store water for the lower riparian states as it is primarily a run-of-river water project intended to generate power. The new agreement shifts the time frame for collecting Brahmaputra River flood data from June to October to May through October, with the Chinese side promising to provide more detailed information during this time. This hydropower station "does not require water storage, has a low carrying capacity, and does not disturb the natural order of things." The Chinese government has always been a steadfast supporter of justice, reason, and equality when it comes to advancing and safeguarding the interests of China's economically depressed regions (The Economics Times, 2012).

**Need of the Hour:**
Drought and a lack of drinking water are problems in both China and India. Two nations' food security is at danger because of water shortages. The senior leaders of both nations seem to be aware of the newest difficulties. Both parties must cooperate to develop a water sharing agreement. A comprehensive river basin policy should be developed by China, India, and Bangladesh to address the effects of geological disasters and hydroelectric developments. A tipping point in an ecosystem has far-reaching effects that are yet not fully understood. It is imperative to undertake action plans and adaption strategies simultaneously for this reason. The best use of the technologies and resources at our disposal, as well as the management and mitigation of catastrophes, require a multidisciplinary conversation. Border regions should have security personnel from both nations stationed there in case there are any significant environmental changes that require immediate reporting. We require coordinated scientific investigations of glacial melt and its effects on river flow more than ever before (Gautam 2012). To attract international attention and put pressure on China to engage in a water discourse with downstream governments, it is essential to reclassify Tibetan water as a "commons." For the sake of the millions of people who depend on the river for their ecological, cultural, and economic survival, India must persuade China that the river must be preserved (IDSA 2010). India needs to be more proactive when creating policies. Instead of engaging in bilateral discussion of the matter, India should immediately include Bangladesh in global discussions. India must use every diplomatic tool at its disposal to discuss water with China (Sinha 2012). Collaborations between scientific and technological groups are required to advance conservation practises, environmental protection, and water efficiency. Hydropolitical difficulties with China are best handled through a cooperative strategy and institutional framework as opposed to currently depending on international laws. Everyone might gain from sharing water resources and infrastructure with neighbouring communities. Any hydroelectric plant must have the cooperation of the states along the river's entire length to succeed. The advantages of and for the river can motivate cooperation through collaborative multifunctional projects, improved water resource management, tracking glacier changes, flood control, and improved disaster preparedness. We might increase the range of potential advantages for both upstream and downstream countries by emphasising alternatives for cooperation at various levels. Since there is currently no international treaty in force, it is essential to manage competition and promote value-based cooperation through bilateral or basin-wide institutional structures. By building a dam, no government can be prevented by any already in place and working international enforcement procedures from significantly affecting the cross-border flows of a transnational water stream. It's crucial to create collaboration based on rules that everyone can agree upon because of this. It would be simpler to have fruitful discussions and coordinate efforts if international water organisations were founded on universal principles of equitable usage. Although it is challenging to achieve, this cooperation is essential for the long-term survival of basin resources, strategic stability, and environmental preservation (Chellaney 2012). Everyone must be willing to be open with one another, share pertinent information, find solutions to conflicts, and commit to abandon any plans that will reduce water flows if they want to work together effectively.

**Conclusion:**
The struggle over water looms above Asia's giants like a sword. Before conflict annihilates the beautiful globe, something must be done. Persistent effort is required to diffuse the situation before it spirals out of control. The governments of the two nations should provide adequate information centres to prevent protests against building (Hussain Undated). Two Asian neighbours may soon be...
at war with one another as a result of insufficient water sharing legislation and the enormous demand for water from a large population. The need to guarantee a consistent supply of clean water has been acknowledged by the highest ranking officials from both nations. Water may really foster harmony rather than being a point of strife. The time has come for the two Asian nations to adopt a water treaty based on open communication, information sharing, and the free exchange of ideas in an effort to mend past wounds and open the way for deeper future connections. The objective will eventually be achieved through diplomatic processes and bilateral agreements. After numerous attempts at peaceful resolution came to naught, it is now necessary to bring the matter before the UN Security Council to see if it can be settled there. A Himalayan Rivers Commission should be established, according to the 2010 SFG report, in order to develop a cooperative and multilateral strategy to address the world's water crisis. However, a concerted policy has not yet been decided upon by China, India, and their neighbours. There isn't yet a set international norm that would govern how water is distributed across countries. To develop a practical solution in this situation, communication between the two countries is crucial (Svensson 2012). Water sharing agreements are now more crucial than ever because of the lack of cooperation and the requirement for agreement on specific projects. Unfortunately, water has turned into a sensitive social and political issue.

Reference
Li, Ling (2005): “Xizang Zhi Shui Ziu Zhongguo: Xi Xian Zai Zao Zhongguo Zhan Lue Nei Mu Xi Xiang Lu (Tibet's Waters Will Save China)”, in Mandarin (Beijing: Zhongguoquanch'anchu ban she, 2005)
The Economics Times (2012): “China claims Brahmaputra dam not affecting water flow to India”, The Economics Times, 2nd March
Zhifei, Li (2013): “Indian threat-mongering over water resource disputes dangerous fantasy”, Global Times, 7th October http://www.globaltimes.cn/content/815960.shtml#.Uumxvmxhw