

INDIA-CHINA TRANS-BOUNDARY RIVERS WATER ISSUE: PROBLEM AND PROSPECT

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Abstract

India and China are the few of the fastest growing economies on the earth. Experts and officials hold that both the countries may emerge as the world's economic super power in the next few decades. Though, there are a few stumbling blocks towards this end. The scarcity of water is one among such hurdles which has the potential to downturn the modernisation and developmental aspirations of both the Asian juggernauts. In such a scenario, China and India would be compelled to pursue an assertive policy towards the utilisation of trans-boundary rivers water. China's unilateral and non-transparent utilisation of shared rivers could have an overarching ramification for India's water rights. So serious is the issue that it was debated in the Parliament quite frequently since 2006; and the Prime Ministerial level statements express the significance of the issue in Sino-India bilateral relationships. Some geo-strategists claim that China's aggressive riparian policy could add to geopolitical distrust and disagreement among its co-riparian countries including that of India. It is therefore important to analyse a few strategies toward the fair, equitable and beneficial utilization of the international water which is in harmony with the customary water rights of a nation. The present paper is an attempt to analyse the political and security dimensions of India-China trans-boundary rivers water issue.

Key Words: Trans-boundary River, Dam-Building, Riparian Rights, International Law

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Introduction

Water is a critical natural resource which is indispensable to human health and well-being. Access to fresh water is both a Millennium Development Goal (MDG) as well as a basic human right. Although, water covers 73% of the earth yet, only 3% is fresh water, of which 2% is in frozen form reserved in the ice caps and glaciers (Sinha, 2012). The remaining 1% is accessible for the human utilization. Asia is the home to three - fifth of the world's population, but the per capita water availability is less than half of the world's annual average of 6,380 cubic metres (M^3) per person (Chellaney, 2012).

Similarly, India and China have one of the lowest per capita availability of water on the earth. India constitutes around 17 per cent of the earth's population, but, has to survive with only four per cent of its fresh water (PM Speech, 2012). The water security is inextricably linked with the food security and national security. The agriculture is vital to the economic growth and development of the country. The agriculture occupies around 43% of India's geographical area and contributes 14.2% of the country's GDP (Ministry of Agriculture, 2010-11). Agriculture is the source of livelihood for more than 66% of the population (Soil Quality in India, 2012). A total of 68% of the sown areas in the country is subject to drought (Ministry of Agriculture, 2010).

Moreover, China occupies 2220 cubic metres of per capita water which is only 1/4 of the world average. More than 300 million people in the rural areas have no access to the safe drinking water and, 54% of the country's main rivers water is unfit for the human consumption. Out of 663 cities in China, more than 400 cities remain water stressed, and above 110 cities are in severe water shortage (Ministry of Water Resources, 2012).

China's Hydro Ambitions on Trans-boundary Rivers

Before the establishment of the People Republic of China on 1949, there were only twenty-two large dams in China. It was Mao's emphasis on dam-building and, subsequent state efforts, the country today has more than 22000 large dams with an overall installation capacity of 213 GWs. The 2020 hydro vision aims to generate a net 430 GWs of hydropower (Wirsing, 2012). The Country occupies more than half of the world's large dams including, that of the Three Gorges Dam, the largest dam (22.5 GWs) on the earth. China plans to generate 120 GWs of hydroelectricity by 2015. The utilisation of the Tibetan water resources could not only

diversify China's internal energy options, but could equally enable it to export energy to neighboring countries to promote cross-border interaction of economies (Jha, 2011).

China's hydro emphasis was clearly highlighted by the then Premier Wen Jiabao in the following words:

“in the 21st century, the construction of large dams will play a key role in exploiting China's water resources, controlling floods and droughts, and pushing the national economy and the country's modernization forward”.

The Premier's statement clearly demonstrates the integrated and multi-purpose notion of the Chinese dam-building plan.

China's Growing Interest on the Brahmaputra

Nearly half a decade before, China has shown increased interest on tapping the hydro potential at the Great Bend of the Brahmaputra. The Brahmaputra has an estimated 114 GWs hydro generation capacity; and the Great Bend has the greatest hydropower potential of any site in the world. China established its first hydro footprints on the Brahmaputra in 2010 when it started construction of 510 MW Zangmu Dam. The first phase of Zangmu has started generating hydro-electricity on 23 November, 2014. Zangmu, which is 3300 metres above the sea line, is estimated to raise its height up to 160 metres once all the three stages are completed in time to come (Sanyal, 2014). China, however, has assured that Zangmu will not affect the water supply to India since it is a run of river project. But geologists say that if reservoirs are built or water diverted it will affect the bio-diversity and eco-system of the vicinity (Bhaskar, 2014).

Importantly, After more than two years of tranquillity on the Himalayan waters, China reverberated the Brahmaputra waters in the early 2013 with its go ahead decision to construct three dams- the 640 MW dam at Dagu; the 320 MW dam at Jiacha and finally, the Jiexu dam (the capacity not confirmed, as yet) which is located at 11 Km upstream of the Zangmu dam (Krishnan, 2013).

China's Hydro Assertiveness and India's Response

The entire north eastern region contributes an estimated 41 per cent of the total hydropower potential of India (Rao, 2012). This is primarily attributed to a substantial volume of water flowing through the Brahmaputra basin. The National Technical Research Organisation has identified over half-a-dozen locations adjacent to the Chinese side of the Brahmaputra where potential dam construction works were coming up. More recently, intelligence agencies have

identified 24 projects on the Tibetan plateau region. Water resources experts and analysts estimate show that if the Brahmaputra is dammed, it would contribute as many as 114 GWs of hydroelectric generation for China which is not far less compared with India's 147.9 GWs of total power production from all energy sources.

In fact, China's unilateral dam-building activities on trans-boundary rivers could affect India's water security and energy security because 30% of its water supply is ensured by the rivers originating in Tibet. All the three rivers, especially, the Indus and the Sutlej are vital to the prosperity of the water intensive economies of many northern states including Punjab, Haryana and Uttar Pradesh. The data in the table below clearly shows the water utilisation from the rivers originating in Tibet. It also shows that the Brahmaputra River Basin has 11782 cubic metres per capita water which is the highest in any basins of the country.

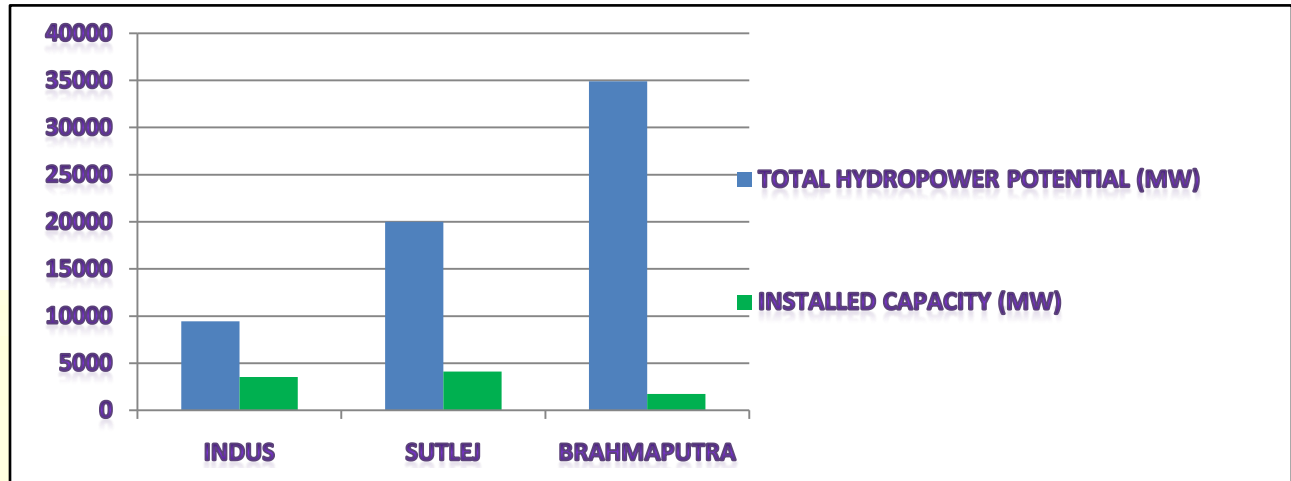
Table 1: Surface Water Supply in Different Trans-boundary River Basins in India

River basin	Population (million)	Average annual surface water potential (km ³)	Total utilizable water (km ³)	Per capita water available (km ³) (2010)
Indus	59.01	73.31	72.49	1,242
Brahmaputra	49.71	585.6	59.07	11,782
Ganga	505.54	525.02	420.99	1,039

Source: Central Water Commission, various reports.

Similarly, the Tibetan water serves as a critical energy source to India. The Sutlej and the Brahmaputra are the mainstay of India's energy security. The Brahmaputra alone accounts for 30% of the country's total potable water resources. Similarly, the Sutlej River contributes around 25% of the country's hydroelectricity potential. Some of the important project on the river includes the 1,000 MW Bhakra dam, the 1,000 MW Karcham-Wangtoo and the 1,530 MW Nathpa Jhakri Hydroelectric dam. The figure 2 below shows both the potential and installed hydroelectricity generation from the rivers originating in China.

Figure 1: India's Hydropower Generation from the Rivers Originating in China



Source: Ministry of Power, Government of India, data compiled from various reports, New Delhi.

The figure above clearly shows that all the three rivers are vital for India's present and future energy security. Therefore any substantial divergence in the flow of these rivers could seriously impact India's hydroelectricity generation. Given this, India has repeatedly raised her concern about China's unilateral and non-transparent utilisation of international waters. Former Prime Minister, Manmohan Singh raised the issue with the then President Hu Jintao in his New Delhi visit in 2010 (Vasudeva, 2012). Similarly, the then Foreign Secretary of India, Nirupama Rao, in a conversation with her Chinese counterpart in 2010, said that "I was reassured that (the Zangmu dam) was not a project designed to divert water and affect the welfare and availability of water to countries in the lower reaches" (Gray, 2012).

In a further reassurance, Chinese Foreign Ministry spokesperson Hong Lei said on 19 April, 2011 that China would not do anything which could harm the interests of the lower riparian states, including that of India (Gray, 2012). He further reaffirmed the Chinese commitment, in his recent speech over the construction of three new dams on the Brahmaputra, as he said, "any new projects have to go through scientific planning and study, with the consideration of the interests of both lower and upper riparian countries" (Krishna, 2013).

However, the *Xinhua*, a Chinese news agency, had reported that the project could also be used for irrigation and flood control, which necessarily involves storing or diverting of the water (Thakkar, 2012). Indeed, China's reluctance in signing of a legally binding water sharing treaty has put India in a constant predicament about Beijing's riparian ambiguity.

The most critical dimension of China's hydro power policy remains the trans-boundary character of rivers originating in Tibet, and its wider ramifications for its co-riparian countries, including India. China is indubitably the most powerful upper riparian country in Asia, which holds the geo-physical, if not geopolitical, control over the rivers originating from Tibet, the largest and highest fresh water plateau on the earth.

According to some geo-strategists, China's unilateral and non-transparent utilisation of international river waters could ignite political discord and distrust among its co-riparian countries. Trans-boundary rivers water remains one of the most sensitive politico-strategic issues in the Sino-India bilateral relationships. China's hydro strategy on the Brahmaputra has a non-zero-sum ramification for India in a number of perspectives.

However, as per the data provided by the Central Water Commission, of the total catchment area of 580,000 sq km, 50 per cent lies in Tibet, 34 per cent in India, and the rest of 16 per cent lies in Bangladesh and Bhutan. Significantly, only 40% of the water comes from the Chinese catchment area. The River accounts for 30% of the Country's total potation water resources, and 41% of national hydropower potential. Some geo-strategists aver that, China's dam-building activities could affect the natural flow of the river Brahmaputra, which could preempt India's hydroelectricity plan in the northeast. The under construction, 11000 MW hydroelectric project on Siang River, a major tributary of the Brahmaputra, in Arunachal Pradesh; and 2000 MW lower Subansiri Project on Subansiri River demonstrate India's hydro predicament vis-à-vis China (Parsai, 2013). This also confers India a few 'Prior Appropriation Water Rights' in regard with rivers originating China.

In addition to water security and energy security, India's concern over flood security, is even more pronounced in this regard. Geophysical studies show that the entire Himalayan Region, especially, the Chinese and the Nepalese border, is extremely vulnerable to seismic activities; as, the Region fall in zone IV and zone V categories, which have been considered highly vulnerable. The devastating earthquake which caused havoc in Kathmand city and some areas in Tibet on 25 April, 2015 only reveals that the entire trans-Himalayan region in seismically vulnerable (Barry, 2015). In such a scenario, a high magnitude earthquake could make a dam burst, and thus, could create a serious national security challenge to India, resulting from large scale environmental refugees from countries like Bangladesh. It is therefore,

imperative to evolve a strategy to ensure fair, equitable and harmless utilisation of trans-boundary river waters between the two nations.

Strategy and Solution

Although, India and China have signed a Memorandum of Understanding (MoU) in regard with flood season data sharing on the Brahmaputra in 2002. While furthering the cooperation, the two sides' signed similar MoUs in 2005, 2008 and 2012. However, there is no such agreement regarding the construction of dam and river water transfer project, along the Chinese side of the Brahmaputra.

Water experts and geo-strategists hold that China could use Tibetan water as a geo-political weapon to enhance its relative power. China's hydro emphasis on trans-boundary rivers reflects its 'rational egoism' which intends to enhance its national interests and relative capabilities (Sinha, 2012). China's riparian policy affects as many as nine countries to the south viz, Pakistan, India, Nepal, Bangladesh, Myanmar, Laos, Thailand, Cambodia, and Vietnam. The most crucial geo-political aspect of the Asian trans-boundary river basins is the hydrological dependence of all of them on China (Gopal, 2013). This has important consequences, given that China is the largest and technologically the most advanced country among these co-riparian countries.

India has repeatedly raised her concern over China's unilateral dam-building activities on the Brahmaputra. Prime Minister Manmohan Singh raised the issue with President Hu Jintao in his New Delhi visit in 2010 (Vasudeva, 2012). The issue was also raised during the Chinese Premier Le Ki Kiang's visit to India in 2013.

Notionally, China has repeatedly assured that its riparian policy will not harm the interest of the courtiers in the lower reaches. It was reaffirmed by Chinese Foreign Ministry spokesperson Hong Lei in his recent speech, as he said, "any new projects have to go through scientific planning and study, with the consideration of the interests of both lower and upper riparian countries" (Krishna, 2013).

In practice, as some security analyst's claim that China's reluctance to enter into a legally binding water sharing treaty could add to strategic distrust and geopolitical dissonance with India. China is not a signatory to any of international water sharing treaties including the UNWCC, 1997 which says that "all appropriate measures must be taken to prevent causing significant harm to other watercourse states" (Flavia, et al 2009).

Strategists are of the opinion that India must approach to a more multilateral cooperation with the lower riparian countries in both south and South East Asia to exert greater pressure on China to enter in to a water sharing treaty with India. India could cooperate with the countries sharing Mekong river water to keep China engaged on the issue of signing a water sharing treaty with all its lower riparian countries.

Conclusion

It is true that China has not yet structured a plan to control the flow of the Brahmaputra. But, could China continue to follow the 'no harm principle', is something that does not confirm the realist notion of international behaviour. The former Premier, Wen Jiabao's statement which is quoted above, has clearly mentioned that, large dams would play a vital role in controlling floods and droughts, which mean it would involve diversion and transfer of waters.

It is therefore important to establish a clear institutional framework regarding trans-boundary rivers water sharing between the two Asian juggernauts. It is important to analyse Xi Jinping's, the president of China, first foreign policy speech on 29 January, 2013, in which he said "China will never pursue development at the cost of sacrificing other country's interests".

Though, he said China would be assertive about its core interests. China has underpinned water as one of the core policy challenges, affecting the modernisation of its economy. It would be quite interesting to see how China strikes a balance between her assertive hydro policy and international responsibilities.

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