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Territory, Roads and Trans-boundary Rivers: An Analysis of Indian Infrastructure Building along the Sino-Indian Border in Arunachal Pradesh

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Abstract

This paper offers an analysis of Indian infrastructure building in the border province of Arunachal Pradesh along the aspects of territory, roads, and trans-boundary rivers. Several infrastructure projects undertaken by New Delhi in Arunachal Pradesh, have picked up pace in the past decade and have been seen as a concerted effort to strengthen the war preparedness of the armed forces given that China contests Indian claims over the territory of Arunachal Pradesh. Important road infrastructure projects are often politically portrayed within Arunachal Pradesh as priorities for rapidly bridging the huge developmental and connectivity gap for the various tribes inhabiting Arunachal Pradesh. Simultaneously, the road-building infrastructure is directed at creating conditions for government and private dam-building companies to carry heavy machinery, including turbines to dam project sites; the construction of these dams would, apart from economic benefits, also allow India to stake its riparian rights over trans-boundary river waters with China. Along with territory and trans-boundary water aspects being linked, the aspect of trans-boundary water sharing and management of the Yarlung Tsangpo and the Brahmaputra will have spillover effects on Sino-Indian territorial contestations.

Introduction

The state of Arunachal Pradesh in India's northeast has often been described as the land of the rising sun. Indian Prime Minister, Manmohan Singh, during a two-day visit to Arunachal Pradesh in January 2008, referred to it as "our land of the rising sun," saying in his speech at a rally in Itanagar that, "the sun kisses India first in Arunachal Pradesh."¹ The Chinese government, for its part, has always been quick to contest any Indian government statement on the status of Arunachal Pradesh.

This visit by Prime Minister Singh to Arunachal Pradesh in 2008 was the first visit to the border province by an Indian prime minister in over nine years. This is in the face of many China visits by Indian prime ministers in the same period. This reflects the overall lack of attention and importance accorded at the very highest level of the Indian government towards the Northeastern

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¹ Samudra Gupta Kashyap, "Arunachal Our Land of the Rising Sun, says PM in Itanagar, Eye on Beijing," *The Indian Express*, January 31, 2008.

states in general, and to Arunachal Pradesh in particular, ever since India achieved its independence in 1947.

The Indian Prime Minister chose not to visit Tawang on this visit, as this has been a critical issue in the territorial contestation between Beijing and New Delhi, thereby giving a soft diplomatic signal to Beijing, especially since he had just returned from a state visit to China. Arunachal Pradesh has been in recent times the marker of diplomatic standoff between China and India, but at the same time, it has been selectively given importance, given changing strategic calculations, amidst an evolving bilateral relationship between Beijing and New Delhi. There have been visible signs of diplomatic caution that India seems to be exercising in the matter of Arunachal Pradesh. China continues to make regular protests to India, especially at the time of an important official visit by either side, in order to make the impact stronger. India, on the other hand has not been able to move beyond the regular defence of asserting its sovereign rights over Arunachal Pradesh, in carefully worded and rehearsed official statements, whenever China lodges any official protests.

This paper offers an analysis of Indian infrastructure building in the border province of Arunachal Pradesh along the aspects of territory, roads and trans-boundary rivers. Several infrastructure projects undertaken by New Delhi in Arunachal Pradesh, have picked up pace in the past decade and have been seen as a concerted effort to strengthen the war preparedness of the armed forces given the disputed nature of the said territory between India and China. Important road infrastructure projects are often politically portrayed within Arunachal Pradesh as priorities for rapidly bridging the huge developmental deficit and connectivity gap for the various tribes inhabiting Arunachal Pradesh.

Simultaneously, the road-building infrastructure is directed at creating enabling conditions for government and private infrastructure companies, including dam-building companies, to carry heavy machinery and turbines to dam project sites; the construction of these dams would, apart from economic benefits, also allow India to stake its riparian rights over trans-boundary river waters with China. The aspect of trans-boundary water sharing and management of the Yarlung Tsangpo and the Brahmaputra will have spillover effects on Sino-Indian territorial contestations.

China has been faced with similar questions over its infrastructure projects in the Tibetan Autonomous Region, striving to assure war preparedness and strategic advantage along the Sino-Indian border, at the same time as developing tribal inhabited areas and building dams. Against this backdrop of competitive infrastructure development on both sides of the Line of Actual Control (LAC) between India and China, this paper will focus on understanding what the combined security, social development and economic agenda of infrastructure building that New Delhi is pursuing in Arunachal Pradesh implies.

This paper, in the first section will discuss broadly the contours and developments relating to Northeast India's borders in general, which will provide an understanding and help contextualize the aspects in the following sections. The second section will focus on the "Arunachal Pradesh" factor in the overall Northeast India's borders' perspective, and help assess the importance of the border province.

The third section will examine the aspects of the territory question in Arunachal Pradesh and the dynamics of the Sino-Indian contestations over territory in the recent past. The fourth section will

attempt to sieve out the aspects of infrastructure development, relating to big and small dams in Arunachal Pradesh and the issue of trans-boundary water resources sharing on the Siang and Brahmaputra rivers, how this has played out within Arunachal Pradesh, at the inter-province level between Arunachal Pradesh and Assam, and at the international level between India and China. This analysis will add to the existing literature on Sino-Indian territorial contestations, which has failed to factor in aspects of Sino-Indian trans-boundary water sharing and management, and the larger implication it holds for future.

Borders and Development in Northeast India

It was the war with China in 1962 that forced India to stand up and take greater notice of the significance of the Northeast as a critical frontier in its national security calculations. Chinese troops had advanced as far as Tezpur, and India was clearly on the defensive, as critical infrastructure required for faster troop deployment was concerned. After the war was over, India pushed towards building an artery of roads and military bases along critical areas in which it was assessed that it was vulnerable vis-à-vis China.

The roads built at that time and in subsequent times were only targeted at cosmetic development and were only served towards meeting India's troop deployment needs. It was never going to be enough for the genuine development of the people of Northeast India, as it was not meant for purposes of cross-border trade. Even in the targeted troop deployment purpose, India clearly lagged behind China as the latter made rapid strides in building a comprehensive access infrastructure all along the critical border areas.

In recent times, China has been able to build critical infrastructure and has improved its ability to amass troops along the border at short notice. India needs to accelerate its border roads project in order to meet the growing Chinese threat. Under the Special Accelerated Road Development Programme for the Northeast, at least eight strategic roads have been cleared for construction. With the critical and strategic fronts being Sikkim and Arunachal Pradesh, the road networks are to be strengthened in these border areas.

The states of Northeast India have not seen much development over the years and have been crippled by insurgencies and unending cycles of violence. India has been concerned about the growing threat to internal security owing to these insurgent movements and their external support base. The people of Northeast India have been demanding greater connectivity with China and countries of Southeast Asia, which they see as a way of greater development of their region. The Indian government has not been serious and not shown any urgency about taking steps towards integrating the Northeastern states with its immediate eastern neighborhood. India has all these years been focusing its Look East Policy through Kolkata and not through the Northeast. There have been some gestures towards opening up the borders towards greater connectivity with Southeast Asia and China such as the ASEAN car rally from Guwahati in 2004 and the Kolkata to Kunming car rally in 2013 but these have not been followed up with purpose, and much needs to be done now.

It becomes important in this context to examine three critical border roads that could be the

harbinger of development of the Northeastern States in the years to come. These are the Stilwell Road or the Ledo Road, which connects Ledo in Assam to Kunming in China, the Numaligarh-Moreh Road, which connects the states of Assam, Nagaland and Manipur with Myanmar through the border point at Moreh, and the Aizawl-Champhai-Zowkathar Road, which connects Mizoram with Myanmar through the Chin Hills.

Out of these three road networks, two are operational as regards border trade, with the Stilwell Road still not being opened up. The official border trade in the Moreh and Champhai outposts is minimal in relation to the overall potential of trade through these corridors. Much work needs to be done in terms of proper infrastructure required for effective cross-border trade and the expansion of tradable baskets of commodities. A large percentage of this cross-border trade through these two corridors is illegal and this needs to be checked through effective monitoring. These corridors have become a hub of illegal trade coupled with smuggling in arms and narcotics. The state governments of Manipur and Mizoram have pushed towards greater connectivity and it remains to be seen if the central government takes adequate steps towards this in terms of cross-border infrastructure development which would benefit the region as a whole and curb the illegal trade and smuggling in these borders.

The Assam government considers the opening up of the Stilwell Road on its side of the border as one of its major achievements in recent years. The infrastructure and development on the Chinese side of the border is phenomenal as compared to just a few hundred kilometres on the Indian side. This is one trade corridor that holds enormous potential for completely transforming the regional developmental dynamics of Northeast India. This road was built during the Second World War and has been closed since after India's independence. After the opening up of the Nathu La corridor, the next should be the Stilwell Road, and the Indian government should take the necessary steps in this direction. However, a lot needs to be done to move things forward here.

From almost four decades ago, when Naga insurgent leader Thuingaleng Muivah led his men to China to get assistance for its insurgent activities against India, the joint military exercises between India and China held at Kunming in 2007² to combat terrorism, represented a big shift in China's attitude towards India's Northeast. This bonhomie should be cultivated with both countries moving towards better connectivity in terms of cross-border trade, enabling India to address its internal security concerns.

The “Arunachal Pradesh” Factor in Borders and Development in Northeast India

The state of Arunachal Pradesh in India's northeast has been appearing quite regularly in the Indian national security and strategic imagination for quite some years now – more strident Chinese territorial claims, particularly over the Tawang hill tract, have managed to unsettle New Delhi and the Indian strategic community. Against this backdrop and given that Arunachal is the largest state in India's Northeastern region in terms of territory, it becomes important to assess the border roads

² “India, China to Resume Joint Military Exercises,” *The New Indian Express*, September 4, 2012.

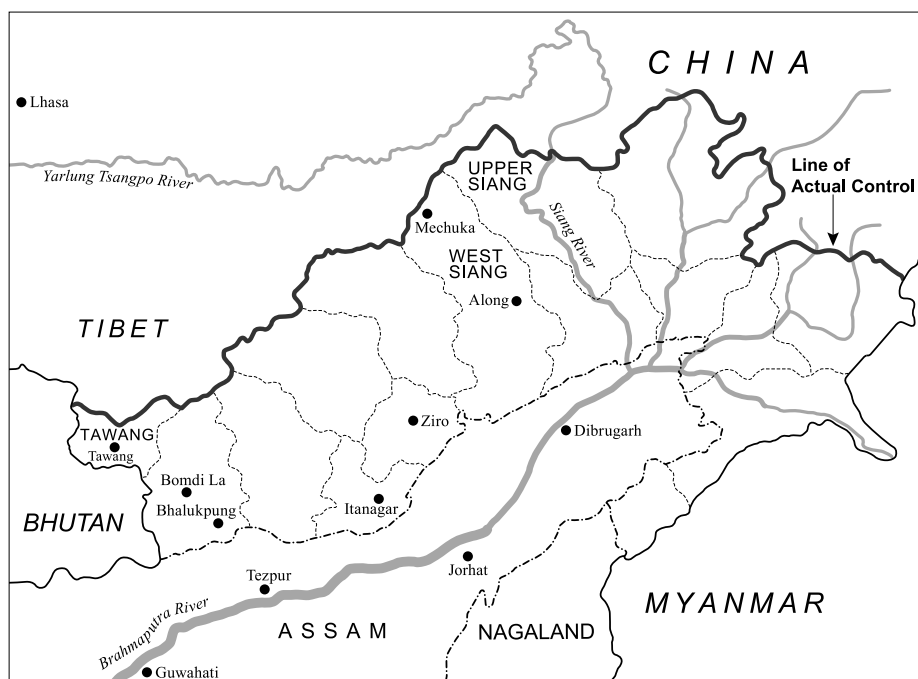


Figure 1: Arunachal Pradesh

infrastructure and connectivity present in this strategically crucial province on the Sino-Indian border.

Arunachal Pradesh was a theatre in the 1962 Sino-Indian conflict, which India lost, and had to fight with almost no proper road connectivity in place. While Indian forces did manage to resist strongly at several border points the fall of Tawang and Bomdi La towns was without resistance as there was no proper supply and road infrastructure to maintain Indian army positions – air dropped supplies fell into the hands of the Chinese who had occupied Tawang. This was fifty years ago but the road infrastructure and connectivity in Arunachal Pradesh still leaves a lot to be desired in terms of strategic war preparedness for the Indian army and for the general economic development of the border state.³

The need to construct proper roads in Arunachal Pradesh dawned on the Indian government only after it suffered in the war against the Chinese, and a skeletal network of roads was built subsequently in this difficult terrain mostly aimed at maintaining military posts and supplies in various strategic parts of the state. This was the first layer of work done on roads in the state, and only fed specific sectors such as Bhalukpong-Bomdi-La-Tawang, Itanagar-Ziro-Along-Mechuka, and the eastern areas, which included a maze of roads with no inter-connectivity. The Assam government has opened a four-lane highway leading to Pangsau Pass on the Stilwell Road on its side but, as it enters Arunachal Pradesh, the road remains perennially bad and under construction.⁴

Internal connectivity within Arunachal Pradesh remains one of the pressing problems which

³ Author's interviews and observations in various parts of Arunachal Pradesh, 2010–2012.

⁴ Ibid.

needs urgent attention – to travel to five different towns in Arunachal Pradesh, one has to cross back into Assam many times. Air dropping of essential civil and military supplies in remote areas of Arunachal Pradesh is the prevailing norm and a number of AN-32 transport aircraft are used on a daily basis from the Guwahati, Jorhat and Dibrugarh supply bases in Assam, as the road infrastructure is quite insufficient. The road that leads to the central part of Arunachal Pradesh, particularly to its capital Itanagar, falls mostly in Assam and has been over the years ill-maintained and is prone to annual floods. The Border Roads Organisation (BRO), which is in charge of maintaining these crucial border roads, has done a fair job, keeping in mind the difficult terrain, high rainfall and frequent landslides that sweep away entire stretches of road.⁵

The Trans-Arunachal Highway project which was announced by Prime Minister Manmohan Singh in 2008, has failed to pick up pace with preliminary feasibility studies still being conducted in many parts of the state. The Highway project comes a bit too late, as pressure on the existing road infrastructure has already increased manifold given the burden of civil supplies as also the massive convoys of army supplies and movement which has become necessary due to the current policy of trying to match Chinese infrastructure development across the border. The need for a second network of border roads in Arunachal Pradesh is almost ten to fifteen years late, and will certainly take another ten to fifteen years, if not more, to come to fruition. It has been noted that in many parts of Northeast India, the second layer of road connectivity and infrastructure development has begun only when pressure on the current infrastructure has become enormously high, often compounding implementation woes; the consistent and painful delays in project implementation, can be attributed to a clear policy planning failure on the part of both the central government and the Arunachal Pradesh state government.⁶

Similarly, the Bogibeel project for a bridge over the Brahmaputra River in Dibrugarh in Assam, was mooted in the early 1990s, but saw work begin to pick up pace in the past five years, and is now scheduled to be completed in 2030.⁷ This bridge has the potential to connect the middle and eastern parts of Arunachal Pradesh better and save on traveling time, as these areas are now dependent on the Kaliabhoomora Bridge across the Brahmaputra in Tezpur. There needs to be urgency in policy implementation in order to serve the needs of the state of Arunachal as well as of the nation in terms of economic development and strategic military preparedness. However, the central government still seems to be ignoring other major bottlenecks in terms of road infrastructure and connectivity as is evident in other parts of Northeast India, and in most cases, flow of resources is not backed up by effective implementation plans.⁸

The Territory Aspect in the Sino-Indian contestations in Arunachal Pradesh

The state of Arunachal Pradesh on India's northeastern frontier has really been the centre of

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

Sino-Indian contestations for the past few years over the question of territory. China claims over 90,000 km² of territory in India's eastern sector. The Sino-Indian boundary disputes which has been simmering for decades now has proven to be a thorn in overall Sino-Indian bilateral relations, and this has captured the imagination of the local tribal population of Arunachal Pradesh in varying degrees over the past, especially recently when China started making objections and statements on the issue.

The continuing Special Representatives-level dialogue between India and China has failed to resolve or bring about any tangible progress on the boundary dispute, even after sixteen rounds of such talks. However, it must be noted that the Line of Actual Control (LAC) has been stable and tranquil over the years, especially after the 2005 Agreement. China has over the past years been asserting its claims over the 90,000 km² territory in Northeast India through various official and state-run media statements, particularly gaining momentum after Prime Minister Manmohan Singh's visit to Arunachal Pradesh in early 2008. China had also tried to block an Asian Development Bank loan to India, which involved development projects in the state of Arunachal Pradesh, and raised objection to building of mega hydroelectricity projects in the state.

We need to first understand the implications of the Chinese claim of over 90,000 km² of territory in Northeast India. The official government website of Arunachal Pradesh gives the total area of the state as being 83,743 km², with 1,080 kilometres of shared boundary with China on the north and northeast of the state. The remaining 6,000 odd km² are actually part of the state of Assam. This makes the Chinese claim on the eastern sector of the Sino-Indian boundary dispute much more subject to interpretation, which has not been much discussed in media and strategic policy circles in India. The actual line which the Chinese are claiming and which constitutes over 90,000 km² is the Brahmaputra River, and thereby involves all areas north of the river in Assam, which includes the strategic army command located at Tezpur and the densely-populated plain areas of Assam.

The Brahmaputra River holds strategic significance for China as reports about its possible diversion plans in upstream Tibet are gaining prominence. This links two of the most contentious and strategic issues in Sino-Indian relations in recent times, one being over the issue of territoriality and the other over concerns of water-sharing and river diversion. Moreover, China would ideally want this river to serve as a strategic natural boundary. India must take concrete steps to move ahead of the strategic jitteriness it has over Chinese claims on Arunachal Pradesh, and confront China on its claims on the overall quantum of territory claimed. This will clear the strategic ambiguity in Chinese claims over territory, and unshackle India from repeatedly being cornered about its actions in Arunachal Pradesh, as has often been witnessed in the recent past.

India needs to come up with innovative solutions to the decades long boundary question, and this will require stepping ahead of this "Arunachal Pradesh" specific jitteriness. Some strategies would be to improve upon its strategic presence and basic governance indicators in the state, improve connectivity and infrastructure within the state, and even consider breaking this unusually large state in this region, into two or three separate states within the Indian Union, comprising the western,

central and eastern sections of the present day-Arunachal Pradesh.⁹ As we have seen, Chinese claims have often wavered between Tawang tracts and the whole of 90,000 km² of territory, in the past decade. However, the strategic problems India may face in the near future may not be related to territorial questions alone, but over water diversion and river damming issues as well, which will affect Arunachal Pradesh, Assam and even involve Bangladesh, thereby marking a shift in issue area and bilateral scope. The linkage between territory and water has larger regional implications, and will entail involving local stakeholders in all three countries. The implications of any Chinese action on the river upstream will have basin-wide impacts in India, Bangladesh and Bhutan.

Some instances which have caused a stir in the media in the past five years (more in the local media in Assam and Arunachal Pradesh than in the national media) were about the Google maps episode where certain parts of Arunachal Pradesh were shown as being part of China and marked in Chinese, and the incursions in Ladakh and in some parts of the eastern sector. Many speeches and statements by local politicians of Assam and Arunachal Pradesh, both in the government and opposition, have attempted to bring forward a sense of hysteria, and China-bashing has been their favorite activity. This also holds true of some sections of the local media and academics in their respective states.

The media in Arunachal Pradesh and Assam has created huge ‘imminent Chinese attack’ hysteria.¹⁰ The local tribal population of Arunachal Pradesh has been impacted by this media hysteria and local politics have been played on such hysterical notions of opinion making, something which has resulted in misplaced perceptions of what the actual ground situation of the cumulative bilateral relationship between New Delhi and Beijing has been over recent times. Many local tribal people in Arunachal Pradesh make a distinction of territorial claims by China, which they do not accept, but they acknowledge Arunachal Pradesh was historically a part of Tibet.¹¹ The people cite instances of several areas of Arunachal Pradesh such as Bomdi La and Mechuka paying tribute to Tibet, especially in the Monpa and the Memba tribal areas.

The Road Building and the Internal Connectivity Aspect in Arunachal Pradesh

Various tribes inhabiting Arunachal Pradesh have over the past decades been faced with the processes of integration to the Indian nation, and it can be termed as largely successful, with the emotive component associated with national integration being very strong in some parts and very weak in other parts of Arunachal Pradesh. This varying degree of integration within Arunachal Pradesh can be attributed to the aspect of the development of roads and connectivity on the one hand, and the employment of Indian state symbols such as the military and the national language of Hindi on the other.¹² The western parts and the central parts of Arunachal Pradesh are better connected to other parts of India than its eastern parts, in terms of roads, basic education facilities and development

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

indicators. There therefore exists disparity in terms of national integration among the tribes of the state. It can be observed that the level of national integration has been driven by factors of military presence, roads, education facilities and the Hindi language.

Until some years ago, Arunachal Pradesh, earlier known as the North East Frontier Agency (NEFA), was described as a region that has not awakened to modern civilization. Compared to the other Northeastern states (Assam, Meghalaya, Mizoram, Manipur, Nagaland, Tripura), Arunachal Pradesh has remained largely untouched by development seen elsewhere, and this reality is sharply felt by people in Arunachal Pradesh.¹³ The people of Arunachal Pradesh did not feel they have received the level of developmental attention of the Indian government, which they deserved, and this despite its vast natural resources and strategic importance.

There has been only one very narrow connecting road from Tezpur in Assam to Bomdila via Bhalukpung in Arunachal Pradesh, which ultimately leads to Tawang. The other access road is through the Dibrugarh district in Upper Assam, which leads to the Tirap district and the Namdapha National Park. Road connectivity to Arunachal Pradesh has been abysmally low, with the western and the eastern parts of the state not connected by any road at all. One has to travel all the way through Tezpur and all through Upper Assam to reach the eastern part of the state. There are sporadic helicopter services connecting some major towns of Arunachal Pradesh, which is the only other option. The arterial road network elsewhere in Arunachal Pradesh, however minimal, was built to serve the needs of the Indian army, and this was again after the India-China War of 1962, when the Indian Government woke up to its security needs and concerns and rushed towards securing its frontier areas with China in the border state of Arunachal Pradesh.

The slew of developmental measures announced by New Delhi does hold much promise but it has yet to be seen if the big power projects really benefit the local people. The many hydropower projects, one of which would be the country's highest capacity project in terms of actual output projected and its overall potential (Lower Subansiri Hydro Electric Project), should not be just directed at meeting the power needs outside the state but be towards developing infrastructure for the benefit of the local people. Most of these projects are likely to take time, as has always been the story in the Northeast. The improved road connectivity package is the positive side, which promises four-lane connectivity from Assam to Itanagar and the much needed road connectivity project connecting the western and eastern parts of the state. More frequent helicopter services are also in the offing and several disused airfields in the state are being revived with expansion plans. The funds out of this development package should be provided immediately and across the state, which would hasten the effective implementation of the aforesaid projects. These should not prove to be hollow promises and get entangled in bureaucratic red tape in the disbursement of funds.

India has significantly moved towards building a strong defence in the Arunachal sector in the wake of the regular reports of improved Chinese infrastructure close to the borders of the state and its ability of faster troop deployment. The appointment of retired Indian army chief Gen. JJ Singh as Governor of Arunachal Pradesh, between January 2008 and May 2013, was an indication that the

¹³ Ibid.

government does not want to take matters lightly in the border state, with the Governor monitoring the army installations in the state, taking regular stock of military preparedness and embarking on a highly visible public diplomacy campaign in the state, reaching out to local tribes and students through various national integration projects such as providing travel scholarships in various parts of India, and promotion of learning and use of Hindi.¹⁴

New Delhi wants to assert its legitimacy in Arunachal Pradesh by the initiation of developmental projects as announced and thereby integrate it to the national mainstream or at least to the “mainstream” in terms of India’s Northeast. This may be too little too late but nevertheless encouraging for the future of the state and its people. However, New Delhi has over time demonstrated that it seeks to conduct its policy in the Arunachal Pradesh with a considerable amount of diplomatic caution and that it does not take even symbolic postures on the most controversial issue in Sino-Indian relations. It would be a positive for the state and for overall Sino-Indian relations if in a decade the story is Itanagar to Beijing with no diplomatic hassles, be it for Indian Administrative Service (IAS) officials, politicians or for common people. A desirable future for the local people of Arunachal Pradesh will be when the route taken by the sixth Dalai Lama, born in Tawang, to travel to Lhasa after his anointment, and the same route taken by the fourteenth Dalai Lama from Tibet to come to India in the year 1959, will be an open route for trade and cooperation, with people-to-people exchanges between Tawang and Lhasa and beyond both sides.

The Sino-Indian Trans-boundary Rivers Aspect in the Context of Arunachal Pradesh

The legendary Assamese singer and composer, Bhupen Hazarika, in one of his popular compositions, asks the mighty Brahmaputra River, which flows through with limitless energy and through many of its tributaries, the reason for its quiet and unbounded flow, amidst many sufferings of the people living by its banks. This song can be re-contextualized in the backdrop of the great uncertainty and fears among the lower riparian countries, India and Bangladesh, over China’s designs of diverting waters from the Brahmaputra River. A constant worry in the region has been of a possible scenario of future conflict over trans-boundary water resources, but as the spirit of the river lives on through its continuous flow, there is certainly hope and reason for mutual Sino-Indian cooperation on sharing of their trans-boundary water resources for mutual benefit of the local people of the region.

The Brahmaputra River has over the recent past caused tension between India and China and could be a conflict flashpoint for two of the world’s biggest armies in the future. The sharing of hydrological data on the flow of the Yarlung Tsangpo-Brahmaputra river system, between China which is the upper riparian country, and India which is the lower riparian country has proved to be somewhat a thorny issue in bilateral relations between the two countries, often discussed at the highest levels of diplomacy. The Development, Concepts and Doctrine Centre’s (DCDC) Global Strategic Trends Programme 2007-2036 Report (2007), of the United Kingdom’s Ministry of Defence, comments on the issue of water scarcity as below, underlining the possibility of water diversion and

¹⁴ Ibid.

the plans of rerouting of the Brahmaputra River by China in the near future:

Water stress will increase, with the risk that disputes over water will contribute significantly to tensions in already volatile regions, possibly triggering military action and population movements. Experience indicates that countries generally seek equitable solutions to water disputes, but that severe shortages may provoke more virulent responses. Areas most at risk are in North Africa, the Middle East and Central Asia, including China whose growing problems of water scarcity and contamination may lead it to attempt to reroute the waters of rivers flowing into neighbouring India, such as the Brahmaputra.¹⁵

Robert Wirsing discusses China's South-North Water Diversion Project which has been envisioned in three geographic parts, which are the Eastern, Middle, and Western routes, wherein the Western route is divided into two sub-parts, being the Western and the Greater Western routes, and it is the Greater Western route, which might extract waters from as far south on the Tibetan plateau as the Yarlung Tsangpo-Brahmaputra river system, that directly concerns the lower riparian states of India and Bangladesh.¹⁶ This project has captured the attention of communities in Northeast India, especially in the states of Assam and Arunachal Pradesh. Given the lack of bilateral information sharing on such grand diversion projects, speculation is rife in activist and media circles that China is diverting waters of the Siang and the Brahmaputra, without relying on actual ground information.¹⁷

The asymmetrical structure of water conflict, in classical game theory terms known as a Rambo situation, excludes the possibility of a cooperative solution, and the interaction or the payoff structure of the Rambo situation makes the advantaged upper riparian state prefer to maintain the status quo, as opposed to seeking a compromise with the disadvantaged lower riparian state.¹⁸ An agreeable settlement between the co-riparian states would therefore only be possible when the Rambo situation is replaced by a dilemma situation, that is, a conflict structure whereby the power of the advantaged state can be balanced or modified; and as is the case with a security dilemma, in a dilemma situation it is in the best interests of all parties to the conflict to cooperate.¹⁹

Whether it will lead to a solution will depend upon whether a consensual division of the costs can be realized and the parties to the agreement can be trusted to uphold and respect the terms of the agreement thus entered, and symmetry between the co-riparian actors will only exist as far as the hydrological asymmetry between the co-riparian actors is being balanced out by other factors.²⁰ The Sino-Indian trans-boundary water issue in the context of the Yarlung Tsangpo and the Brahmaputra is a classic case of a Rambo situation, and China is the advantaged upper riparian state

¹⁵ United Kingdom Ministry of Defence, *The Development, Concepts and Doctrine Centre's (DCDC) Global Strategic Trends Programme 2007-2036 Report*, (2007), 27.

¹⁶ Robert Wirsing, "Rivers in Contention: Is There a Water War in South Asia's Future?" *Heidelberg Papers in South Asian and Comparative Politics*, University of Heidelberg (2008). Accessed on October 10, 2012: <http://www.sai.uni-heidelberg.de/SAPOL/HPSACP.htm>

¹⁷ Author's interviews and observations in various parts of Arunachal Pradesh, 2010–2012

¹⁸ Helga Haftendorn, "Water and International Conflict," *Third World Quarterly*, 21:1 (2000): 51–68.

¹⁹ Ibid.

²⁰ Ibid.

vis-à-vis India, and will want to maintain the status quo, and not necessarily enter into a cooperative framework. The linkage and factoring in of the Sino-Indian territorial contestations over Arunachal Pradesh in the Sino-Indian water sharing contestations will prove to be the factor, and will turn the “Rambo situation” to a “dilemma situation,” which will push both China and India towards a cooperative solution addressing issues related to both territory and waters.

Piers Blaikie and Joshua Muldavin point out an isolated example of an engagement between Indian and Chinese politicians and scientists involving very sensitive international relations between the two countries, when in the year 2000, severe flash floods were reported in the Sutlej and Siang rivers that flow from Tibet through the provinces of Himachal Pradesh and Arunachal Pradesh in India.²¹ The issue brought up by Indian officials was the alleged culpability of the Chinese army in breaching temporary lakes created by landslides without adequate warning to the Indian side, causing loss of life and damage to infrastructure such as roads, bridges, and hydroelectric plants; the charges which were denied by the Chinese officials, although the Indian Space Research Organization (ISRO), through the help of satellite imagery, claimed to have pin-pointed the lakes that were breached.²² This nature of local contingencies and bilateral interaction illustrates the potential international implications of upstream-downstream discourses on water use between China and India, which is characterized by the sheer lack of information sharing processes, and pushes forward the case for the need for a bilateral treaty framework.

Wang Weiluo discusses the Upper Siang hydroelectric power project in Arunachal Pradesh, and points out the domestic opposition by local residents and environmental rights and protection groups on the one hand; and Chinese opposition to the hydroelectric power project on the other, given that the reservoir formed by this dam project will extend well within China’s borders, and therefore China has demanded that India reduce the height and water storage level of the dam and reduce hydroelectric output of the project by half of what has been originally planned; otherwise, it is argued, a large portion of Chinese territory in Tibet will be submerged, and the threat of flooding would greatly increase.²³ China considers the Upper Siang hydroelectric power project reservoir in Arunachal Pradesh to be an “inclined lake” that will inundate a portion of the Tibet Autonomous Region, entirely different from the “level lake” of the Three Gorges Dam reservoir.²⁴

China declined to provide fundamental hydrological and meteorological data on the upper reaches of the Yarlung Tsangpo River in Tibet, which was to directly impact upon the success of the feasibility studies being conducted by India on the Upper Siang hydroelectric power project in Arunachal Pradesh. In this way China registered its opposition to the project.²⁵ China and India have

²¹ Piers M. Blaikie and Joshua S.S. Muldavin, “Upstream, Downstream, China, India: The Politics of Environment in the Himalayan Region,” *Annals of the Association of American Geographers*, 94:3 (2004): 520–548.

²² Ibid.

²³ Wang Weiluo, “Water Resources and the Sino-Indian Strategic Partnership,” *China Rights Forum*, 45:1 (2006): 19–21.

²⁴ Ibid.

²⁵ Ibid.

no formal agreement regarding the use of international rivers, and the two nations have had several bilateral issues and contestations over trans-boundary water resources sharing; the most serious contestation followed a breach in an artificial lake formation in Tibet on 11 June 2000, which caused serious flash floods in the Siang River and damage to life and property in the Indian provinces of Arunachal Pradesh and Assam. This event stirred up anti-China feelings in India, and border troops on both Indian and Chinese sides were put on high alert.²⁶

The hydrological data on the Brahmaputra has been shared between India and China from 2002 onwards, when New Delhi negotiated a memorandum of understanding with Beijing on information-sharing about the Brahmaputra's water flow into downstream Assam during peak flood season, and this was offered by China free of cost to India for the period 2002-2008; but later reports suggested that Beijing has conveyed to New Delhi that this hydrological information sharing on the Brahmaputra will no longer come for free, and has demanded payment for the period 2008-2012.²⁷ This demand has, over the past few years, been widely perceived in India, especially among certain sections of the media, as a signal about China proceeding with its ambitious water diversion project on the Brahmaputra and allegations that China is trying to deliberately stop data sharing which may point towards its manipulations upstream; but on closer analysis, this apprehension seems misplaced. The Sutlej River's hydrological data sharing between India and China has been paid for by India over the years at the rate of one million Indian Rupees (USD 16,000 approx.) per flood season,²⁸ and this development is therefore not out of context, as such hydrological data collection facilities have to be maintained by the upper riparian country, that is China, in extremely inhospitable terrain in Tibet.

There has been a fresh bilateral understanding between India and China regarding the sharing of hydrological information on the Brahmaputra during flood seasons, with India agreeing in principle to pay a token amount, and to discuss other modalities, aimed at helping both countries to jointly manage the flood effects of the river,²⁹ especially on the downstream Indian provinces of Arunachal Pradesh and Assam. The two governments had earlier decided to set up an expert-level mechanism to discuss interaction and cooperation on the provision of flood season hydrological data, emergency management and other issues regarding trans-boundary waters during Chinese President Hu Jintao's visit to India in November 2006,³⁰ which was seen as a positive step towards cooperation.

Meanwhile, India appears to be following a policy of trying to legitimize its sovereignty claims over Arunachal Pradesh, by way of huge hydroelectricity projects in this critical biodiversity hotspot, and this has not gone down well with Beijing. This forward policy of hydropower development in Arunachal Pradesh by India could send wrong signals to Beijing, and this would have an adverse impact on atmospherics for cordial bilateral relations, which are needed for the success of any future negotiations to resolve the sensitive trans-boundary water sharing issues, and extending cooperation on water issues. This policy, however, continues to be pursued, so much so, that it has

²⁶ Ibid.

²⁷ "India has to Pay for China Flood Data," *The Assam Tribune*, August 22, 2008.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

diverted the concerns of local communities to the rampant dam-building done by India, overriding the concerns of dam-building on Chinese territory.

Various community and non-state stakeholders in the upper riparian (China), middle riparian (India) and lower riparian (Bangladesh) countries should come together at the international level to offset the hardened stances which have been in respective bilateral engagements, and bring about an honorable, equitable and sustainable solution to the water sharing and river control issue over the Brahmaputra. There should be joint research studies conducted on the hydrological cycle of the Brahmaputra River, and a systematic scientific study of the actual impact of possible dams/diversion project by China on the Brahmaputra, in downstream India and Bangladesh. Such joint research studies will help assuage apprehensions of local community stakeholders in the region.

There would certainly be contestations and conflicts but the question rather is how conflicting interests will be handled and whether both India and China can find ways and means to cooperate in other fields and also regarding river control projects that benefit both countries. The water issue would become an important geopolitical factor in the relationship between the two countries than what it ever was in the past, mainly because of economic and technological developments and possibilities, leading to further avenues of cooperation. The two countries will have to move ahead towards mutually beneficial sharing of water resources, and will have to resolve all outstanding issues of territoriality and sovereignty, particularly the boundary dispute over Arunachal Pradesh.

The effective management of the flood waters by both countries would mean less devastation and land erosion by the Brahmaputra which is the widest in Assam and causes annual floods, thereby paving the way for sustained economic development of the region. The state of Assam remains engaged in fighting the ravaging floods and erosion effects of the Brahmaputra for almost five months of the year, which hampers economic growth and the timely completion of related developmental and infrastructural projects immensely. The floods in the states of Arunachal Pradesh and Assam have been particularly worse in recent years, and this is a worrying phenomenon.

The respective governments in Beijing and New Delhi have been maintaining a guarded position on the contentious issue of sharing of water and hydrological information on the Brahmaputra River. India and China do not have any formal treaty arrangement that caters to the aspect of trans-boundary water sharing, and this is a major hurdle in the effective management of the Brahmaputra. There have been two memorandums of understanding between India and China on sharing of hydrological data, on both the Brahmaputra and the Sutlej rivers.

The widely reported plans of China diverting the waters of the Brahmaputra have prompted India to take up the matter with Beijing at the diplomatic level. The 2003 visit by Prime Minister Atal Bihari Vajpayee saw to Beijing the matter being taken up for discussion at the highest diplomatic level.³¹ The Chinese have all along denied having any plans for such a project, but given the huge

³¹ Surjit Mansingh, "India-China Relations in the Context of Vajpayee's 2003 Visit," *The Sigur Center Asia Papers*, George Washington University (2005). Accessed on October 10, 2012: www.gwu.edu/~sigur/assets/docs/scap/SCAP21-Mansingh.pdf

number of dams being constructed by China, in many parts of the country, which includes mega dams such as the Three Gorges Dam and the dams on the Salween River, New Delhi has some reason to be apprehensive. The Chinese government maintains that it would not embark on such an ambitious and complex project of water diversion at all. The Yarlung Tsangpo-Brahmaputra river diversion plan may not happen in the immediate future, but it is definitely on the Chinese government's long-term agenda, and both China and India need to discuss this bilaterally, instead of allowing speculation to create undue apprehension in the region, which has been done by media and activists.

Prime Minister of India, Manmohan Singh has also raised the issue with Beijing in 2007 and again in 2008, but has not got any assurance in the form of a treaty arrangement over the waters in the Tibetan plateau of China. The Chinese are ready to negotiate a treaty with India on the conditions that India uses the water only for irrigation purposes and not establish any hydroelectricity power projects. However, this is not acceptable to India, and the rigid diplomatic posturing by both sides explains the lack of any formal bilateral arrangement on water sharing on the Brahmaputra. There has been a lot of political activism and speculation in India relating to Chinese plans of diverting the Brahmaputra, and the issue has been raised in the Parliament at many occasions, and has effectively become another excuse for the political parties to attack China. Various quarters in India have constantly criticized China for its positions on the Brahmaputra water sharing issue, and this is often overplayed by sections of the media and activists.

China and India are not likely to have any major armed confrontation over claims over the Indian province of Arunachal Pradesh in territorial terms, which are seen as token contestations, since economic cooperation benefits and engagement in recent times have come to outweigh these sovereignty contestations; although sovereignty has been a sensitive issue in both countries, especially in China. The territorial issue over Arunachal Pradesh is closely connected to river water sharing issues, which have come up significantly in the bilateral relations between India and China in recent interactions.

Moreover, Beijing has managed to solve certain boundary issues in its neighborhood, notably with Russia. However, it has kept alive the boundary dispute with India, consciously choosing to keep the issue of territoriality on the discussion table within the overall bilateral negotiations framework with New Delhi. The various contestations over territory and the long-standing boundary dispute over Arunachal Pradesh has led to strong perceptions on both sides, and over time this has led to entrenched positions, bearing upon Sino-Indian trans-boundary water interactions.

Conclusion

China wants to keep the water card with India alive, since it can link it effectively with the larger question of territorial contestations over Arunachal Pradesh at any given point of time, much more so at a time when it has somewhat lost the Pakistan or Kashmir card to unsettle India. China is in no hurry to address water sharing and river control issues relating to the Brahmaputra with India and Bangladesh, rather it is India and Bangladesh who have to press urgently for a comprehensive

and sustainable solution. China can afford to wait if it wishes to, and thereby maintain the ambiguity in riparian politics and control over rivers, going on in the region for some time to come, and Chinese behavior can be analyzed by its past and present posturing on the sharing of the Mekong waters with the Southeast Asian countries of Myanmar, Thailand, Vietnam, Cambodia, and Laos.

India and China need to engage purposively in co-managing the rivers of the region, and thereby ensure that the development of the region is not impeded by unnecessary posturing on the sensitive water issue, which definitely has an impact on other bilateral issues between the two neighbours. The totality of Sino-Indian bilateral relations and mutual economic cooperation would largely depend on how well they handle the issues of water in the future, which will become even scarcer, given the huge population growth in both the countries. Both China and India should cooperate to seek a solution based on functional terms rather than on a political basis, and rise above the existing environment of mutual suspicion and ambiguity.

Claudia Sadoff and David Grey explore the dynamics that drive the choice between conflict and cooperation, and put forward a framework for examining the extent of potential benefits that could underlie these choices, and broaden the range of perceived benefits.³² The framework presented by them categorizes four types of cooperative benefits from cooperation on international rivers, which are environmental, direct economic, political and indirect economic respectively. Firstly, cooperation will enable better management of ecosystems, providing benefits to the river, and underpinning all other benefits that can be derived, which they call the ecological river; secondly, efficient, cooperative management and development of shared rivers can yield major benefits, such as increased food and energy production, which they call the economic river; thirdly, cooperation on an international river will result in the reduction of costs, as tensions between co-riparian states will always be present, to a greater or lesser extent, and those tensions will generate costs, which they call the political river; and fourthly, as international rivers can be catalytic agents, cooperation that yields benefits from the river and reduces costs can pave the way to much greater cooperation between states, even economic integration among states, generating benefits beyond the river, which they call the catalytic river.³³

Given the bundled dynamics of trans-boundary water relations among states with many factors such as historic, cultural, environmental and economic, that affect relations between them, international rivers can either become a powerful catalyst for conflict or a powerful catalyst for cooperation, and completely unbundling the role of water from the complex dynamics of relationships between states is not possible. Control of international rivers is inextricably entwined with economic opportunity, national security, society and culture; and the management of shared trans-boundary water resources can be a force for peace or a force for war, but politics as a proxy for the full bundle of relationships and associated tensions that arise between countries, will eventually determine whether cooperation or conflict is chosen by the co-riparian countries in solving such

³² Claudia W. Sadoff and David Grey, "Beyond the River: The Benefits of Cooperation on International Rivers," *Water Policy* 4 (2002): 389–403.

³³ Ibid.

issues of trans-boundary water sharing.³⁴

In the case of the Brahmaputra River, China enjoys the status of an upper riparian country; India being both a lower riparian country in relation to China on the one hand and an upper riparian country in relation to Bangladesh on the other, and Bangladesh being the lower riparian country. The question of just, harmonious and equitable sharing of freshwater resources between the three countries, therefore, remains one of the most important and indeed highly contentious issues. Effective resource optimization among the three riparian countries, and the streamlining of cooperation procedures in the context of water sharing in the region, has gradually been gaining prominence in recent times.

An analysis arguing for cooperation becomes pertinent in the backdrop of the great uncertainty and fears among the lower riparian countries, which are India and Bangladesh, over China's designs of diverting the Brahmaputra River at the "Great Bend" region before it reaches the boundaries of India in the province of Arunachal Pradesh. The constant clamour in the region has been of a possible scenario of future conflict over trans-boundary water resources sharing. However, the spirit of the river lives on through its continuous flow and with effective trans-boundary water resource management and development mechanisms, as well as a comprehensive regional framework, there is certainly hope and reason for mutual cooperation between China, India and Bangladesh.

The issue of territoriality that has festered over the long years between China and India, given the long-pending boundary negotiations, has close linkages with the water sharing issue, and this needs to be analyzed from a point from where a clear understanding of both countries' positions on water is taken as a precursor to understand the ramifications on the territory question, thereby shifting between trans-boundary water issues and geopolitics, with which trans-boundary water issues have had intricate linkages over time around the world. Beijing has chosen to consciously follow the policy of maintaining its ambiguity on the sharing of trans-boundary water resources relating to the Yarlung Tsangpo-Brahmaputra river system with India, for instance, by selectively providing hydrological data and flood information on the Brahmaputra River to India ever since 2002, which still continues, especially in the face of changing climate patterns. A holistic approach and understanding is required for better cooperation.

Concerning the geopolitics of trans-boundary water management of the Yarlung Tsangpo in China, the Brahmaputra in India and the Jamuna in Bangladesh, where China is the upper riparian country, India is both a lower riparian country in relation to China and an upper riparian country in relation to Bangladesh. This could possibly be the first instance where India will be engaged in a multilateral framework of trans-boundary water negotiations in its diplomatic history.

³⁴ Ibid.