

# India, China, and the headwaters of Asia: The importance of water along India's northern border

*With tensions between India and China growing along India's northern border, **Mike Todman (Lancaster University)** explains how water scarcity, driven by climate change, will increasingly intersect with and exacerbate existing fissures between the two regional superpowers, ultimately becoming the primary strategic concern in the two countries' fractious relationship.*

In his Independence Day speech, India's Prime Minister, Narendra Modi, [confirmed plans](#) to make Ladakh, a government administered region in the north-west, the first carbon neutral region in India. The terrain of the territory makes it an ideal choice for such an ambition – it is mountainous and contains the upper reaches of the Indus and several other major rivers, making it suitable for hydroelectricity and wind-power projects. It is not a coincidence that Ladakh, which was taken under control as a Union Territory in October of last year, has also recently been the site of some of the most intense confrontations between India and China in decades. In one incident in the Galwan Valley, some twenty Indian soldiers were killed, just a couple of kilometres upstream from the confluence of the [Galwan and Shyok rivers](#). Whilst PM Modi's posit of Ladakh as the manifestation of Indian ambitions towards a more environmentally conscientious future were not overtly linked to the recent confrontation, they do offer a glimpse of the strategic value of areas of disputed sovereignty, along India's northern edge. Furthermore, in his address, Modi vowed to respond robustly in defence of regions where such disputes exist, paying tribute to those soldiers who had lost their lives at Galwan.

Ladakh has contested boundaries on three sides. To the north it borders Pakistan controlled Kashmir, to the West, Indian controlled Jammu and Kashmir, which Pakistan claims, and to the East, China controlled Aksai-Chin, which India claims. What Ladakh shares with these neighbouring territories are the headwaters and upper streams of rivers which supply water to hundreds of millions of people across South Asia and the north east of China. The importance of these waters is best encapsulated in the Indus Water Treaty (IWT), a [beacon of cooperation](#) between the habitually antagonistic neighbours, India and Pakistan. The Indus supplies water to much of the north east of India and is a key source of hydroelectricity but in its lower reaches it becomes the primary water resource for some fifty million Pakistanis. For the most part, the IWT maintains a peaceful riparian relationship, however, Pakistan has periodically accused India of depleting the flow of the river by damming and constructing hydro-electric infrastructure. Furthermore, Pakistan has raised concerns that India could deliberately stop the flow of water across the border, as they did on one occasion before the IWT was implemented and have threatened to do since, to [gain leverage over their neighbour](#). As climate change pushes precipitation from the north of Pakistan to the west, and the south of the country dries, the flow of the Indus will become increasingly vital.

At Ladakh's Northernmost tip is the Siachen Glacier, the inhospitable and unlikely scene of a [decades-old standoff](#), again between India and Pakistan. Despite its lofty position, military operations on the glacier have cost several thousand lives, since the initial military contact there in 1984. On face value it is surprising that such a violent landscape could be worthy of such strategic commitment, commitment which has rarely been seen at other points of contact between the quarrelsome neighbours. However, there are two further features of the landscape that explain their enduring military presence there. Firstly, as with any other glacier, Siachen is an enormous frozen reservoir whose melt supplies local headwaters. Secondly, it is the point at which the ambiguous border between India and Pakistan joins a similarly ambiguous border with China.

To the North East of Ladakh, across the Line of Actual Control, a reluctantly agreed non-border, is Aksai-Chin, which is claimed by India yet governed by China. The proximity of Aksai-Chin to the Tibetan Plateau to its east explains China's continued hold over it. Firstly, the highest headwaters are situated deep in Tibet, which has been occupied by China for almost 70 years. It is in the southern portion of Aksai Chin that the Indus flows into India from Chinese territory, giving China the upper hand in riparian relations with both India and Pakistan. Secondly, Aksai-Chin is also the source of rivers which flow northwards, into Xinjiang province. The population of Xinjiang has been inflated by China's moves to construct Han ethnic dominance there. In addition to the [well-documented oppression](#) of the pre-existing Uyghur population, the communist government has encouraged much migration into the province, from the east. The expansion of intensive farming techniques in the province, to feed the growing population has increased demand for water supplies from further afield

The Indus is not the only trans boundary river which influences relations between China and India. China's intentions to make use of the Yarlung-Tsangpo, known in lower-riparian states as the Brahmaputra, are not a well-guarded secret. However, accusations of China's intentions vary in scale. They range upwards, from run-of-river hydroelectricity projects which might cause fluctuations in river flows downstream, as they feed national changes in power demand. But the greater projects of which China is accused by its lower riparian neighbours, include vast river-diversion schemes, to supply the [major cities to the north](#) via the dying Yellow River. Such a diversion could lead to significant depletions of river levels downstream, in India and Bangladesh. Given the many millions of people who depend on the supply of water through North East India and later, as the Brahmaputra empties its vast load into the delta of Bangladesh, the human impact of such depletion could be terrible. The suspected site of these diversion projects, at the big bend, is in close proximity to the disputed territory of Arunachal Pradesh. At some points, along this stretch, the Yarlung-Tsangpo is less than 10 km from the border with the territory, to which China maintains its claim yet India maintains control. In the last decade, China has tellingly begun to refer to Arunachal Pradesh as South Tibet. And, as along the border between Ladakh and Aksai Chin, both India and China have [gradually built up their military presence](#) and civil infrastructure alongside this eastern stretch of their shared boundary.

In recent days, high level talks between India and China have brought about an overt agreement to disengage military and maintain a peaceful coexistence. Nonetheless, infrastructural development shows no sign of abating, on either side of the border, and the path to water-scarcity remains unchanged. India's own population is growing, particularly in the cities of the north. It will be essential for it to protect its vital water resources in coming decades. Particularly as that northern region faces a drying trend, despite the increasing ferocity of extreme weather events. It is likely that protecting those resources will increasingly entail robust exchanges with China. Similarly, India's own activities along the major rivers of the north will become increasingly influential in its relationships with its lower-riparian neighbours, Bangladesh and Pakistan. Each of these relationships has its own history, influenced in different ways by the pursuit of regional power, colonial heritage, nationalism, religion and other harbingers of conflict. However, it is the need for water that will increasingly intersect with those existing fissures, fuelling border spats, and ultimately become the primary strategic concern in this fractious landscape.

*This article gives the views of the authors, and not the position of the South Asia @ LSE blog, nor of the London School of Economics.*