

The shape of water in transboundary river basins of South Asia



*In the colonial era, rivers were primarily seen through an engineer's technocratic eye. With the examples of Pancheshwar Dam and projects on river Kosi, **Raj Kaithwar** explains how the view persists in post-colonial South Asia.*

Himalayan watershed consists of three major transboundary river basins: the Indus, the Ganga and the Brahmaputra, which are fed by both glacial melt and annual precipitation, producing a large amount of freshwater. However, the South Asian region only accounts for [4 percent of world's annual renewable water](#) resources housing 1/6th of the world's population. In recent years, many [reports](#) have highlighted rising water stress in the region due to inequitable water distribution and climate vulnerability. In this context, in order to gauge the lay of the land, it is important to understand *who* sees transboundary waters in the Himalayan watershed states and *what* is seen or missed in that vision.



Himalayan watershed consists of three major transboundary river basins: the Indus, the Ganga and the Brahmaputra, which are fed by both glacial melt and annual precipitation, producing a large amount of freshwater. Image credit: Flickr/[Lenny K Photography](#)/ CC BY 2.0

Who sees water?

Like in the colonial era, the post-colonial countries of South Asia see rivers primarily through an engineer's technocratic eye. India's Central Water Commission, is dominated by knowledge of the engineers. In [India](#) and [Pakistan](#) the 'engineering-construction-extraction centered approach' has dominated water resource development since independence. The dominant view has been rivers can be tamed, dammed and diverted to suit the needs and demands of the state. Most of the water treaties in the region mirror this perspective. Commenting on the Indus Water Treaty, considered one of the most successful water treaties, [Rohan D'Souza](#) stated that "the Indus Water Treaty was too simplistically (though perhaps appealing in its time) based on an engineering formula which 'divided' the Indus rivers...".

There is a further complication in the case of transboundary waters as these border-defying rivers are territorialised and securitised. Defence establishment and external affairs ministries often get the final say on the matters of transboundary waters as water is seen in the strategic designs of South Asian states. Water is then primarily looked at through the lens of national interest.

How is the water seen?

In the developing world South Asian subcontinent, the major concerns are of economic growth, development and providing for the basic needs of their growing population. It is argued that high growth rate will help in eradicating poverty. Moreover, growing population and increasing urbanisation will lead to increased demand for food and water. In this backdrop, [energy security](#) and food security get [inextricably linked](#) with water security. However, this interconnectedness is [seen only in silos](#) by the decision makers. It is this restricted approach that is briefly highlighted below.

In terms of energy security, water is seen as an important 'resource' which can be harnessed to provide power. Be it Jawaharlal Nehru or Ayub Khan, both believed that water and hydro-power shall constitute an important element of their respective state's development vision. Even today, a cursory look at various reports by the governments of all the South Asian states will provide keywords such as hydro-power potential. By constructing hydro-power dams or buying hydro-power from neighbours, the governments want to enhance their power capacity to meet the rising energy demands for industrial and domestic consumption. Off late, hydro-power has also been seen as a commodity for trade with the neighbours.

Food security and water have always been intricately linked in terms of irrigation. Post independence, huge investments were made in India and Pakistan to create adequate infrastructure to channel water for irrigation requirements as well as to provide flood protection. India's Green Revolution further deepened the reliance on water, particularly groundwater. But South Asia is projected to be a highly water-stressed region in the future. [Groundwater tables](#) in many areas in the region have reduced drastically and governments see climate change as a daunting challenge.

What is not seen by the state?

Writing about the early modern and modern European states, James Scott in *Seeing Like a State* had argued that these states simplified reality and imposed that simplified logic on a complex terrain, resulting in counterproductive outcomes. A similar trajectory appears in contemporary South Asia. For the states in the region what takes precedence are the strategic concerns, energy requirements, irrigation needs and flood control, all seen from a technocratic lens. However, a lot gets left out in the process.

Two such aspects will be looked at in the paragraphs below, by answering the following questions: How sustainable are the large hydro-projects in terms of their economic viability, ecological impacts and social impacts? How effectively has the engineering dominated approach dealt with the challenge of 'flood control' and irrigation?

A recent [report](#) by South Asia Network on Dams, Rivers and People states that around 89 per cent of the hydro-power projects in India are underperforming. There is also a raging debate on the long-term economic viability of the large-scale hydro-power projects with [high prospects](#) of economic costs outweighing benefits. Apart from the poor economic return, the 'energy' argument the state has often overlooked is the social and ecological concerns regarding the projects.

One such recent case is that of Pancheshwar dam, which would be world's second highest dam with power generating capacity of 5,040 MW once completed. Authorities plan to acquire 9,100 ha of land in India and 5,000 ha in Nepal. However, consultation with the locals to understand their concerns with regard to loss of land, livelihood and need for adequate rehabilitation are not the top priority of the Indian government, which rushed through the public hearings in 2017. The [public consultations](#) were held in district headquarters, far away from the affected villages, and opposing voices were curbed by parties with vested interests.

On the ecological front a detailed [report by SANDRP](#) highlighted the methodological and computational flaws in Environmental Impact Assessment of the project. For instance, the EIA puts names of 'non-existent glaciers', names just 193 plant species in the affected area when just the Gori basin, a part of the affected area, has over two thousand plant species. Similar shoddy assessments have been done on marine and bird diversity.

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Rivers are known for changing their course over time, and the flow of a river is not just a flow of water but also of sediments. Despite this the engineering thinking in the subcontinent continues completely disregard these factors while providing technocratic solutions. For instance, the flow of the [transboundary river Kosi](#) was regulated through a barrage and a series of embankments in the late 1950s in order to prevent floods and for irrigating 2.14 lakh ha in India. This became the cause of misery for the 380 Indian villages and 34 Nepali villages within the embankments, apart from those living nearby. The tamed river, which is known for changing its course, has often breached the embankments. In 2008 the river again shifted its course, breaching the embankments, causing floods which led to loss of [540 lives](#), [displacing](#) around fifty thousand people in Nepal and more than three million in India. The soil fertility too has declined as the land is deprived of sediment the Kosi used to bring during deluge, before the embankments were constructed. Problem of siltation and water logging in the areas near the embankments has far outweighed the benefits these were supposed to provide. However, the [strong nexus](#) between engineers-politicians-contractors has not helped.

Policies on water are formulated in a manner which often create hostilities between the countries but such policies primarily aim to satisfy the objectives created at the top of the policy making structure. In the process of understanding and implementation, these policies simplify the reality, creating fissures which are not helpful either for the society or for the ecology in the long run.

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About The Author



Raj Kaithwar is currently pursuing M.Phil in Political Science at the University of Delhi. In the past he has worked on Transnational Water Governance projects at the South Asian University. His research interests include studying the politics of water and climate change in South Asia as well as in the disciplinary domain of International Relations.