

Keya Acharya: Looming crisis in the eastern Himalayas

A recent spate of dam-building in the eastern Himalayas has agitated an entire stretch of lower riparian regions over water-sharing issues

Keya Acharya / January 30, 2011, 0:35 IST

A recent spate of dam-building in the eastern Himalayas has agitated an entire stretch of lower riparian regions over water-sharing issues. China's planned series of dams on the Yarlung Tsangpo — the upper catchment basin of the Brahmaputra in southeast Tibet — has India worried, while dams being built in Arunachal Pradesh are agitating lower riparian Assam. Chinese dams on the Lancang river — the upper reaches of the Mekong in central Tibet — also have lower riparian Thailand, Cambodia, Laos and Vietnam equally worried about the shrinking waters in their own reservoirs. Experts are also worrying about the ecological ramifications of so many dams in such a fragile region as the Himalayas.

But water expert Professor Jayanta Bandyopadhyay of the Centre for Environment and Development Policy at the Indian Institute of Management Calcutta says China's share of waters from the Yarlung Tsangpo is only 20 per cent of the amount available to India. The apprehension, he says, is merely 'political perception', with Chinese usage being sensitive only in the winter months when discharges in regional river basins dry up.

What should worry us more than China's dams, according to Bandyopadhyay, is the lack of data on climate trends in the region and the now-urgent need to form regional adaptation strategies for conservation of Himalayan glaciers. "There is a very urgent need for strengthening Himalaya-specific water sciences," says Bandyopadhyay. "Adaptation strategies will be very difficult without this science. The whole issue of Asian development depends on this."

The eastern Himalayas stretch 1,500 miles across Nepal, Bhutan, northern Myanmar, southeastern Tibet and northeastern India. The mountains are home to three huge river basins: the Ganges, Brahmaputra and Meghna-Barak, the catchments of which spread through five South Asian nations (India, Nepal, Bhutan, Bangladesh and China), and the upper basins of which originate in Tibet.

Extending to the west, the Himalayas include the Karakoram, Hindu Kush and lesser ranges extending from the Pamir Knot in Central Asia. Three massive river basins — the Indus in the west, Ganges in the centre and east, and the Brahmaputra in the east — have spawned several major rivers flowing into Central, South and Southeastern Asia, naming the mountains the 'water towers of Asia'.

The mountains also have the world's largest glaciated region outside of the two poles (hence another name for it, the 'third pole'), an important source of flow for the hundreds of rivers it generates. Even with the lack of detailed data, studies by the International Centre for Integrated Mountain Development (ICIMOD) based in Nepal have shown that temperature warming in high altitude areas is far higher than in the lower reaches.

Shresth Tayal, a glaciologist from The Energy Resources Institute (TERI), says the Brahmaputra basin's glaciers, though having the smallest glaciated area of the Himalaya's three major basins, gives the highest water discharge per capita. A Teri GPS survey has also shown significant loss of the East Rathong glacier in the last 40 years.

In Nepal, the Imja glacier is retreating almost 70 metres per year. In Bhutan, where glacial melt is the least perceptible currently, 25 of the country's 677 glaciers have been categorised as potentially dangerous, with an 'alarming' glacial retreat rate of 20-30 metres per year, says G Karma Chhophel of Bhutan's National Environment Commission.

Himanshu Thakkar, of the New Delhi-based South Asia Network on Dams, Rivers and People, says sharing of waters is an important issue in the current scenario. "Building more dams when its waters are anyway threatened due to climate change is accelerating the issue of water loss. India needs to leverage its huge trade dealings with China to form a water-sharing accord with China," he says.

Bandyopadhyay doesn't disagree with the idea. What will the treaty be based on, he asks, when currently even baseline eastern Himalayan models for temperature and rainfall patterns are lacking. "There are 1.3 billion people living in this region; this itself should push the Government of India to initiate action," he says.

There have been some 'talks' on Himalayan ecosystems between India and China, but they seem more 'goodwill exchanges' than anything else, with some reviews of glacial melt in the western Himalayas. The Union ministry of environment and forests has, as part of its climate change agenda, an agreement with China and Nepal on ecosystem regeneration of Mount Kailash in Tibet. The eastern Himalayas remain a yawning gap.

At a discussion on the issue at IIT Guwahati recently, scientists, international agencies and experts from South Asia's eastern nations agreed that regional co-operation was an urgent necessity. Indigenous expertise to collate data seems readily available in India. R Krishnan, head of climate and global modelling at the Indian Institute of Tropical Meteorology in Pune, says the institute now has state-of-the-art equipment to build regional models. Krishnan has offered to share data and collaborate in inter-disciplinary research.

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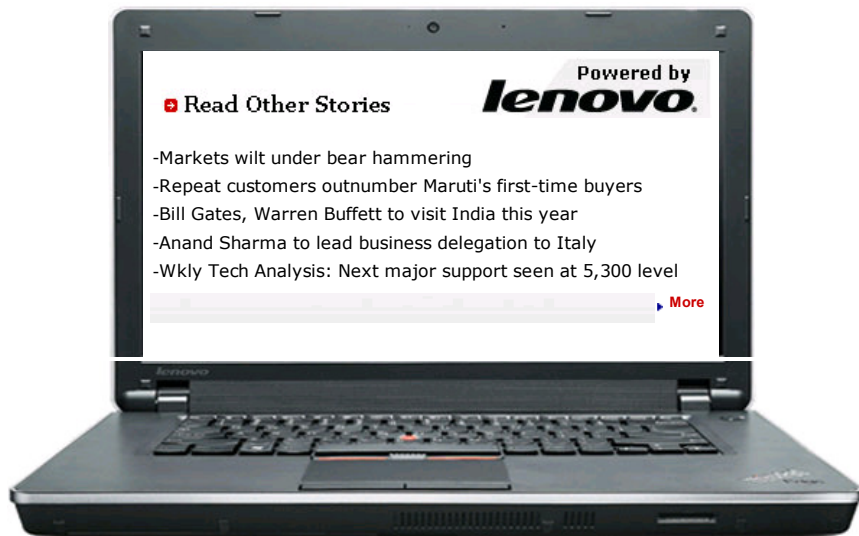
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