Why India deserves a 'Fossil' on glacier melt

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Jairam Ramesh, India's minister for environment and forests, says he doesn't want to get a 'Fossil of the Day' award, but perhaps India should get one for its continued rejection of links between climate change and melting glaciers in the Himalayas.

Jairam Ramesh, India's minister for environment and forests has just arrived in Copenhagen. The minister has been feted in India by those calling for reform of India's outdated approach to domestic and international climate policy. In Copenhagen one of his first actions upon arriving was to meet with Indian NGOs and press - a welcome move.

At the meeting however, he was challenged by a group of South Asian youth about statements disputing a link between global warming and Himalayan glacier melt. The youth group contained representatives of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. They were alarmed by a statement the minister had made suggesting, "There is no conclusive scientific evidence to link global warming and Himalayan glaciers, nor to link the black carbon in the atmosphere with the glaciers."

The statement was made at the launch of a paper by his ministry entitled *Himalayan Glaciers, A state-of-art review of glacial studies, glacial retreat and climate change.* The report author, V.K. Raina, former deputy director general of Geological Survey of India (GSI), had said "If we see the cumulative average of rate of retreat over the past 100 years, no glacier has deviated from that ... There is no abnormal retreat." The report caused quite a stir.

IPCC and public concern

Why? Because in its fourth assessment report in 2007, the Intergovernmental Panel on Climate Change (IPCC) had noted that Himalayan glaciers were retreating faster than in any other part of the world, and if the trend continued, were likely to disappear by 2035, if not sooner. Although these figures have come under contention in some quarters, they signal the potential magnitude of the problem. In India the melting of the Himalayan glaciers has become an iconic image spelling out the dangers of climate change to a public that intuits what it means

Most people do not need PhDs to understand that massive and rapid glacier melt combined with global warming could well lead to catastrophic flooding followed by drought, hunger, disease, local upheaval, social conflict, mass migration and regional instability. A particularly worrying scenario for the Himalayas, the 'water towers of Asia' which are the source of seven of the region's major river systems and feed more than a billion people.

The public is in good company. According to the IPCC, the melting of ice mass and glaciers worldwide is one of the most prominent indicators of climate change and a matter of grave concern for food security, water security and regional stability.

We now know through the World Meteorological Organisation's recent report that the decade of

2000 - 2009 has been the warmest since global records began. The trends are clear. If the world is warming, it would seem logical to assume that glaciers are melting.

Indian scientific views

Not so in the Indian scientific establishment it seems. The government's Himalayan glaciers report shocked climate scientists and glaciologists around the world not only for its chilling complacency, but for its rejection of mounting evidence that the rate of glacier retreat is much faster in the Himalayas than in other parts of the world. As one remarked, "Are the laws of physics different in India?"

Not that the Indian report was based on the latest scientific evidence. Labeled as a "state of art review", the government report did not consider a single peer-reviewed journal after 1980. Nor did it entertain evidence to the contrary such as that provided in key scientific literature such as GSI surveys of the Satluj River Basin and Milam glaciers - all indicating significant retreat. Nor did it consider numerous recent studies in India or ICIMOD satellite-based studies and reviews of Himalayan glaciers across India, Nepal and China. It also ignored the fact that small glaciers in neighbouring Bhutan have disappeared completely.

If this was supposed to be Indian science at its best, it left a lot to be desired.

The minister and the students

But back to Jairam Ramesh. Upon being challenged by the South Asian students, the minister retorted that the Indian scientific community had been studying the Himalayan glaciers for decades and found that while most Himalayan glaciers were retreating, there were discrepancies with some glaciers retreating at a decelerating rate such as the Gangotri glacier, and others advancing such as the Siachen glacier.

One could easily have walked away from this thinking, well, the issue was complicated, the science was still not out, more research was needed but there wasn't too much to be alarmed about at present.

To his credit, the minister did conclude that one should not wait for all the studies to be conclusive in order to take action. But the response appeared to cut little ice with the group of South Asian students who insisted on delivering a letter on the issue to the Minister - which he accepted.

They called for the Minister to "take a lead in the region to affectively tackle problems of climate change" and reminded him that Nepal had recently hosted a regional conference on climate change and Himalayan vulnerability at which South Asian governments (including India) had recognized the HinduKush and Himalayan region as a climate change hot-spot.

The students said that by denying climate change and inserting politics, the minister was "not just jeopardizing our futures but further entrenching us into generations and generations of poverty." They urged him to "show the moral leadership and take deep emissions cuts immediately."

Indian science behind the times

The students are right. The Indian government has not internalized the risks posed by glacier melt due to climate change - accelerated by our own black carbon emissions. It continues to seek refuge in scientific uncertainty - much as the rightly-maligned Bush administration did for many years in the United States.

The minister is right that much work remains to be done in improving our scientific understanding. Despite having some of the most skilled scientists in the world, India has failed to invest in climate

research for decades. A consequence of the country's leadership not taking climate risk seriously domestically, despite much grandstanding internationally.

The minister himself has characterized India's lack of understanding of climate impacts as a "pathetic" situation. There is a lot of catching up to do to understand the connection between climate change and changes in Himalayan glaciers and ecosystems.

A regional challenge

But the Himalayas are not India's property. The mountain range is shared by six countries in the region - India, Bhutan, China, Nepal, Afghanistan and Pakistan -and affects many more downstream. Most of these countries take the impact of climate change on the Himalayan region as a clear and present danger to them.

For example, Nepal's government recently held a cabinet meeting at Kalapathar, 5542 metres above sea level near Mt Everest's base camp, to highlight the threat of climate change to the Himalayan mountain system.

In the climate negotiations in Copenhagen today, the representative of Nepal reminded delegates that yesterday - 11 December - had been International Mountain Day. The day had been observed in Copenhagen by a march of mountaineers and summiteers who had travelled all the way from Kathmandu to Copenhagen to bear witness to visible impacts of climate change such as faster snow melt and exposed rocks on the way to Mt Everest.

In the negotiations, Nepal's senior official stated how "climate change has been a real threat to all of us ... and the impact of climate change has been clearly noticed in the Himalayas."

Lack of clarity

There is no such clarity in the Government of India's position. Words have consequences and for the minister to assert that there is no connection between climate change and black carbon on melting Himalayan glaciers is to defy common sense. It dismays our neighbours, reduces our credibility and harms our reputation.

For example, recently a senior Indian Embassy official in Nepal challenged a group of Nepali youth who had come to protest about the Minister Jairam Ramesh's statement. The official told them he was unconvinced about climate impacts on Himalayan glaciers and suggested they should be worrying about more pressing things such as poverty and deforestation.

At the meeting with Indian NGOs and press yesterday, the Minister said he did not want to get a 'Fossil of the Day' award. This is the dubious distinction awarded daily by the Climate Action Network - a grouping of more than 400 NGOs - to errant governments in the belief that light public shaming can help change positions. Typically these governments are overwhelmingly from developed countries. Not that developing countries are above criticism. We know they are not.

In India's case, the minister is not a dinosaur, but India's stance on glacier melt is. The government's rejectionist and dismissive position on climate change and Himalayan glaciers is neither in India's nor the region's interest.

Benefits of a pro-active approach

A balance between denial and alarmism can be found. It begins by taking a precautionary, risk management approach to the issue. If the impact of glacier melt in the Himalayas is indeed as potentially catastrophic and irreversible as many fear, the government should ensure that climate science research budgets in India are immediately fast-tracked to study the issue in depth.

Further, if black carbon (soot) from Indian industrial emissions, wood-based stoves and slash-and-burn farming practices is contributing to glacier melt, India must not be on the defensive but get on the offensive in addressing this issue. Black carbon is a low-hanging fruit in mitigation terms. It is a short-lived atmospheric pollutant believed to be accelerating the melting of ice mass and glaciers. However its lifespan is a mere few days to weeks unlike carbon dioxide - which can remain in the atmosphere for more than a hundred years - and it is amenable to swift anti-pollution measures which can bring significant co-benefits.

For example, cleaning up industrial pollution, removing subsidies on kerosene, providing solar cooking stoves, and changing agricultural practices - if done in a well-thought through manner can be cost-effective and have beneficial climate, environmental, public health and quality of life impacts.

These are not the only pro-active measures needed. Far greater investment in disaster preparation, mitigation and management programmes must be made, as well as attention to training India's defence forces, government officials and community leaders in conflict resolution practices.

This latter aspect is alarmingly neglected in India and shows how climate security is yet to be acknowledged as a key strategic concern for the country. The fact is we will need to develop new skills and resources to address the inevitable conflicts that will arise from fights between riparian and downstream states over dams and water diversion schemes as everyone tries to secure their water security.

These are just some of the key issues that must be addressed as part of a strategic and integrated risk management approach to the issue of glacier melt in India. The fact that the government is not doing this - in credible, coordinated and unequivocal terms - but is instead spreading confusion and dismay about its position, makes India a ripe target for a Fossil of the Day.

If awarded one, it could mark a new beginning - in more ways than one. Or perhaps the mere threat of being awarded a Fossil, could be enough?

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