The Asia-Pacific Journal: Japan Focus
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Regional Cooperation at the Third Pole: The Himalayan-Tibetan Plateau and Climate Change

Isabel Hilton, Andreas Schild, Mohan Munasinghe, and Dipak Gyawali

chinadialogue is the world's first fully bilingual website devoted to climate change and the environment. Based in London, Beijing and San Francisco, www.chinadialogue.net is a unique online space where the views and ideas of Chinese and non-Chinese readers are heard and exchanged. In addition to articles by distinguished contributors, the website features video podcasts and bilingual book reviews. It is read in more than 190 countries and territories, with around 60% of its readership in China, including key officials, policy makers, journalists, radical thinkers, businesspeople and students.

chinadialogue's core proposition is the concept of dialogue, a concept that involves a willingness to listen as well as to speak, even when the views expressed may seem unpalatable or unhelpful. *chinadialogue* has pioneered the discussion of climate change in China, showcasing the positive as well as the negative aspects of China's approach to environmental matters, and helping to raise the understanding of such key issues as environmental and climate security, of the global deal on climate change, of the importance of individual action – and of the regional importance of climate change, with its project, "The Third Pole".

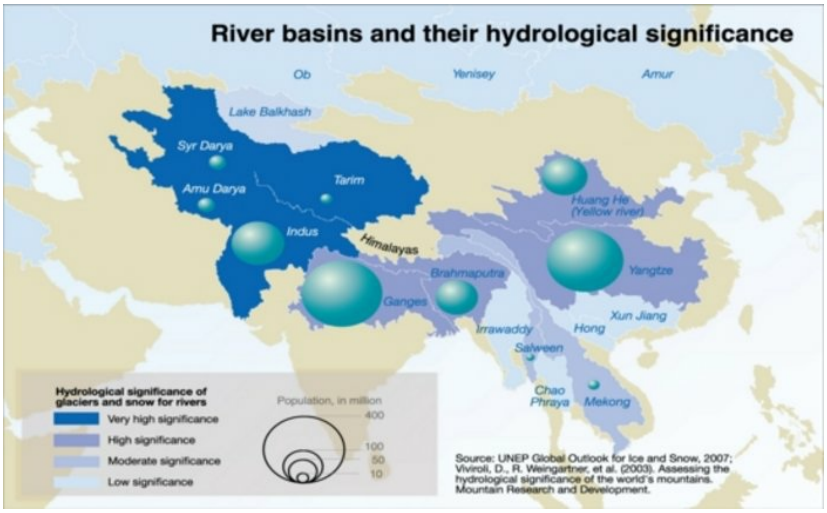
> The planet's "third pole" – the Himalayas and the Tibetan Plateau – is a climate-change hotspot. The threat to the region's cryosphere – its vast, frozen stores of fresh water – and to the countries in its watersheds is of global importance. The Third Pole is a forum to inform, discuss and search for solutions to this gathering regional crisis. In the run-up to the "Kathmandu to Copenhagen 2009" conference, which focused on South Asian countries' vulnerabilities to global warming and aimed to catalyse a common Himalayan response, Isabel Hilton, editor of ***chinadialogue***, spoke to development specialist Andreas Schild, Sri Lankan physicist Mohan Munasinghe and Dipak Gyawali, former water minister of Nepal. What follow are three excerpts from her discussions, with links to the full interviews at *chinadialogue*.

Glaciers and Guesswork

Isabel Hilton (IH): Since the last IPCC report – the Fourth Assessment Report of the Intergovernmental Panel on Climate Change – many scientists have said that climate change is moving faster than was reflected by that assessment. Is this your observation with respect to the "third pole" – the Himalaya and the Tibetan plateau?

Andreas Schild (AS): We cannot confirm this statement and the main reason is that we do not have directly available reliable and consistent data. This is also the reason why the IPCC Fourth Assessment hardly mentions the Hindu Kush-Himalayan region. We are presently involved in a review of the situation of the glaciers and we can confirm that the retreat of glaciers, which has already been reported, is taking place and is accelerating.

However, we hesitate to make such a statement, because we have to see what kind of glacier we are speaking about. We also have to be aware that certain glaciers -- large glaciers in the Karakorum, for instance -- are growing. But even this statement tends to create misunderstandings: the growing is probably due to changing precipitation patterns, perhaps more precipitation in the winter season due to westerly winds. But this is an intelligent guess, which for the time being cannot be supported by science. Glaciers, which depend on the monsoon in the western Himalayas, tend to be receding quicker.



Himalayas Mountains: Hindu-Kush rivers

Glaciers are excellent indicators because change is immediately visible and understandable for the layman. But addressing the changing precipitation patterns of the monsoon and changing biodiversity require much more refined monitoring tools. The bottom line is that for the Hindu Kush-Himalayan region, we do not have reliable data and we do not have the monitoring instruments in place to make clear statements.

IH: Is it possible to detail the projected impacts on regional downstream countries? Do you see any connection, for instance, between the retreat of the glaciers and such phenomena as the failure of the Indian monsoon this year, or the floods and typhoons in China and Taiwan, or are these coincidental phenomena?

AS: It is very dangerous to take punctual, one-time events and interpret them for the explanation of a global phenomenon. We need multi-annual data chains and have to apply modelling techniques, which indicate certain trends. To refer to isolated events and interpret them directly is very risky. Studies of such major events as floods in South Asia since the 1960s tend to indicate that they are the product of locally isolated outbursts, which as typical for mountain systems. The trend is that they are recurring more frequently and with greater amplitude.

IH: What do we know and how do we know it? It is a vast and varied region, but in some respects it is one huge ecosystem fragmented across several

countries. How important is it to reach a comprehensive scientific understanding of the region scientifically, and is that possible?

AS: We have to accept that within the Hindu Kush-Himalayan region there are great variations. In mountains, we have to accept that there are very local and rapidly changing extreme situations and events. From this point of view, it is not possible to make sweeping statements for the whole region. However, what is possible is to make longitudinal and latitudinal transects, which allow observations and conclusions for sub-regions, water basins or specific systems. ICIMOD [International Centre for Integrated Mountain Development] is working on such a concept with the regional partners and finds an encouraging interest among the specialists.

Hindu-Kush mountains

In order to become relevant, this needs firm and long-term commitment from the governments. At this point, we have to define relevant sub-regions where comprehensive statements can be made. Political borders do not usually define these: they are transboundary and cross political borders. I am referring here to river basins, to landscape corridors and so on.

The difficulties are that, in the past, data gathering and interpretation has been done on an ad hoc basis, project-wise and without continuity. The governments have not given priority to such phenomena. The consequences are a high presence of external actors, such as universities, which do a lot of research but do not necessarily coordinate. Another difficulty is the different level of capacity of the institutions, which does not facilitate the exchange of information, and a lot of data are not exchanged because of institutional, political and personal reasons.

IH: How would you assess the region's readiness in terms of awareness of the impacts, adaptation and mitigation strategies?

AS: It is very difficult to answer a question that encompasses so many countries and the substantial differences between awareness, adaptation and mitigation. We can safely say that the awareness of the consequences of climate change has substantially increased. Some regional countries make a substantial effort. However, their positions depend greatly on the prevailing situation in the respective countries.

There are extreme cases in the region, such as Afghanistan, Nepal and Myanmar. All the three have very specific internal agendas and priorities. Nepal is an extreme case because it is potentially a main loser and winner at the same time. However, climate change is very low on the political agenda.

Mitigation is a completely different matter and cannot be answered in a professional way in this context. The difficulty for the big regional countries is that mitigation is directly linked with growth. The global debate on mitigation will only have long-term effects. In the meantime, it is essential to strengthen adaptation and build resilient communities. Practically, this means that the adaptation agenda has to be linked closely to other agendas. Poverty is the overriding issue; for mountain communities, globalisation, migration and isolation also are concerns.

Mountains are largely suffering from climate change and are not the polluters. On the other hand, they have not benefited from the carbon-trading facilities. The global architecture, data availability and transaction costs do not favour them. We fear their potential will also be limited in the future. This could have dramatic consequences. Mountains are very sensitive systems and are fragile. The ecosystem services in terms of water, biodiversity, cultural heritage, space for recovery, tourism and so on will be affected. This will influence food security, particularly in Asia, where the main rivers are highly dependent on mountain and snow and ice discharge.

Andreas Schild is director general of the International Centre for Integrated Mountain Development (ICIMOD).

Read the full interview with Andreas Schild here.

Taking the Toad's-eye View

IH: How can science become more relevant to the region?

Dipak Gyawali (DG): The effects in different parts of the Himalaya and south Asia will be very different and it's not all about glaciers. The Maldives will be drowned; Sri Lanka may have more tsunamis and more intense storms; Bangladesh will have its own problems. They will not be impacted directly by the glaciers; the interest in the glaciers is that they are powerful indicators: they tell you clearly that something is wrong. It's like going to the doctor with a fever: you know you are sick. But we don't have the kind of science that we need to be able to make accurate predictions of impacts over a hugely diverse region. If you look at the last IPCC report, for instance, the whole of the Himalayas was a blank. People are already suffering but whether we can take any one instance as a directly related with climate change is not certain.

We did a series of local consultations from every part of Nepal, bringing farmers together to ask them what they are actually experiencing now as a result of climate change. Many of them cannot relate what they are experiencing to CO2 [carbon dioxide] emissions, and one problem we have is that over a large part of the region is that there is no difference between the word for climate and the word for weather. But when we asked them what is happening to their agriculture, we discovered a whole series of impacts.

Some of them are predictable: spring is coming a week earlier, for instance; things begin to grow, but it is not "real" spring and it can be followed by a blast of terrible cold weather. It seems to be having an impact on cucumbers: they are getting a much higher volume of male flowers to female flowers, so the crop is smaller. The mangoes come into flower and start to grow, but then the fruits shrivel up and drop off, so the mango harvest is shrinking. Lowland pests have

started moving up into the mountains; certain weeds from the lowlands are being found at higher altitudes.

Winnowing grain in Nepal

We also looked at some major regional catastrophes, signature events like the failure of the Indian monsoon or the floods in the Terai, to see how people were affected. It's essential to find out what is happening, and we believe we need to rethink development in the light of climate change. That has not happened yet.

IH: Presumably it has not happened because the development agencies have not had this kind of detailed input?

DG: That's precisely the point. The remote sensing and the satellites give us the eagle-eye view, which is essential but not enough. In a country as diverse geographically and socially as Nepal— there are more than 90 languages and 103 caste and ethnic groups – the eagle-eye view needs to be complemented by the view from the ground, what I call "toad's-eye" science.

IH: Because high level science can't be broken down into what is happening in any given local area?

DG: Yes. You are dealing with such diversity: ecological diversity, geographical diversity, cultural and ethnic diversity. The reason that we focussed on this toad's-eye view is that we found that people were not sitting around waiting for an agreement at the COP15 in Copenhagen. Millions are voting with their feet every day at the grass-roots level, reacting with civic science and traditional knowledge. This is what people are basing their everyday decisions on.

There's a real need for high science to come down off its high horse and meet up with civic science and traditional knowledge, in order to understand what is happening, so that national governments can also plan. The high science has to start looking at why there are more male flowers on the cucumbers, why berries are ripening at the wrong time.

Just to take one example: nobody has studied what is happening to soil fauna. Soil fauna are essential to everything and they are one of the first indicators that things are going wrong. They affect everything from plants to birds and nobody knows what is happening with them. Scientists will have to re-orientate themselves, to listen to local people and then to do the work that will make their strategies more robust.

IH: Have you a better idea of who is vulnerable as a result of this work?

DG: Yes. The conventional wisdom is that the most vulnerable people are the poorest of the poor, but we have found that it is actually the lower middle classes. The reason is that the poorest of the poor have never had enough land to keep their families for the whole year, so they have always had to diversify their sources of income: they go and do seasonal labour for part of the year, and they have those networks and connections already. They have a built-in resilience, so if their harvest is worse than usual, they just go and work longer.

The lower middle classes, though, have had enough land to be able to depend on their crops. They might survive one bad year, but two or three wipe them out, and then you get what you are seeing in India – farmers committing suicide. That is also happening in Nepal. The poorest are suffering, but it is not fatal. The people who are really being hit are the lower middle classes and upwards, which has implications for social stability.

Dipak Gyawali is a former minister of water resources in Nepal and research director of the Nepal Water Conservation Foundation.

Read the full interview with Dipak Gyawali here.

Building Regional Cooperation

IH: Himalayan glacier melt is predicted to impact food security, cause catastrophic events, cross-border conflict over water and forced migration, all in countries that are relatively poor and whose peoples are not best equipped to adapt. In some of these countries the political panorama is not encouraging. What can be done, and who should do it, to prepare for the adverse impacts?

Mohan Munasinghe (MM): The Himalayan issue is very underrated and not getting the attention it deserves. When one thinks of poor people who are being impacted by climate change, one thinks of Africa and so on, but I think South Asia, and particularly the watersheds that are fed from the Himalayas, are equally vulnerable.

As to who should be doing something about it, the global community, especially the Annex I countries, have a major responsibility, because in addition to mitigation there is an important obligation to help the poorest. This is an issue of social justice and equity and I think the Annex I countries should pay special attention to the Himalayan region in launching their adaptation programmes.

IH: But this is a region fraught with political tensions. Why is cooperation important, how can we foster it and what would you hope to see it achieve?

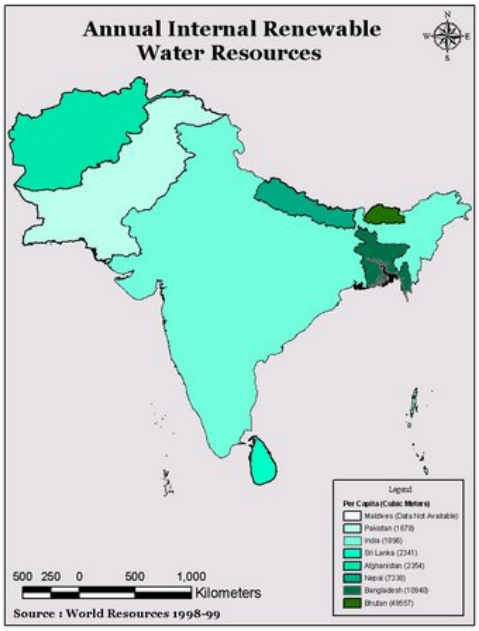
MM: You have identified one of the weak points: the question of governance in many countries. But this is not just a question of government. Governance is an issue for civil society and to a certain extent business. To the extent that, for example, the Maoists [in Nepal] have a lot of grassroots mobilisation capability, I think they should sit up and do something, because they are the people who are going to be affected.

IH: How is it possible to build cooperation under these circumstances?

MM: I have been involved in conflict management in many places, most of them on resource issues – land, water and so on. Almost invariably, if you sit down and analyse technically, you can come up with a cooperative solution in which everybody benefits, a win-win outcome, whereas a conflict or non-cooperative outcome usual destroys much of the resource. This I think is a very important aspect here, which is that climate change will affect water and the watersheds, upstream and downstream, land and water quality. Cooperation is very important.

Outside the question of natural resources, things like economic and trade cooperation can also be developed and can be complementary. The bottom line is that if the problems are to be resolved in this region with so many trans-boundary resources, starting with the rivers, cooperation is extremely important.

But of course, in practical terms, the problem that you have identified correctly is that trust is lacking, certainly at a government level and perhaps at individual level. So I think one should start here. I think SAARC [South Asian Association for Regional Cooperation] is a bad example, because it is one of the regional organisations which have lagged behind simply because of mistrust.



South Asian water resources

So my approach would be very drastic: to start bilaterally. Two countries can work out water sharing agreements or an exchange of energy on a purely pragmatic basis. They don't even have to like each other – just to see a mutual profit. Then you can expand that to sub-regional arrangements, involving perhaps three SAARC countries and eventually you would get the whole of the SAARC region, working together as ASEAN [Association of Southeast Asian Nations] does. If this pragmatic approach starts with the resources, trade and the economics, I am sure that eventually agreement could be reached on climate measures as well.

Mohan Munasinghe is a Sri Lankan physicist and the vice chairman of the Intergovernmental Panel on Climate Change (IPCC). He is also chairman of the Munasinghe Institute for Development and director-general of the Sustainable Consumption Institute at the University of Manchester, United Kingdom.

Isabel Hilton is editor of chinadialogue*. A London based international journalist and broadcaster, her work has appeared in the* Financial Times*, the* New York Times*, the* Los Angeles Times*,* Granta*, the* New Statesman*,* El Pais*,* Index on Censorship *and many other publications. Since 2001 she has been a presenter of BBC Radio Three's cultural programme, Night Waves.*

Read the full interview with Mohan Munasinghe here.

Visit the Third Pole forum here.

Recommended citation: Isabel Hilton, Andreas Schild, Mohan Munasinghe, and Dipak Gyawali, "Regional Cooperation at the Third Pole: The Himalayan-Tibetan Plateau and Climate Change," The Asia-Pacific Journal, Vol. 38-2-09, September 21, 2009.

See also: Kenneth Pomeranz, The Great Himalayan Watershed: Water Shortages, Mega-Projects and Environmental Politics in China, India, and Southeast Asia.