Study of climate risks seen lacking in Peru

Huaraz, Peru

With residents of Peru's Andes mountains facing threats from a changing climate, glaciologists say more must be done in Peru to research the problem and ensure that findings inform policy. At a meeting here in early July, leading glacier researchers from France, Switzerland, Peru, the United States, Canada, the Czech Republic and other countries called for regional cooperation to share information; promote research on hydrology, ecosystems and adaptation to climate change; and train young Peruvian researchers.

Success, they said, will depend on the combined efforts of scientists and politicians. "The biggest bottleneck is the fragmentation of the public agenda and the extreme specialization of research," said Pascal Girot, senior climate-change advisor for Latin America and the Caribbean at CARE International, one of the main sponsors of the conference held July 1 to 4 in Huaraz, in the shadow of Peru's glaciated Cordillera Blanca. "They are processes that are not designed to coincide. There needs to be a more multidisciplinary approach."

Too few researchers

Some see an even more basic challenge. "The underlying problem is that there are very few scientific researchers" in Peru, said Ken Takahashi of the Geophysical Institute of Peru (IGP). "The community doesn't carry any weight. I'm constantly trying [to work with policy makers], but it takes time away from my research. If there were more of us with the same attitude, it would be easier."

Participants said forming young scientists is complicated by the lack of experienced researchers in Peruvian universities. Most of the scientists who spoke at the conference were from other countries. The problem cannot be solved by having those researchers serve occasionally as visiting professors, Takahashi said. He suggested that Peruvian universities consider hiring top-flight researchers from other countries to train students or, alternatively, that government agencies send promising students to earn their doctorates abroad, creating research positions for them when they return.

Other participants recommended forming a network of Latin American universities to offer graduate-level programs in glaciology and hydrology, which could combine on-site classes with distance learning. While the researchers called on international agencies to help fund such an effort, Girot said countries such as Peru—which has the world's largest mass of tropical glaciers, and where hundreds of thousands of people will be affected as those glaciers disappear—must also be willing to invest.

"Countries such as Mexico, Brazil, Argentina, Chile and Uruguay have strong research policies and significant investment in research," Girot said. "It's not just a matter of GDP and relative poverty, but of political will. For many developed countries, research and development is as important an area for public investment as building highways and ports."

In Peru, Girot said, "much of the research now is funded from outside the country. But Peru is not a poor country. There is money for research, but it is not allocated for issues such as climate change, glaciology and hydrology. It is more focused on technology applied to development." That may change with a new environmental-research agenda announced by Peru's Environment Ministry on June 26, which lists water quality, water management, risk management and climate among the priorities.

Hazard assessment needed

Studies indicate that areas where farmers and towns depend on rivers that originate in glacial lakes could see as much as a 30% drop in water flow during the dry season as glaciers disappear. Towns along the Santa River, including Huaraz, also face the risk of landslides and flooding from glacial lakes high in the mountains. (See "Retreat of glaciers raising stakes in Peru"—EcoAméricas, Feb. '13.) "Inadequate assessment of hazards can create a very heavy economic cost," says Wilfried Haeberli of the University of Zurich. "Collaboration between the government and universities is, in my opinion, the key solution for the future."

Researchers from the University of Zurich are working with the local government of Carhuaz, a town in the Santa River Valley, where a landslide caused significant damage in April 2010 after blocks of ice crashed into a glacial lake, creating a wave that swamped the lake's earthen dam. (See "Falling ice from glacier gives Peru climate-change preview"—EcoAméricas, April '10.) The scientists, CARE staff and government officials are setting up an early-warning system that would give townspeople time to escape if disaster strikes again.

Such hazards, Girot says, underscore the need for collaboration between scientists and policy makers. But experts say scientists also must build bridges with local people. In places like the Santa River Valley, that might be the best way to get political action on issues such as climate-related risk management, says Jan Klimes of the Institute of Rock Structure and Mechanics in Prague, who studies glacier hazards in Peru. "The people can understand and [push] politicians to act," Klimes says. "I think that is the only sustainable way to do it."

–Barbara Fraser

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Documents & Resources

New Environmental Research Agenda (in Spanish): www.minam.gob.pe/index.php?option=com_docman&task=doc_download&gid=9653&Itemid=69