

'Happy' Bhutan alarmed by Himalayan climate change

August 24 2011, by Adam Plowright



Bhutanese Prime Minister Jigmi Thinley, pictured here on August 22, has issued a dire warning about the impact of Himalayan climate change, saying it could wreck the tiny kingdom's ambitious plans to be a world leader in hydropower.

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The isolated, mountainous nation sandwiched between India and China is famed for pursuing "happiness" for its citizens instead of orthodox economic growth, with environmental protection central to its development model.

Bhutan, home to 700,000 people, is already a carbon-neutral electricity producer, with almost all of its power generated at plants that capture

energy from the cascading streams that criss-cross its spectacular landscape.

But Prime Minister Jigmi Thinley told AFP the country was powerless to prevent changes caused by shifting [weather patterns](#) which threaten regional water supplies and plans to harness the energy of the Himalayan snowmelt.

"The glaciers are retreating very rapidly, some are even disappearing. The flow of water in our river system is fluctuating in ways that are very worrying," he said in an interview in his office in the capital Thimphu.

"In the summer they overflow their banks in a way that used to never happen in the past and in the winter they shrivel and almost dry up.

"The climate is changing, global warming is real and the impact on our [hydrology](#) is very severe."

The increase in [meltwater](#) caused by warmer summers has also led to the creation of lakes high in the mountains that threaten people in the [valleys](#) below.

The government is building an [early warning system](#) to alert authorities to any possible breach of the natural dams that hold back the water.

In 1994, Lake Lugge in northern Bhutan burst and killed 21 people.



Bhutanese schoolgirls take shelter under an umbrella during heavy rainfall on the outskirts of Thimphu on August 17. Bhutan's prime minister has issued a dire warning about the impact of Himalayan climate change, saying it could wreck the tiny kingdom's ambitious plans to be a world leader in hydropower.

Currently, a team of 200 to 300 labourers and engineers are working in the same area to lower the level of the largest [glacial lake](#) in the country, called Thorthormi in Lunana district.

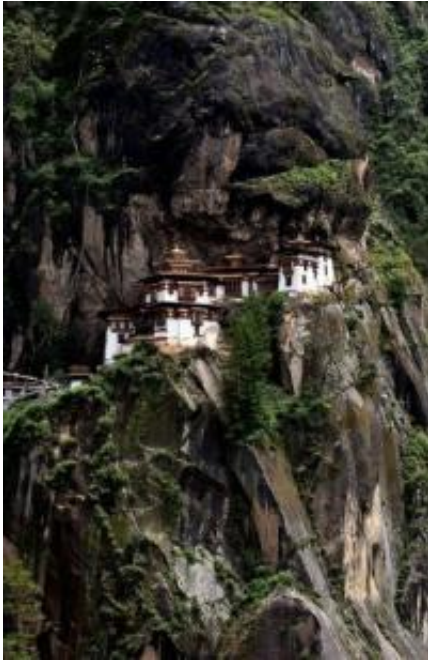
The workers, active during the summer months when work is possible in the icy and inhospitable area, are digging a drainage canal that will reduce the lake level by five metres (16 feet).

All the equipment for the task had to be carried, with the air too thin to use helicopters. To reach the spot on foot every man had to pass a 5,000-metre peak.

"It's literally spades and shovels," said Karma Tshiteem, the secretary of the Gross National Happiness Commission, a state agency that vets and proposes policy, who recently inspected the work.

"This is a stark example that [climate change](#) is not some theoretical thing that is still to be debated. We are facing it and having to do mitigation

efforts," he told AFP in an interview.



The Taktsang Monastery, popularly known as the Tiger's Nest, stands on a hillside near Paro, Bhutan on August 21. Bhutan's prime minister has issued a dire warning about the impact of Himalayan climate change, saying it could wreck the tiny kingdom's ambitious plans to be a world leader in hydropower.

On November 19, Bhutan will host a conference bringing together India, Nepal and Bangladesh to discuss ways to lessen the impact of global warming on the mountains, which are a source of water for 1.3 billion people downstream.

It is a follow-up to a similar meeting in Kathmandu in 2009 and an attempt to put climate change back on the international agenda, which has been dominated by concerns about debt and recession in developed countries.

For Bhutan, the change in river water flows caused by colder, drier winters and warmer, wetter summers is particularly alarming.

The shift may jeopardise ambitious hydroelectric power plans to raise capacity seven-fold from a current peak of about 1,500 megawatts (MW) from four plants, to 10,000 MW by adding another 10 projects by 2020.



Bhutanese villagers walk through the paddy fields in Paro on August 2. Bhutan's prime minister has issued a dire warning about the impact of Himalayan climate change, saying it could wreck the tiny kingdom's ambitious plans to be a world leader in hydropower.

By selling electricity to energy-starved neighbour India, the aid-dependent country had hoped to become economically self-sufficient by 2018.

But Thinley said the government was having to reconsider the assumption that rivers would be a boundless source of energy and income. The total potential for hydropower in Bhutan had been estimated at 30,000 MW.

"Hydropower may not be the sort of exponential source that we

considered it to be," he said.

"The flow during the winter and summer used to be regulated, the variation was not so much. Now it is so much that in the winter, we are importing electricity from India."

The UN's top panel on climate change warned in a landmark 2007 report that "widespread mass losses from glaciers and reductions in snow cover over recent decades are projected to accelerate throughout the 21st century."

It later withdrew a mistaken prediction that Himalayan [glaciers](#) might have disappeared altogether by 2035 after admitting that the warning was an exaggeration based on faulty data and research.

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