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In Just 2 Years, a Nepal Peak Becomes Snowless

The bare rock face of once-icy Mt Saipal has flabbergasted scientists and locals

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Mountaineers, scientists, climate researchers, and local shepherds are all flabbergasted by a 7,000m high mountain in remote far western Nepal which seems to have lost almost all snow in the past two years.

The long glacial valley below Mt Saipal offers one of the most iconic mountain views in Nepal, its rare beauty enhanced by the sheer inaccessibility of the place. It takes an hour-long flight from Kathmandu, an arduous 12-hour jeep ride over treacherous switchbacks, and a week of trekking to get to Ranikharka at the base of the mountain.

Rajendra Dhami is 41 years old, and first trekked up to this stunning valley in 2002. Since then, he has been there every year with fellow villagers to graze sheep and pick yarsagumba.

> "It was a difficult journey to take the sheep up those paths, but once up there it was like heaven, with the ice wall of Saipal right above us," Dhami recalls, "I would not get tired of looking at the frozen face of that beautiful mountain. And sometimes when there was not much work, I used to walk up to the turquoise glacial lake and right to the base of that gigantic wall. Saipal is beautiful in every season, even when it is cloudy and you only get an occasional peek at it."

Dhami used to spend months up there, collecting the valuable caterpillar fungus on the moraine slopes below Mt Saipal, which is 7,031m high and the second-highest mountain in the range on Nepal's western border with India.

The meadows have lush grass in the summer, and the yarsagumba fetches a good price from middle men who take them up to the border to sell to traders in China, where the fungus is believed to have medicinal properties in traditional medicine.

In the 2017 local elections, Dhami stood for Chair of Saipal Municipality and won. But even after that, the mountain constantly beckoned him, and he has been lobbying to make Mt Saipal the centre of a new tourism destination project. So, this Dasain he took the MP of the Federal Parliament Asha BK to his favourite place. What he saw shocked him.

> "The south face of Saipal was virtually snowless, I could not believe my eyes, I could not recognise the mountain I knew by heart," he says. "How could all

that snow have suddenly melted, especially when peaks lower than Saipal still have snow?"

Mt Saipal from Ranikharka taken in October 2008, 2018 and 2020. Photos: Wanda Vivequin and Basant Pratap Shah

Jabbare Bohara is 72, and has been walking up to Ranikharka since he was 10 to graze sheep in the monsoon. He tells us: "In the last 60 years, I have never seen anything like it. It is just bare rock. It used to have snow even during periods of long drought."

Strangely, this winter Bajhang saw record snowfalls, the heaviest in 25 years. Even the lowest point in the district at 917m was covered in snow. Dhami's theory is that because of the excess snow this winter, there might have been a huge avalanche that took all the snow down.

However, the more likely explanation is that climate heating that has caused glaciers to shrink, and snowlines retreat at an unprecedented and accelerated rate across the world's highest mountain range.

In a report last year, the Kathmandu-based International Centre for Integrated Mountain Development (ICIMOD) predicted that at the rate the mountains were melting, one-third of Himalayan ice and snow would be gone during this century. And that was just their best-case scenario.

View from the summit of Mt Saipal looking down at the northeast ridge and to the Ranikharka Valley with the glacial lake to the south. Ranikharka Valley with the glacial lake to the south. Photo courtesy: Wild West Nepal A Pictorial Journey Bharat Bandhu Thapa

Indeed, visitors have noted that Nepal's other famous mountain, Mt Machapuchre (6,990m) north of Pokhara, this year looks like a black rock pyramid. Glaciers in eastern Nepal have been replaced by large and expanding lakes.

Saipal's south face is almost vertical, and it is not easy for snow accumulation. In winter the jet stream lashes Himalayan peaks above 7,000m with high winds, blowing away even the snow that clings to the rock face.

Studies done in Langtang Glacier and other parts of Nepal have also shown that deposition of soot particles from industrial pollution and forest fires on snow slopes accelerate their melting by 20%. Since Saipal is directly north of the industrial heartland of north India, experts say it may be getting the dust and soot which reduces the snow's reflective capacity, melting it faster.

A NASA satellite image taken at noon on Monday, 9 November 2020 showing smoke from crop residue

fires in north India being blown towards Nepal.

"It may be a combination of a steep south-facing rock face and global warming which triggered a massive avalanche that swept the snow down," says Arun Bhakta Shrestha, a climate expert at ICIMOD. "It is all the more puzzling because this happened in a year when there has been heavy snowfall. This needs more study."When shown the most recent photos from last week, a member of an unsuccessful Spanish expedition to Mt Saipal two years ago also expressed surprise that so much snow could melt so quickly on a 7,000m peak.

Even Sudeep Thakuri a professor of environmental science at Tribhuvan University is astonished. He says: "From the pictures, I notice that the south face has lost not just its snow but also the ice cover. It must be a combination of climate change and high winds."

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