

# DAMS AND DAMAGES

Relevant for: Environment | Topic: Disaster and disaster management

Broken dam and rubble along the Dhauliganga river valley close to Tapovan, Uttarakhand on February 7, 2021. Photo: IAF

In 2018, while travelling through the villages near the India-China border in Niti Valley in Uttarakhand's Chamoli district, I stopped at Reni village, the birthplace of the iconic Chipko movement. The way to Reni was dotted with hydropower projects that were marred by controversy. The villagers complained about the rampant flouting of norms by the hydropower developers, which forced them to protest against such projects.

On February 7, two such hydropower projects located close to Reni suffered damages from flash floods that left [more than 30 dead and more than 175 people missing](#). The barrages of the 13.2 MW [Rishiganga hydropower project](#), which is located on the river Rishiganga, only a few metres from Reni, and NTPC's 520 MW Tapovan-Vishnugad hydropower project, on the River Dhauliganga, about 4 km from Reni, were completely damaged. It is important to note here though that dams are not victims of disasters; they, in fact, exacerbate disasters.

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While the actual cause of the February 7 floods is under investigation, pegging it as a natural disaster may be incorrect. A [June 26, 2019 order of the Uttarakhand High Court](#) questioned the use of explosives on the Rishiganga site — that too for illegal mining in the name of dam construction. The use of explosives has repeatedly been questioned for dam construction, and the construction of other infrastructure projects, such as roads, in the fragile Himalayan State.

Other than this, deforestation takes place when dams are constructed. While compensatory afforestation is the norm, it is often flouted. The construction material that is supposed to be dumped on separate land is often dumped into the rivers. It would be naïve to assume that a disaster in Uttarakhand that involves dams was 'natural'.

The Chopra Committee report of 2014 brings more clarity on how dams exacerbate a disaster such as floods. The committee was formed in October 2013 after the Supreme Court ordered the Union Environment Ministry to constitute an expert body to assess whether dams exacerbated the 2013 floods in the State where over 4,000 people were killed, mainly in the Kedarnath Valley. The committee was headed by environmentalist Ravi Chopra and comprised 10 other members including geologists and biodiversity experts. Its report mentions how dams exacerbated the 2013 deluge, mainly as riverbeds were already raised from the disposed muck at the dam construction sites, and could not contain the sudden increased flow from floodwaters. The report presents evidence to prove that dams are not only damaged in floods, they also cause immense damage in downstream areas. This is because as floodwaters damage a barrage, they increase the destructive capacity of the water that flows downstream of the barrage. The Chopra Committee suggested that 23 of the 24 proposed dam projects it reviewed be cancelled for the potential damage they could do. However, even after all these years, the matter remains pending in the Supreme Court, and environmental norms for dam construction continue to be flouted in Uttarakhand.

Also read | [Uma Bharati recalls her warning on Uttarakhand hydel projects](#)

In an affidavit submitted on December 5, 2014 in the Supreme Court, the Union Ministry of

Environment, Forest and Climate Change acknowledged the adverse impact of dams in the 2013 floods, but to no effect.

To make matters worse, Himalayan glaciers are receding and disintegrating as a result of climate change, and the snow cover in the Himalayas is also thinning. Research also shows how an increased number and volume of glacial lakes should be expected as a direct impact of increased temperatures. For dams, this means rapid increase or decrease in the reservoir water level. It also means that the projections on the life of a dam reservoir may not stand due to erratic events, such as floods, that could rapidly fill a reservoir with muck and boulders brought along with the floods.

There is also the threat of earthquakes. In terms of earthquake risk, Uttarakhand lies in Seismic Zone-IV (severe intensity) and Seismic Zone-V (very severe intensity). Ignoring this, many dams have been constructed in zones that are under high risk of witnessing severe earthquakes.

Also read | [Experts point to climate change impact](#)

Irrespective of the evidence, the Uttarakhand government plans on continuing to build dams as a source of revenue. The State plans to construct up to 450 hydropower projects of 27,039 MW installed capacity. Clearly, the Uttarakhand government has chosen to ignore the disastrous impacts of rampant dam-building. It is clear that dams worsen disasters, and for this to be ignored by the State authorities is unfortunate.

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