STONEBENCH

# "A warning to the world"

A look at the receding horizon of global climate finance



Shortly after nine in the morning on 26 August, a river of ice, rock and water breached the Tibet-Nepal border via the Bhote Koshi river, running 72 kilometres into the Trishuli corridor, bringing devastation in its wake. The flood killed over 1,400 people. More than 5,000 are still missing, including 900 workers at hydropower sites, roughly 500 of who are believed to have been inside diversion tunnels when the water arrived.

Of the surrounding physical landscape, 12 hydropower plants were damaged, with 410 megawatts (MWs) taken out of the national grid, about 10% of Nepal's generation capacity. This poses a real issue for the Himalayan nation which has spent the past decade turning glacier-fed rivers into an energy export industry.

Over the past 10 years, Nepal's hydropower output has risen more than fourfold to about 4,120 MWs, contributing 90% of Nepal's national electricity and serving the country's 30 million people. The excess was sold to India and Bangladesh—a trade flow whose direction has reversed in the weeks since the floods.

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## No way out for Nepal?

For Nepal—and the many other climate-exposed economies in Asia—climate change is not just wreaking physical and infrastructural devastation, but also financial ones. Once the dust has settled, policymakers will still be faced with a familiar problem: how to pay for it all?

One answer might lie in the Fund for Responding to Loss and Damage (FRLD) finance mechanism, a landmark initiative established by the United Nations at COP27 in 2022. However, being approved for funding is not the same as getting funds Nepal needs to truly recover. Earlier in 2026, before the floods, Nepal had been

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confirmed for US$20 million under the Barbados Implementation Modalities (BIM) of the FRLD, which represent the startup phases of the project—yet the funds remain tied up in bureaucratic red tape. A separate urgent request for assistance lodged in the wake of the floods has sat with the fund's board since 31 August, unfilled.

The other problem is that there is simply not enough in the fund to truly address what Nepal needs. For one thing, US$20 million is the ceiling on any single funding request. Set against the US$2.7 billion in damage and economic loss recorded in the government's rapid damage and needs assessment, that covers a meagre 0.7%. The same assessment puts reconstruction at about NPR723 billion, close to US$4.7 billion.

This is a problem that extends beyond Nepal. The FRLD has a massive funding shortfall: 27 countries have pledged US$822 million since the fund was created and only about half of that has actually been received. The board has also been slow to distribute any of the funds. In July 2026, the FRLD board increased its BIM allocations from US$250 million to US$342 million—enough for an estimated 20 to 22 pilot projects, against 176 eligible requests from 119 countries worth roughly US$2.8 billion, and it has yet to make a first disbursement.

The money on offer also comes with plenty of strings, which critics have said are likely to constrain what policymakers can achieve. The FRLS window is grant-based and by design; anything at the kind of scale necessary is provided as debt—and with that comes the potential for future debt burdens that would undercut a country like Nepal's already fragile economy.



Image by Eric Seddon

## The opportunity cost of war

The second pressure arrives from outside the region in the form of the US-Iran conflict. The closure of the Strait of Hormuz has been economically damaging to countries like Nepal that depend on the waterway to access fertiliser and energy supplies. Acute shortages of these commodities have pushed up the FAO food price index, which reached 136.0 points in September—its highest since November 2022. South Asian importers have no leverage over when the strait reopens, so their choice is confined to how the cost is distributed domestically.

In his speech, PM Shah sharply rebuked what the international order has wrought: a system with "flawless logistics for war and broken logistics for food", one in which intercontinental missiles arrive on time and rifles clear every bottleneck, while farmers in countries like Nepal cannot buy fertiliser or fuel at market price when they need it. He named Bangladesh, Bhutan, India, the Maldives, Pakistan and Sri Lanka as countries doubly-struck by a climate they did not want and wars they did not start.

The current system is not working for the most climate-vulnerable. Countries like Nepal cannot access the grant finance that they need at scale, and at the same time, that system's lenders—multilateral institutions like the IMF and the countries that have contributed the most to the warming that led to the devastation in the Himalayas—are advising borrowers to pass war-driven fuel costs through to households. Sri Lanka's fuel import bill rose 61.6% to US$4.07 billion over January to August, for example, out of the same budget that would (and should) fund adaptation.

PM Shah has argued for a regional response rather than submit to the Byzantine bureaucracy of climate finance. He proposed a Himalaya Climate Resilience Mechanism built with India and China, sharing satellite data, monitoring glacial lakes jointly and running common early warning procedures. Partnership can work: after all, the institutions that made an actual difference for the victims of the Nepal-Tibet floods were regional in nature, though they brought with them their own strings and conditions.

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Whether that regional turn is strategy or improvisation—or, more importantly, whether it can offer sufficient answers to the disasters to come—is to be seen. Either way the trade on offer is the same across the region: help arrives faster, the creditor is closer and the borrower has less room.

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## Climate adaptation's shrinking funding pool

Climate finance is drying up, largely because its biggest donors are walking away. In 2026, three of the largest providers of climate finance either cut or withdrew commitments. US President Donald Trump issued a memorandum directing the country's withdrawal from 66 international organisations and treaties including the UN Framework Convention on Climate Change and the IPCC. The following day, the Treasury notified the Green Climate Fund that the US was leaving the fund and vacating its board seat with immediate effect.

A series of similar moves followed. In May, the UK informed the Fund that it would cut its 2024-27 pledge by more than half, from £1.6 billion (US$2.12 billion) to £815 million—meaning, for the first time, the UK's contributions fell below those of Germany, France and Japan. In June, the World Bank retired both its 45% and 35% climate co-benefits targets under pressure from its largest shareholder, while extending the rest of its climate action plan indefinitely and commissioning an independent review of it.

These numbers disguise deeper trends that are shaping what kind of financing those funds are comprised of and potentially constraining affected countries.



Image by Roman Saienko

In 2024, the OECD reported that developed countries had provided and mobilised US$136.7 billion, exceeding the US$100 billion annual goal for a third consecutive year. Of that total:

- Public finance only accounted for US$101.6 billion, slipping 2.6% from the previous year. Around 67% of that funding comes in the form of loans, with low-income countries receiving only 7% of the total.
- The increase in funding was almost entirely carried by private contributions, which rose by 33% to US$30.5 billion.

These numbers are troubling because climate adaptation runs on grants, and the grant share of climate financing is shrinking, quickly, resulting in a widening gap between goals and needs.

By nearly every estimate, the available pool of climate financing is below the actual funding needed. COP29 set a goal of at least US$300 billion a year for developing countries by 2035, alongside a wider US$1.3 trillion mobilisation effort, while COP30 called for efforts to at least triple adaptation finance by 2035 from a 2025 base of roughly US$40 billion. The UNEP puts developing-country adaptation needs at over US$310 billion a year by 2035 on modelled costs, leaving an annual gap of up to US$339 billion—12 to 14 times current funding levels.

## Mounting climate crises drive up sovereign debt

As funding shrinks for climate adaptation and disaster recovery, countries are forced to take on more sovereign debt, resulting in cascading economic shocks that threaten to hurt everyday consumers.

At the same time, sovereign balance sheets are now absorbing substantial catastrophe risk that insurance markets will not take, and the IMF projects global sovereign debt to exceed 100% of GDP by the end of the decade as shocks push borrowing costs higher.

Moody's identifies climate-resilient debt clauses as among the few instruments scaling against the protection gap. These let a low-income borrower defer principal and interest after a qualifying catastrophe without the deferral being treated as a default, which keeps the sovereign's market access intact at the moment it most needs liquidity.

In Asia, resilience is being financed through debt management: deferral clauses, reprofiling and programme conditions, with little new capital behind them. On 21 September the World Bank and IMF boards approved the first reform since 2017 of their joint framework for assessing low-income country debt. The changes would refine how a country's debt-carrying capacity is measured and broaden the analysis to long-term challenges including climate change.

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Asian capital is helping plug gaps in the multilateral system through sovereign swap lines, bilateral power contracts and state-to-state credit rather than through adaptation assets or risk transfer. Western capital is plugging in mainly through conditionality. Neither channel produces the grant-weighted, fast-disbursing finance that Nepal requires, or the next country in line, meaning there is no evidence yet that climate-resilient debt clauses will reach meaningful scale in South Asia within a year.

## Could technology help governments manage climate risks?

In the wake of the Nepal-Tibet floods, governments are exploring opportunities to use technology to prevent the scale of such a disaster from happening again, or at the very least, to be able to mitigate its impacts. This is why hazard monitoring has been a long-time focal point for government investment in China and the dangerous Himalayan terrain all along its borders.

- In 2025, China broke ground on a US$167 billion five-dam, 70-gigawatt hydropower complex on the Yarlung Tsangpo, which was later discovered by geologists to have the active Paizhen Fault running directly beneath the reservoir area. The Fault had already caused a 6.9 magnitude earthquake back in 2017, signalling its seismic potential. Because the researchers had the technology, they were able to recommend the project include slope reinforcement and retain structures, rather than be abandoned entirely.
- Nepal is rebuilding an early-warning system at Timure in Rasuwa district with seismic sensors, cameras and a Very Small Aperture Terminal intended to keep monitoring posts connected when mobile networks go down. This marks a radical improvement from the previous system, which only sent messages intermittently and was not closely monitored.
- State government authorities in Uttarakhand, India sent a technical team to Vasundhara Tal in Chamoli district on 29 September to install the state's first real-time glacial-lake warning system, moving from mapping vulnerable lakes to watching them.

- In Pakistan, the legislation heard evidence that significant swathes of the country's 13,032 glaciers and more than 3,000 glacial lakes could be classed as dangerous, and an outburst from 33 of them could put 7.1 million people in Gilgit-Baltistan and Khyber Pakhtunkhwa at risk. Since then, 34 early-warning systems have been provided, with another 284 promised within six months.

For some governments, installing these sensors could appear costly, but their price is small against the capital at risk in the projects they guard. Consider, for example, the US$647 million Upper Trishuli-1 hydropower project, which is now buried in mud. An independent panel of experts from the Asian Development Bank had already flagged twice—once in 2024 and again in 2025—that the project had not been subjected to a climate resilience assessment as a pre-requisite to the money being committed. The panel had also warned that the slow implementation of a reliable flood warning system posed a major risk to communities near the river.

Since the flood, governments have started exploring ways to cooperate through technological exchange. China and Nepal are sharing observation data bilaterally, with researchers from both countries collaborating on an effort to reconstruct how an ice-rock collapse became a debris flow and then a flood, with the use of drones, helicopter surveys and field mapping. Beijing has shared satellite imagery, hydrological data and early-warning information on upstream barrier lakes since the disaster, after Kathmandu had pressed through the preceding months for more detailed real-time data on glacier movement and water levels.

In this context, Shah's proposed regional mechanism appears more like a prophecy, with Nepal's warning of the next flood potentially running on its neighbours' satellites and institutions. Indeed, Nepal has seen more floods already, including the most recent flash flood on 11 October, the cause of which is still unclear (some say it could be due to a landslide, while others claim to have seen an ice avalanche).




Mudslide at Gyirong Port. Image from https://x.com/resoundnews/status/2092542957060841592

## A gut punch to Nepal's energy security

Private businesses and households bore about three-quarters of the losses from Nepal's flood.

Of the NPR408 billion in total damage and economic loss across five districts, nearly NPR300 billion fell on the shoulders of private businesses, households and privately owned infrastructure. Hotels and restaurants were worst hit, with over a thousand establishments damaged, and rebuilding these could cost NPR45.45 billion. The ILO counts 21,400 workers whose livelihoods have been disrupted, and expects damage to transport and electricity infrastructure to carry the shock through supply chains to workers well outside the five districts.

Companies exposed to physical risk in the Himalayan area are responding by changing where they site assets, while regional hydropower is being re-rated. Seven operating projects were hit directly as were six under construction, with a combined 508 megawatts capacity damaged. Nepal Electricity Authority put preliminary damage to its own and its subsidiaries' generation, transmission and distribution assets at about NPR74 billion as of 28 September, with eight projects totalling 230 megawatts still offline and the 220 kV hub of Upper Trishuli-III 'B' project damaged, which blocks evacuation of power from the whole corridor.

While authorities say supplies will hold through the dry season, that arithmetic depends on imports: it expects about 1,218 megawatts from domestic generation and plans to buy up to 1,154 megawatts from India.

Uttam Bhlon Lama, senior vice-president of the Independent Power Producers' Association, Nepal, said that "powerhouses need to be moved higher up from the riverbeds", and that remotely operated systems should be explored so staff are not trapped underground. With 36 hydropower projects in the Trishuli basin, lenders now have to price the basin as a whole.

However, financing remains the central constraint, with geopolitics playing a role: under India's 2018 cross-border electricity guidelines, New Delhi will not buy Nepali power linked to Chinese investment, financing or equipment, so Nepal has to rebuild an export industry with capital drawn from only one of its two neighbours.


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