ICIMOD #HKH2Glasgow
ROAD TO UNFCCC COP26

BRIEFING PAPER

HKH2Glasgow: An urgent call for climate action for the Hindu Kush Himalaya

A view of the Hussaini Bridge in Hunza, Pakistan with the Passu Cones in the background

The eight countries of the Hindu Kush Himalaya (HKH) – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – in collaboration with the International Centre for Integrated Mountain Development (ICIMOD), have united in this call for urgent action at the twenty-sixth Conference of Parties (COP26) to the United Nations Framework Convention for Climate Change (UNFCCC).

Investments in resilient infrastructure are needed for inclusive development and improved access to goods and services

Introduction

Climate change will hit mountains – and the people who live and work there – hard. The HKH2Glasgow campaign draws attention to the magnitude and severity of the climate crisis facing the region and introduces an investment framework for scaling up resources for green, resilient, and inclusive mountain development. Bringing a collective mountain voice to COP26, the campaign is built around three main messages:

- Recognise and protect the HKH as the **Pulse of the Planet**
- Use the **Mountains of Opportunity** Framework to scale up investment in mountain-specific climate priorities
- Harness the **Power of 8** HKH countries to leverage regional and international cooperation to deliver climate action at scale, with depth and speed.

HKH countries must urgently address transboundary climate risks to transition into green, resilient, and inclusive mountain societies by 2030. Our three-pronged approach will scale up climate-aligned financial flows to build climate-resilient mountain societies based on carbon-neutral development.

The HKH2Glasgow campaign takes forward the Ministerial Declaration in support of the HKH Call to Action,[1] agreed collectively by all HKH countries in 2020. These processes aim to increase financial investment in climate action and strengthen regional cooperation between the eight countries to deliver climate action at scale and with speed. By harnessing the opportunities the region has to offer, they aim to build more resilient communities in the mountains, downstream, and beyond, while helping limit global warming to 1.5°C by 2100.

Supported by analyses of mountain-specific priorities reflected in HKH country climate action plans and COVID-19 recovery measures,[2] the campaign developed its core messages with delegates from the eight countries, including their UNFCCC national focal points. It is now working with the COP26 presidency to amplify these messages.

Pulse of the Planet: A vital role to play

Covering 4 million square kilometres across eight countries, the HKH region has a key role to play in ensuring a climate-resilient and carbon-neutral future for the world. With more than 18% of its landmass under snow and glacier, it has the world's largest ice reserves outside of the polar regions and is home to

[1] https://www.icimod.org/wp-content/uploads/2020/11/20201015_Declaration_-Signed_MinisterialMountainSummit_ICIMOD.pdf
[2] Rana et al. (2021); Sharma et al. (2021).

four global biodiversity hotspots. With 10 major Asian river systems originating in its mountains, the region sustains the continent's major food bowls, which feed more than a third of humanity. Supporting an estimated annual economy of 4.3 trillion United States dollars (USD),[3] it also provides ecosystem services that sustain the livelihoods of 240 million people in the mountains and another 1.65 billion who live downstream.

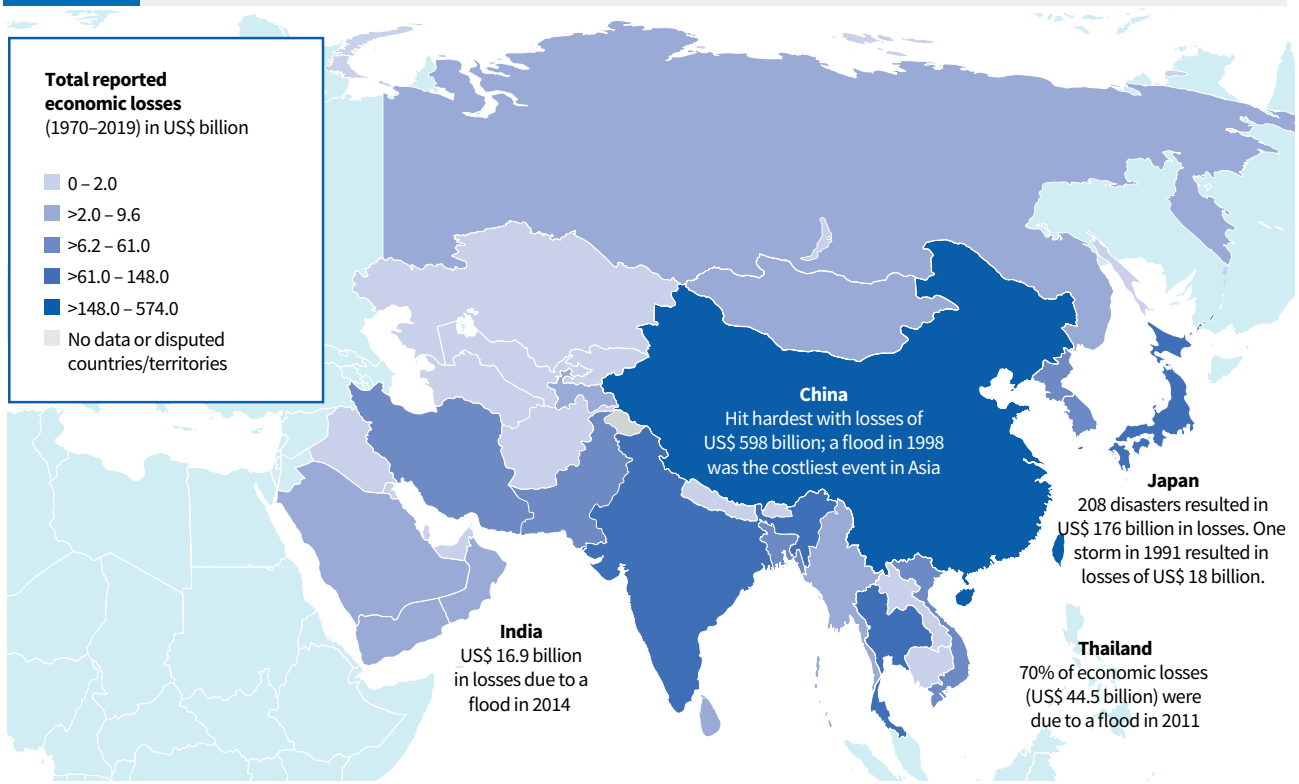
THE CLIMATE EMERGENCY IN THE HKH

The climate emergency in the HKH is accelerating. There is evidence that seasonal snow duration, glacial mass, and permafrost areas will decline further by 2050;[4] under high-emissions scenarios, two-thirds of its glaciers will be lost by 2100. Even if the world manages to limit global warming to 1.5°C, the temperature in the HKH will rise by 1.8–2.2°C, partly due to elevation-dependent warming, causing the loss of one-third of its glacier volume.[5] Combined with projected changes in precipitation patterns, amounts, and variability, this loss will increase water stress, the frequency of extreme events, and biodiversity loss.

The number of disaster events in the HKH are increasing, as are the number of people killed or displaced – and the economic losses caused – by them. Between 1970 and 2019, 3,454 disasters from weather, climate and water extremes were recorded in Asia, with the average frequency of disasters increasing over that time from one every 15 days to one every three days. Over these 50 years, disasters – mainly associated with floods and storms – have claimed 975,622 lives and caused USD 1.2 trillion in economic damages (Figure 1).

COP26 outcomes – including the Race to Resilience and Race to Zero campaigns[6] – must help implement mountain-specific climate action. Doing so will not only build the resilience of the 3 billion people who rely on the HKH region, but leverage the opportunities provided by the HKH to align short-term and mid-century emission reduction targets.

FIGURE 1 **REPORTED DISASTERS AND RELATED ECONOMIC LOSSES IN ASIA (1970–2019)**



Source: WMO, 2021.

[3] Hu and Tan (2018).
[4] IPCC (2021).
[5] Wester et al. (2019).
[6] https://racetozero.unfccc.int/race-to-resilience/; https://unfccc.int/climate-action/race-to-zero-campaign

Mountains of Opportunity: A framework to scale up investment

Mountain communities and governments across the HKH have identified ambitious actions to address climate change and ensure they align COVID-19 recovery to climate action. All eight countries have climate policies and plans to address climate impacts in and build the resilience of mountain communities (Box 1, see page 8). However, there are challenges around implementation, policy coherence, and monitoring the effectiveness of these plans.[7]

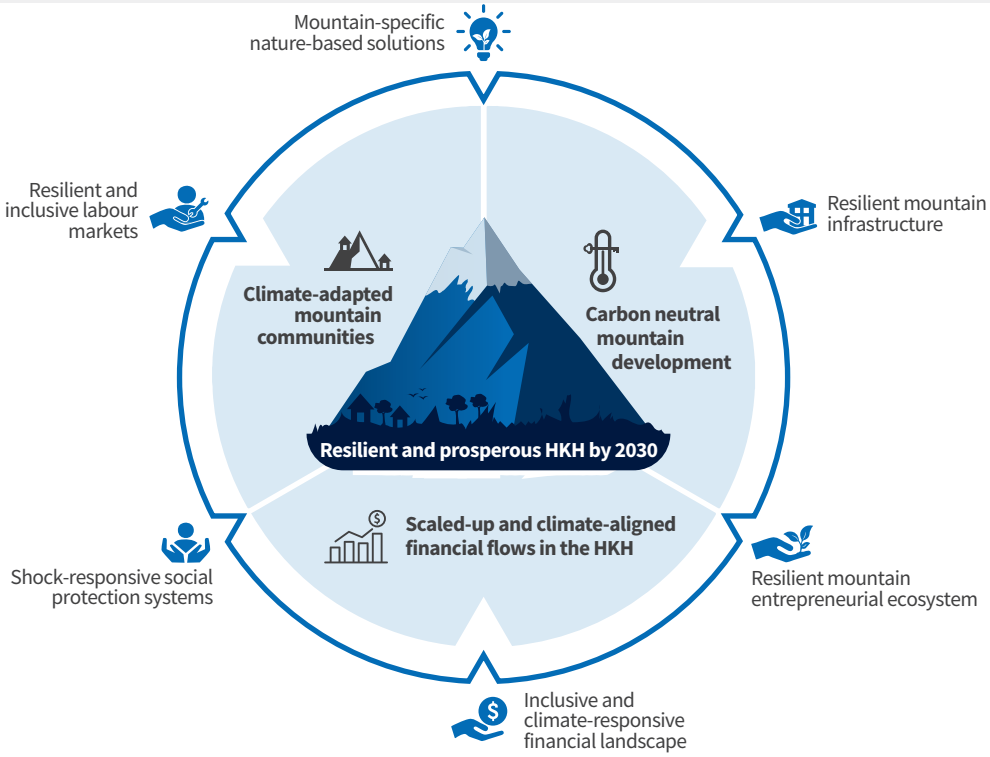
The total cost of mitigation for six HKH countries – Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan – is estimated at USD 1,085 billion, and the cumulative cost of adaptation, as outlined in their NDCs, is estimated at USD 270 billion.[8]

In 2019, developed countries mobilised USD 79.6 billion of climate finance for developing countries, with 43% allocated to Asia. But this amount falls significantly short of the finance needed to deliver climate action in the HKH alone, let alone across the continent, and despite adaptation being a priority in HKH, most finance supports mitigation. With half of this finance disbursed as loans, access for mountain communities is also limited.[9]

In terms of domestic finance, HKH countries are spending 2.2–6% of gross domestic product on COVID-19 response and recovery.[10] But of the USD 17.2 trillion 30 countries (including China and India) have invested in COVID-19 response and recovery, only 28% will flow to environmentally intensive sectors that impact climate change, biodiversity, or local air quality.[11]

Aligning COVID-19 recovery packages with climate action is a huge opportunity to scale up investment in green, resilient, and inclusive development in the HKH. Delivering ambitious climate action in the region will require increased financial flows that are aligned with policy instruments and capacity. The **Mountains of Opportunity** Investment Framework will enable investment partners – including HKH governments, mountain communities, financial institutions, private sector actors, and development partners – to identify, align and scale up investment in mountain-specific climate priorities in the near to medium term. It identifies six investment priorities aligned to climate action and COVID-19 recovery that will contribute to climate-resilient, carbon-neutral mountain societies (Figure 2).

FIGURE 2 **MOUNTAINS OF OPPORTUNITY INVESTMENT FRAMEWORK FOR THE HKH**



[7] UNEP (2021).
[8] Rana et al. (2021).
[9] OECD (2021).
[10] IMF. Policy responses to COVID-19: policy tracker. https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19
[11] Vivid Economics (2021).

MOUNTAIN-SPECIFIC NATURE-BASED SOLUTIONS

NbS can deliver multiple adaptation and mitigation benefits in HKH countries. As part of their climate and COVID-19 recovery measures, these countries have prioritized investment in a range of NbS, including:

- Forest protection, restoration, and community forestry to create jobs, capture greenhouse gas emissions, and enhance ecosystem services;
- Agroecology – including organic farming and nature-positive indigenous food systems and agricultural practices – to ensure nutrition and food security, maintain genetic diversity, and manage carbon;
- Mountain irrigation, water management systems, and springshed management to ensure water security for the 60–80% of the HKH population that rely on springs as a source of water for drinking, domestic purposes, sanitation, and general livelihoods; and
- Ecosystem-based disaster risk reduction solutions, such as community-based flood early warning systems, sea buckthorn plantations to protect against bank erosion, and floodplain restoration.

By rolling out more mountain-specific NbS by 2030, such investments will help protect and restore natural assets – including rangelands, wetlands, river basins, springsheds, cryosphere, and biodiversity – thus providing adaptation and mitigation benefits in mountains, downstream, and beyond. Potential solutions include slope stabilization, watershed management, rangeland management, highland research and development, transboundary landscape management, and peatland protection, conservation and management. By 2030, these investments should also help countries develop and establish:

- Inclusive and trans-local governance arrangements to enable mountain communities to design and manage NbS;
- Coherent standards and frameworks to measure the effectiveness of NbS; and
- Policy, business, and financial models to scale up investment in NbS and realign the growth model.

RESILIENT INFRASTRUCTURE

The eight HKH countries have prioritized investing in low-carbon mountain infrastructure, including renewable energy, digital systems, green roads, transport, and buildings. Such investments will help them shift away from carbon-intensive growth and provide opportunities for resilient and inclusive development through green job creation and improve access to goods and services.

Between them, the countries aim to generate approximately 1,700 gigawatts of renewable energy by 2030 to meet their energy needs and support green growth. The HKH region can contribute to this target by investing in green energy generation, energy efficiency, electricity access for all, and end use solutions that will address the energy needs of mountain communities and support regional renewable energy trade.

Mountain regions need better digital connectivity, and some countries are investing in this. The government of India, for example, has allocated approximately USD 2.6 billion in its current budget to improve rural broadband connectivity. Most HKH countries have also allocated resources to improve forecasting, mapping and early warning systems, while their climate and COVID-19 recovery plans prioritize green transport and buildings. By 2030, investments in energy, digital, transport, and building infrastructure should have helped the region:

- Reduce emissions;
- Create jobs; and
- Improve access to climate-resilient goods and services in key mountain sectors, including agriculture, tourism, disaster risk reduction, urban development, and natural resource management.

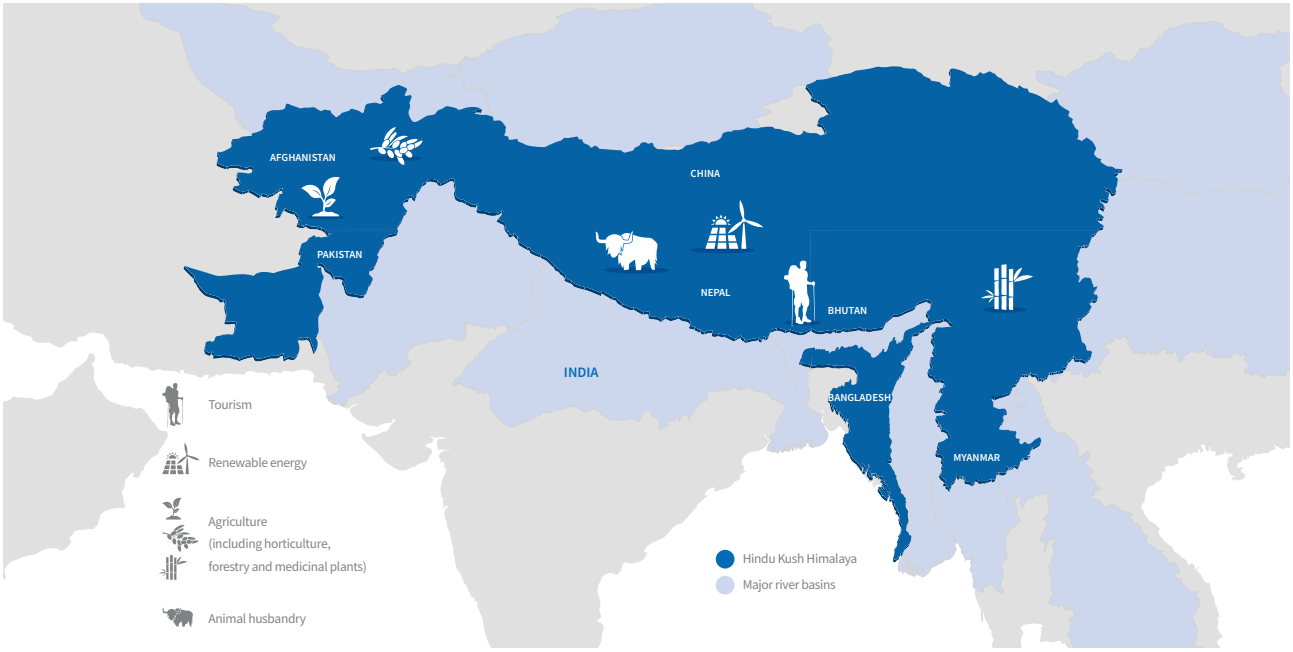
RESILIENT ENTREPRENEURIAL ECOSYSTEM

Mountain enterprises contribute to livelihoods, job creation, and economic growth. Accounting for 95% of the private sector in the HKH, they will play a crucial role in aligning investment towards a carbon-neutral and resilient future.

As part of their COVID-19 recovery, HKH countries have prioritized investing in the MSME sector. Such investments aim to contribute to local employment by enhancing innovation in business development and creating resilient business models and enterprises; support sustainable production and consumption by developing new standards and certification and verification schemes; design and incubate green, resilient, and inclusive business models; encourage resilient and carbon-neutral growth in mountain-niche enterprises (Figure 3); aggregate mountain businesses to link goods and services to markets and resources; and reduce disaster risks. By 2030, these investments should have helped the region:

- Implement coherent policy and regulatory instruments;

FIGURE 3 **MOUNTAIN-NICHE ENTERPRISES IN THE HKH**



- Establish start-up or innovation centres for mountain MSMEs;
- Establish digital and other aggregation platforms; and
- Create resilient supply chains and markets to support mountain enterprises.

SHOCK-RESPONSIVE SOCIAL PROTECTION SYSTEMS

Social protection systems provide a safety net for the most vulnerable people, helping them absorb the impact of climate shocks. Safety net programmes like India's Mahatma Gandhi National Rural Employment Guarantee Act can improve the quality of ecosystem services and contribute to poverty reduction and climate resilience.[12]

HKH countries have invested in social protection systems to respond to climate and COVID-19 shocks. Pandemic recovery measures will continue to scale up investment in social protection systems, and by 2030, these investments should have helped countries:

- Enhance the effectiveness of existing social protection programmes;
- Integrate climate-risk management into social protection provision; and
- Converge and layer social protection and other climate-risk management instruments to scale up delivery during shocks.

RESILIENT AND INCLUSIVE LABOUR MARKETS

The HKH has a young labour force, which tends to out-migrate for work. Upskilling these young, mobile populations can help them enter emerging climate-resilient and green labour markets in the region and beyond. A skilled labour force, and the large inflow of remittances they send back home, are vital resources that will provide the critical capacity required to deliver climate-resilient, carbon-neutral mountain societies by 2030. Investing in green, resilient, and inclusive development – particularly in tourism, information technology, education, renewable energy and agriculture – also provides decent work opportunities that match young HKH people's qualifications.

HKH countries have prioritized investing in labour markets as part of their COVID-19 response and recovery measures. For example, Bhutan is reskilling and upgrading skills in the tourism sector to support green and resilient tourism business development; China aims to provide adaptive technical training in the agriculture sector to 70% of its rural work force by 2020; and India has allocated approximately USD 817 million to create jobs for tribal communities in forest management, wildlife protection, afforestation, and plantation work. By 2030, investments in resilient and inclusive labour markets should have contributed to:

- A mountain labour force with greener and more resilient skills;

[12] Norton et al. (2020); Agrawal et al. (2019); Kaur et al. (2019).

The REDD+ initiative at ICIMOD aims to combat climate change by reducing greenhouse gas emissions, building resilience to extreme weather events, and incentivizing mountain communities for their role in forest conservation.

- More developed formal labour markets;
- Occupational safety nets that support climate-responsive environmental and social safeguards for mountain youth entering informal labour markets;
- Social safety nets for migrant populations in their work destinations to absorb climate shocks on labour markets; and
- Avenues for the productive use of migrants' remittances and skills in their places of origin.

INCLUSIVE AND CLIMATE-RESPONSIVE FINANCIAL LANDSCAPE

To improve the quantity and quality of finance for climate actions, HKH countries have started to align financial flows with investments in climate-resilient and carbon-neutral development (Table 1). Nepal and Bhutan have established climate fiscal frameworks to mobilize and allocate finance for climate action, and China has developed green investment principles to guide foreign investment. Bangladesh, Bhutan, and China have also established dedicated funds to mobilize and manage finance for green, resilient, and inclusive development. Bangladesh, China, India, and Pakistan have developed innovative financial instruments to support green investments. By 2030, such investments should have helped establish:

- A regional/international financial mechanism, window, or facility to mobilize and allocate scaled-up financial resources for investing in mountain-specific climate priorities;
- Responsible mountain investment principles to guide and assess the impact of green and resilient investment in the HKH; and
- Resilient grants and innovative risk management, green and resilient equity, debt, and other financial instruments to scale up and target mountain-specific climate investments.

TABLE 1 **ALIGNING FINANCIAL FLOWS TO SCALE UP INVESTMENT IN CLIMATE ACTION**

MEASURES	AFGHANISTAN	BANGLADESH	BHUTAN	CHINA	INDIA	MYANMAR	NEPAL	PAKISTAN
Fiscal measures	●	●		●			●	
Funds		●	●	●				
Innovative financial instruments (e.g., bonds, equity, loans)	●	●	●	●	●	●	●	●
COSTS								
Adaptation and mitigation costs (USD, billions)	**17.2**	**216**	**3.45**	**NA**	**1,039**	**NA**	**28.4**	**54**

● In place ● In progress

The calculations are based on estimated costs as mentioned in the respective NDCs

Source: Rana et al. 2021; Sharma et al. 2021.

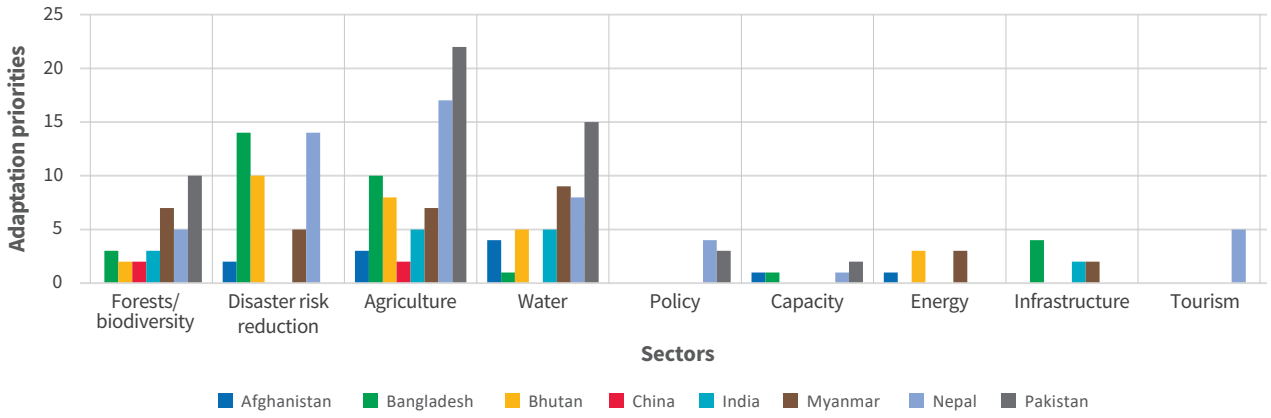
Box 1: Climate change and green COVID-19 recovery in the HKH

Mountain communities and governments across the eight HKH countries have actions in place to address climate change. On the adaptation side, many have prioritized climate-adapted agricultural practices, water resource management, ecosystem-based adaptation, nature-based solutions (NbS), and disaster risk reduction (Figure 4), while renewable energy solutions and land use, land-use change, and forestry (LULUCF) measures are mitigation priorities in most countries (Figure 5).

Across the HKH, governments are aligning COVID-19 recovery measures to climate action by prioritizing investments in:

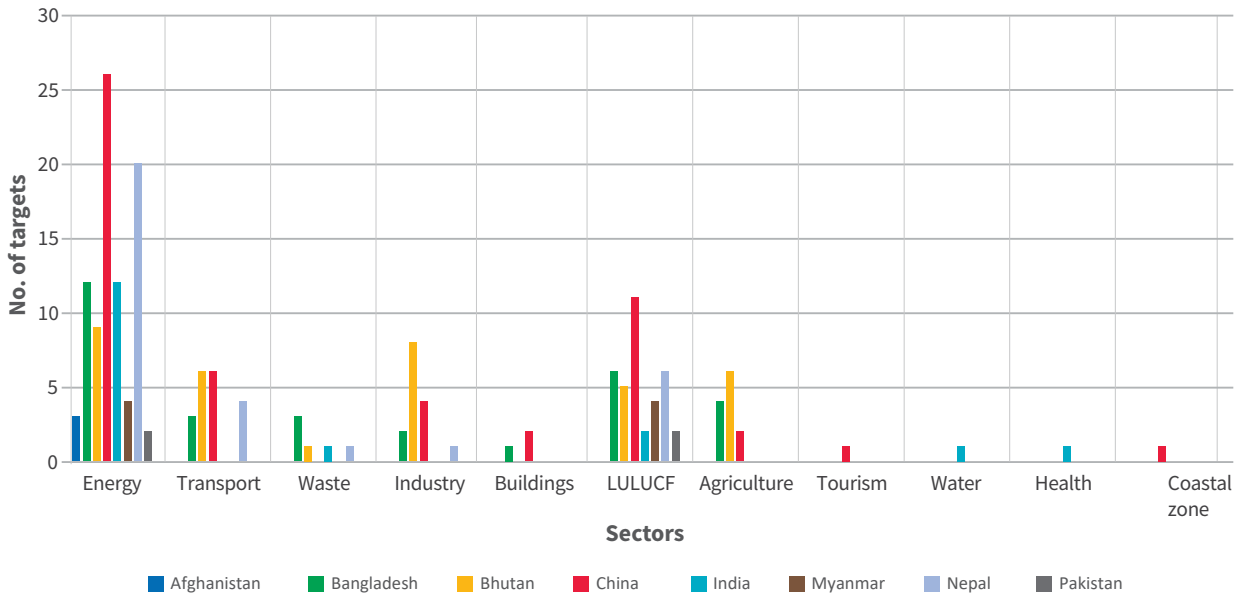
- NbS for ecological restoration and agricultural and food security;
- Resilient infrastructure in the energy, digital, transport, and building sectors;
- Enterprise development, focusing on innovation and start-ups in the micro, small and medium-sized enterprise (MSME) sector; and
- The labour market, through social protection systems and skill development.

FIGURE 4 **ADAPTATION PRIORITIES ACROSS THE HKH**



Calculations based on data from intended nationally determined contributions (INDCs), nationally intended contributions (NDCs), and national policy instruments on climate change

FIGURE 5 **MITIGATION PRIORITIES ACROSS THE HKH**



Calculations based on data from INDCs, NDCs, and national policy instruments on climate change

Source: Rana et al. 2021; Sharma et al. 2021.

The Royal Highland Festival is the most recent festival in Bhutan aiming to maintain the existence of highland communities, preserve highland culture and identity, and improve the socio-economic condition of highlanders.

Power of 8: Strengthened regional and international cooperation

The eight HKH countries have identified five areas for collective action and regional and international cooperation, which should quickly deliver ambitious climate action across the HKH. These areas, which correspond to the investment priorities identified in the Mountains of Opportunity Framework, include:

- Generating **evidence** and sharing **data** to address transboundary climate risks – such as climate-induced disasters – and scale up investment in effective adaptation and mitigation solutions;
- **Regional learning and resilience response mechanisms** – including incubation and start-up centres, climate forecasting systems, and resilient skill development programmes – to support innovation for green, resilient infrastructure and mountain enterprise development, improve responses to shared climate disasters, and build capacity to deliver climate solutions;
- **Technology transfer** to support a transition to green, resilient, and inclusive mountain infrastructure;
- **Regional supply chains** to support resilient mountain enterprises through clean power trade, resilient tourism services, and so on; and
- **Regional investment mechanisms** to scale up policy, financial, market, and non-market-based instruments for investing in climate-resilient, carbon-neutral development.

A call to climate action

The clock is ticking, particularly for the HKH, as it hurtles towards an irreversible climate crisis. The **Pulse of the Planet** is becoming weaker. But the HKH provides ample opportunities to build climate-resilient and carbon-neutral societies in the mountains and beyond. The region's natural assets can deliver NbS and opportunities for resilient enterprise and infrastructure to implement adaptation and mitigation targets. Its social and institutional assets can help create a green and resilient labour force in and beyond the region and provide shock-responsive social protection. Aligning COVID-19 economic recovery measures with these mountain-niche investment opportunities can help leverage and scale up much-needed international, regional, and national investments in green, resilient, and inclusive development.

The HKH Ministerial Declaration and Call to Action provide a political platform to strengthen regional and international cooperation to deliver climate action at scale and with depth and speed.

At COP26, the HKH2Glasgow Campaign calls on the leaders of the eight HKH countries and the wider global community to act now to protect and promote the **Pulse of the Planet**. Drawing on their **Power of 8**, these leaders must work with friends across the world to increase technical and scientific cooperation and invest in the **Mountains of Opportunity** that the HKH has to offer.

Acronyms and abbreviations

COP26	twenty-sixth Conference of the Parties
HKH	Hindu Kush Himalaya
INDC	intended nationally determined contribution
LULUCF	land use, land-use change, and forestry
MSME	micro, small and medium-sized enterprise
NbS	nature-based solutions
NDC	nationally intended contribution
UNFCCC	United Nations Framework Convention for Climate Change
USD	United States dollar

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FURTHER READING

For more on the HKH2Glasgow campaign, see https://www.icimod.org/cop26/hkh2glasgow/

For more on the COP and UNFCCC, see https://unfccc.int/process-and-meetings/conferences/glasgow-climate-change-conference

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