ICIMOD

Climate Finance Synthesis Report

Needs, Flows and Gaps in the HKH countries

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Acknowledgements

This synthesis report by the International Centre for Integrated Mountain Development (ICIMOD) assesses the climate finance needs, flows and gaps across the Hindu Kush Himalayan (HKH) countries. It highlights significant shortfalls and uneven distributions of climate funding across the region and provides insights into the opportunities that can catalyse finance and investments to fill the existing gaps.

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Acronyms

AFOLU	Agriculture, Forestry, and Other Land Use
COP	Conference of Parties
DFIs	Development Finance Institutions
DRR	Disaster Risk Reduction
GDP	Gross Domestic Product
GCF	Green Climate Fund
GEF	Global Environment Facility
HKH	Hindu Kush Himalaya
ICIMOD	International Centre for Integrated Mountain Development
LDCs	Least Developed Countries
MDBs	Multilateral Development Banks
NAPs	National Adaptation Plans
NDCs	Nationally Determined Contributions
OECD	Organisation for Economic Co-operation and Development
ODA	Official Development Assistance
PPP	Public-Private Partnership
RMCS	Regional Member Countries
SIDS	Small Island Developing States
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
WEF	World Economic Forum

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EXECUTIVE SUMMARY

The Hindu Kush Himalaya (HKH) region faces escalating climate risks, including glacial melt, biodiversity loss, and extreme weather events, posing severe threats to ecosystems, livelihoods, and the well-being of billions dependent on its resources. This synthesis report by ICIMOD assesses climate finance needs, current financial flows, and gaps across HKH countries (Ali, Maurya, Venkatramani, & Neltoft, 2024), highlighting significant funding shortfalls and uneven distribution.

The report estimates the HKH region requires approximately USD 12.065 trillion from 2020 to 2050 for climate mitigation and adaptation, amounting to an annual average of USD 768.68 billion. China and India represent over 92.41% of these needs, while Nepal, Bhutan, Bangladesh, Afghanistan, Myanmar, and Pakistan face critical financing gaps relative to their GDPs, underscoring their heightened vulnerability (UNEP, 2023).

Globally, climate finance flows reached approximately USD 1.3 trillion annually in 2021/2022 (CPI, 2023), predominantly directed toward mitigation activities in developed and larger emerging economies. In contrast, the HKH region receives significantly lower shares, with multilateral and bilateral climate finance frequently failing to meet committed levels. Sectors crucial to the region, such as adaptation, agriculture, water management, and disaster risk reduction, remain significantly underfunded despite their critical importance. Limited private sector engagement, insufficient institutional capacity, fragmented policy landscapes, and weak data infrastructure further compound these challenges.

To bridge these finance gaps, the report recommends enhancing regional and global advocacy for HKH-specific climate funding, strengthening national and regional climate finance strategies, improving policy coherence, and developing robust financial mechanisms and innovative market-based instruments. Specific recommendations include:

- Building strong national institutional capacities and governance frameworks to manage and mobilize climate finance effectively.
- Establishing an HKH Climate Finance Network to facilitate knowledge exchange, capacity building, and collaborative regional financing efforts.
- Leveraging innovative financial instruments, such as green and blue bonds, debt-for-climate swaps, and voluntary carbon markets, tailored specifically for mountain economies.
- Enhancing private sector engagement through improved enabling policies, incentives, and creation of bankable projects.
- Improving data infrastructure, climate risk assessments, and reporting systems to attract investments and enhance accountability.
- Urgent collective action and targeted financial investment in the HKH region are critical for building climate resilience, safeguarding ecosystems, and supporting sustainable development for current and future generations.

1 INTRODUCTION

Covering around a third of the world's surface, mountains host nearly half of the global biodiversity hotspots and play a critical role in determining global and regional climatic patterns - in effect, mountains forge socioecological linkages that have far-reaching impact on lives and livelihoods of people even beyond the mountain communities. In southern Asia, for instance, while around 12% of the 2.1 billion population is directly dependent on the Hindu Kush Himalaya (HKH) mountain ecosystems, the remaining 88% draws indirect benefits from them, such as the river systems originating in the HKH mountains, that are the mainstay of water, food and energy supply for these downstream population.

At the same time, the mountains are also the hotspots of climate change. As in all other mountain regions of the world, in the HKH region too, the observed changes include increasing temperatures, changing seasonal weather patterns, reductions in snow persistence at low elevations, loss of glacier mass, increased permafrost thaw and incidence of glacial lake disasters. The observable consequences of these changes for people and ecosystems are steadily exacerbating over time. Yet challenges faced by the mountain regions - climate vulnerability, environmental degradation, and socio-economic disparities – are often overlooked in national and global planning.

On the other hand, within the mountain countries/ regions, itself, the current pace, depth and scope of climate actions are insufficient (or at best incremental) to address future risks, particularly at higher warming levels. With global warming projected to exceed the 1.5°C threshold by 2027 (WMO, 2025), while there is pressing need for climate action efforts to address key risks in mountains, several structural challenges – lack of climate financing, among others – hinder such efforts from attaining the requisite scope and scale.

The current report offers a comprehensive overview of the status of climate finance flows, needs and gaps in the countries the HKH region stretches across (henceforth referred as the HKH countries), with the underlying understanding that the lack of climate finance mechanisms tailored to specific needs of the mountain region hinders /weakens climate actions in these sensitive mountain ecosystems.

An example at hand is the lack of commensurate investments for scaling low-carbon, renewable fuel sources in the HKH mountains – prohibitive costs of transitioning to these alternative sources, among other things, prevent mountain communities from curbing their reliance on dirty fossil fuels.

We anticipate this synthesis report would serve as a baseline for understanding the dynamics of climate finance in the HKH region, thereby attempting to build a case for enhanced financial and technological investments, stronger policy commitments, capacity, and collaboration for climate actions in the region. ICIMOD's Regional Action and Global Advocacy portfolio proposes greater recognition of HKH mountainous areas in policymaking, investment, and climate decision-making at national, regional, and global levels. In line with that vision, the insights derived from this report may help initiate dialogues, policy decisions and efforts to mobilise, scale, and leverage climate finance and green investments towards sustainable mountain development goals in the HKH region.

This report, therefore, aims to:

1. Assess, evaluate and quantify the climate finance needs, flows and gaps for adaptation, mitigation, and cross-cutting actions across the HKH countries and key sectors .

2. Establish a baseline for informed decision making on climate finance planning and action in the HKH region.

3. Amplify awareness, advocacy and financial flows for inclusive climate actions in the HKH region.

Serve as a critical resource for policymakers, investors, and development partners by highlighting the region's most urgent climate finance needs. It employs a mixed-methods approach, combining both quantitative and qualitative analyses.

The quantitative analyses evaluate climate finance needs, flows and gaps (difference between the funds committed and disbursed) using various financial instruments and sectoral assessments. The key sources of data for these analyses include:

i. global reports such as, the first report on the determination of the needs of developing country Parties by United Nation Framework Convention on Climate Change (UNFCCC) Standing Committee on Finance , UNFCCC submissions, World Bank, United Nation Environmental Programme (UNEP), Organisation for Economic Co-operation and Development (OECD) reports, Climate Policy Initiative (CPI's) Global Landscape of Climate Finance, and the Aid Atlas (2018–2021). To be noted here that the gap assessment has been done, primarily, by using the Aid Atlas data, on bilateral and multilateral finance flows for mitigation and adaptation from 2018 to 2021.

ii. national / country-specific reports, such as Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), National Communications (NC), and Biennial Transparency Reports (BTRs)

iii. and financial analysis across critical sectors, including energy, transport and storage, and cross-cutting multisectoral areas using national plans and secondary literature. The qualitative analyses intend to identify and explore the enabling and constraining factors to climate finance implementation. These assessments are based on the review of several policy and planning documents, mainly those on the NDCs, NAPs, and National Adaptation Programmes of Action (NAPAs); as well as the insights gathered from expert

consultations and stakeholder engagement involving ICIMOD experts, external partners, and climate finance focal points; and the outcomes and feedbacks from multistakeholder validation workshops to verify and refine country-level findings, methodologies, and financial estimates.

However, the data used for this report come with three caveats:

1. First, limited availability of disaggregated finance data for China, Afghanistan and Myanmar, in the main.

2. Second, the Aid Atlas time series data ends at 2021, any recent trends in climate finance gaps post-2021 are not captured in the report.

3. Third, climate finance needs and flows are planned and managed at the national level, there's no specific data showing the attribution of climate finance to mountain regions and systems. Such estimates, however, can be extracted from the commitments and priorities relevant to mountain systems in the NDCs, NAPs, and other national policies, and also by reviewing sectoral allocations, identifying mountain-relevant adaptation and mitigation actions, and engaging with regional experts to refine insights.

Despite these caveats, our methodology is a robust approach for evaluating climate finance needs, flows, and gaps at the HKH regional based on the national level variables.

Why do mountain priorities matter in climate finance planning?

Mountain systems are the backbone of the Hindu Kush Himalaya (HKH), underpinning its ecological balance, economic vitality, and social fabric. They provide freshwater for billions, host rich biodiversity, and supply natural resources that sustain livelihoods of millions of and downstream population, industry and ecosystems.

But, at the same time, the HKH mountain systems are under exacerbating climate change and anthropogenic stress, resulting in escalating socio-economic disparities that affect the vulnerable groups the most.

Yet, their voices frequently go unheard and underrepresented in national and global planning for climate actions.

It is therefore, essential to integrate mountain considerations into national development goals and financial planning, by aligning these with key priorities of food, water and energy security, sustainable livelihoods and disaster risk reduction.

A comprehensive approach for developing tailored policies, including climate finance mechanisms, for meeting the unique needs of the mountain communities and enabling them to build climate resilience and contribute to national growth, is the need of the hour.

ICIMOD, in partnership with Regional Member Countries (RMCs) and international climate governance stakeholders, can enhance these efforts and elevate the mountain agenda in global discussions.

2 SOCIO ECONOMIC PROFILES OF HKH COUNTRIES

The eight regional member countries (RMCs) of ICIMOD—Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan—collectively represent the unique geography of the Hindu Kush Himalaya (HKH) region, also referred to as the “Third Pole” due to its vast glacial resources and critical role in global climate systems. The HKH region extends to almost 3500 kms across swathes of these countries, which in turn showcase diverse mountain characteristics-

Nepal and Bhutan are predominantly mountainous, while the others include significant high -altitude areas that contribute distinctive environmental, cultural, and socio-economic dimensions to the region. For instance,

Table 1 provides a snapshot of socio-demographic, gender, economic, and environmental indicators for countries in the Hindu Kush Himalayan (HKH) region.

Hindu Kush Himalaya:
A Global Asset and Lifeline for Billions

35%+ World Population
10 Major Rivers
1.9B Direct Dependents
50% Asia's Fresh Water
3rd Largest Ice Mass
1.9B Beneficiaries (240+ Million Direct)

Ten Mighty Trans-boundary Rivers

Ganges	Mekong
Brahmaputraus	Irrawaddy
Indus	Salween
Yangtze	Amu Darya
Yellow River	Tarim

39,734 Total named mountains in the HKH
4 Global Biodiversity Hotspots
Largest Ice Reserves Outside Polar Regions
5 Major Asian Mountain Systems
Himalaya, Hindu Kush, and Karakoram

Key ecosystem services
1. Water
2. Biodiversity
3. Medicinal plants
4. Food and fodder

Water-Food-Energy nexus and climate regulation
A huge population relying on HKH for water resources, food, energy and climate services.

600+ Languages & Cultural Systems
Incredible diversity of religions, languages, and traditional knowledge systems

330 Important Bird & Biodiversity Areas
Critical conservation priority zones for global biodiversity

35%+ Global Population Impact
World's population benefiting indirectly from HKH ecosystem services

A Global Lifeline

The Hindu Kush Himalaya represents one of the Earth's most critical ecosystems, earning recognition as "The Third Pole" for its massive ice reserves. This magnificent mountain range spread over 3.44 million sq. km doesn't merely shape geography—it fundamentally sustains the lives, livelihoods, planet and prosperity of billions across Asia and beyond, positioning it as an indispensable pillar of global climate stability and human survival.

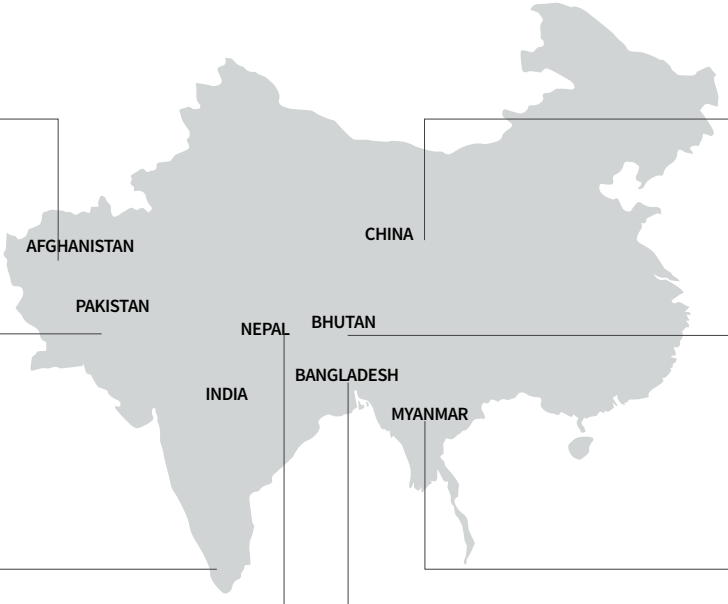
Selected Social Indicators Across the Hindu Kush Himalaya Countries

Afghanistan
Mountain area: 80%
Population: 41M
Pop. Growth: 2.5%
Global GII Rank: No Data
Poverty Rate: 162

Pakistan
Mountain Area: 50%
Population: 251M
Pop Growth: 2.0%
Global GII Rank: 137
Poverty Rate: 16.52% (2018)

India
Mountain Area: 30%
Population: 1451M
Pop Growth: 0.8%
Global GII Rank: 108
Poverty Rate: 5.25% (2021)

Nepal
Mountain Area: 77%
Population: 31M
Pop Growth: 1.3%
Global GII Rank: 126
Poverty Rate: 2.44% (2022)



China
Mountain Area: 33%
Population: 1419M
Pop Growth: -0.1%
Global GII Rank: 47
Poverty Rate: 0.0% (2021)

Bhutan
Mountain Area: 98%
Population: 0.86M
Pop Growth: 1.2%
Global GII Rank: 80
Poverty Rate: 0.01% (2022)

Myanmar
Mountain Area: 47%
Population: 51M
Pop Growth: 0.8%
Global GII Rank: 119
Poverty Rate: 10.27% (2017)

Bangladesh
Mountain Area: 12%
Population: 174M
Pop Growth: 1.1%
Global GII Rank: 127
Poverty Rate: 5.25% (2022)

Source: mainly World Bank 2023 data and for % of HKH area: https://lib.icimod.org/record/27763

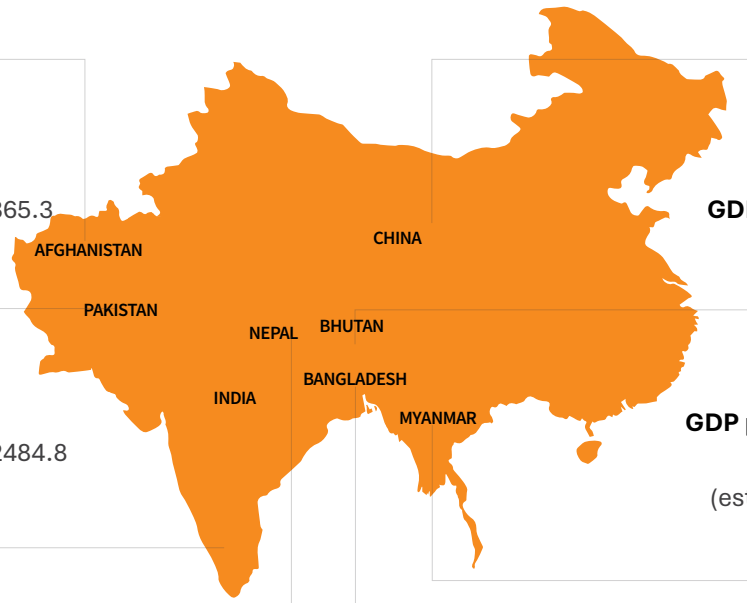
Selected Economic Indicators Across the Hindu Kush Himalaya Countries

Afghanistan
GDP per Capita: USD $352.56
GDP Growth %: -2.0%
FDI (% of GDP): -6.2%

China
GDP per Capita: USD $12614.1
GDP Growth %: 5.4%
FDI (% of GDP): 0.2%

Pakistan
GDP per Capita: USD $1365.3
GDP Growth %: -1.6%
FDI (% of GDP): 0.5%

Bhutan
GDP per Capita: USD $3579
GDP Growth %: 5.2%
FDI (% of GDP): 0.3%



India
GDP per Capita: USD $22484.8
GDP Growth %: 7.2%
FDI (% of GDP): 0.8%

Myanmar
GDP per Capita: USD $1233.2
GDP Growth %: 0.3%
(est. due to economic crisis)
FDI (% of GDP): 2.3%

Nepal
GDP per Capita: USD $1377.6
GDP Growth %: 2%
FDI (% of GDP): 0.5%

Bangladesh
GDP per Capita: USD $2551
GDP Growth %: 4.5%
FDI (% of GDP): 0.3%

Selected Environmental Profile Across the Hindu Kush Himalaya Countries

Afghanistan
0.27
Hindu Kush range; 2,500 glaciers
Snow Leopard, Marco Polo sheep

China
7.33
Tibetan Plateau and Hengduan Mountains; ~46,000 glaciers
Giant Panda, Tibetan Antelope

Pakistan
0.87
Hindu Kush, Karakorum and Western Himalaya ranges; 13,000 glaciers
Snow and common leopards, wolf, and bear

Bhutan
1.63
Eastern Himalaya; ~700 glaciers
Takin (national animal), Black-necked Crane

Myanmar
0.63
Eastern Himalaya foothills; Hkakabo Razi (5,881m) highest peakin SE Asia
Asian Elephant, Irrawaddy Dolphin

Nepal
0.50
Central Himalaya ~3,200 glaciers including Khumbu Glacier
Red Panda, Himalayan Monal, Rhododendron (national flower)

Bangladesh
0.55
No glaciers, <10% (mostly hills)
Bengal Tiger, Sundari tree (mangrove species)

CO_2 Emissions per Capita (metric tons, 2021 est.) Glaciers/Mountains (Key Facts) Flagship species

Table 1: Socio economic profile of HKH

Socio demographic and gender indicators for HKH							Economic, growth and CO2 emission indicators				
Country	WB DAC Economic Classification[1]	Population (millions)[2]	Mountain Area in %age[3]	Population Growth percentage (2023/2024)[4]	Poverty Rate (< $3/ day, 2021 PPP)[5]	Gender Inequality Index value (GII) (2022)[6]	GDP per capita [7]	GDP Growth %age (2023) [8]	Foreign direct investment, net inflows (% of GDP) [9]	CO2 emissions (metric tons per capita) 2022 [10]	HDI Rank (2022)
Afghanistan	LIC	41	75	2.5	No data	162	352.6	-6.2	0.1	0.2	182
Bangladesh	LMIC	174	10	1.1	8.01% (2022)	127	2551.0	4.5	0.3	0.6	129
Bhutan	LMIC	0.86	99	1.2	0.01 (2022)	80	3579	5.2	0.3	2.2	125
India	LMIC	1451	30	0.8	5.25% (2022)	108	2484.8	7.2	0.8	1.9	134
Myanmar	LMIC	51	55	0.8	10.27% (2017)	119	1233.2	0.3	2.3	0.7	144
Nepal	LMLIC	31	77	1.3	2.44% (2022)	126	1377.6	2	0.2	0.5	146
Pakistan	LMIC	251	60	2	16.52% (2018)	137	1365.3	-1.6	0.5	0.8	164
China	UMIC	1419	33	-0.1	0.0 (2021)	47	12614.1	5.4	0.2	9.0	75

In summary, the HKH region includes countries with varying economic statuses, population sizes, and mountainous areas. Poverty and gender inequality are significant challenges in some countries, while others like Bhutan and China have achieved a significant targets for poverty alleviation. Economic growth and CO2 emissions vary widely, with China standing out as the most economically advanced and highest emitter. While China falls under the High Human Development category, most South Asian nations are in the Medium or Low Human Development range, reflecting variations in economic and social progress across the region. Data source references: page 40.

3 GROWING CLIMATE CHALLENGES AND VULNERABILITIES IN THE HKH REGION

According to the Climate Risk Index (CRI) 2025 Report, floods, storms, and heatwaves have caused significant global fatalities and economic losses, with floods alone affecting half of those impacted and storms accounting for 56% of economic damages (USD 2.33 trillion).

The Hindu Kush Himalaya (HKH) is one of the world's most climate-vulnerable regions, facing growing threats from extreme weather events like glacial lake outburst floods (GLOFs), landslides, droughts, floods, forest fires, and intense monsoons. The frequency, intensity, and duration of these events are increasing, exacerbating risks to ecosystems, food security, and livelihoods, particularly in rural and mountainous areas. Coastal regions also face cyclones, sea-level rise, and salinity intrusion, while urbanization strains water, energy, and transport systems.

3.1 Country wise the nature of climate challenges and vulnerabilities

HKH countries are assessing these challenges and working to improve resilience through adaptation measures, natural resource protection, and climate-resilient policies. Below is a summary of the climate challenges faced by each of these countries, based on the review of their Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and other key documents. According to which each country has its own challenges and context such as:

Afghanistan: Water shortages, reduced snowfall, droughts, desertification, and food/livelihood insecurity[11].

Bhutan: Biodiversity loss, habitat degradation, rising temperatures, disease risks, and power generation impacts due to water level changes[12].

Bangladesh: Coastal vulnerability (cyclones, sea-level rise, salinity), urban floods, and extreme weather events[13].

China: Typhoons, floods, droughts, and impacts on ecosystems like forests, grasslands, and water resources 附件.

India: Extreme weather (heatwaves, floods, droughts), biodiversity loss, and climate effects on agriculture and the Himalayan region[14].

Myanmar: Coastal erosion, agricultural impacts, and vulnerability due to its least developed country (LDC) status[15].

Nepal: Glacier retreat, biodiversity loss, economic losses, and extreme events like floods and landslides[16].

Pakistan: Rising temperatures, food/water insecurity, extreme weather (floods, heatwaves), and biodiversity loss[17].

In summary, the HKH region and its countries are confronting a wide range of climate challenges, such as water scarcity, extreme weather events, biodiversity loss, and frequent disasters. These challenges have severe adverse impacts on agriculture, ecosystems, and natural resources. They also multiply risks to livelihoods, economic stability, and food security, exacerbating vulnerabilities across the region. There is need for significant planning and investment to be made to address interconnected risks and build long-term resilience.

3.2 The state of climate vulnerability and preparedness of HKH countries

Despite growing awareness about the accelerating climate risks in the HKH region, readiness is hindered by inadequate infrastructure, funding gaps, and institutional barriers. Reports like ICIMOD's Hindu Kush Himalaya Assessment and the World Bank's Climate Risk Profiles , Climate risk index and World Economic Forum's Global Risks Report 2025 underscore the urgent need for actions, regional cooperation, investment, and integrated policies to build resilience and address these escalating risks.

According to the Germanwatch's Climate Risk Index (CRI) 2025, countries within the HKH, including China and Pakistan, are among those most affected by extreme weather. Between 1993 and 2022, **China** (along with Dominica and Honduras) was one of the top three nations globally impacted by these events. In 2022 alone, **Pakistan** (besides, Belize and Italy) was one of the countries facing the most severe consequences of climate-induced disasters. The report further states that over the past three decades, extreme weather events have resulted in over 765,000 deaths and direct economic losses of nearly USD 4.2 trillion (adjusted for inflation) worldwide, stemming from more than 9,400 events.

The HKH region stands at the forefront of this escalating crisis with adverse impact on agriculture, water resources, glaciers biodiversity, and livelihoods. The transboundary rivers originating in the HKH, which support over a billion people, are also at risk due to changing water availability (too much and too little) and quality.

The graph in figure 1 depicts a general state of the vulnerability versus preparedness of HKH countries determined by ND-GAIN Index using its preparedness and vulnerability framework. The ND-GAIN Matrix, developed by the Notre Dame Global Adaptation Initiative, assesses a country's climate resilience by evaluating its vulnerability to climate change and its readiness to adapt. Vulnerability considers factors like food security, water availability, and infrastructure, while readiness measures economic, governance, and social conditions for adaptation. Countries with high vulnerability and low readiness face the greatest climate risks and struggle with adaptation. Readiness in the ND-GAIN Index reflects how well a country can attract and use investments to adapt to climate change. It captures the strength of its economy, governance, and social systems in turning resources into effective adaptation actions. According to which, China ranks highest with strong readiness (0.595) and low vulnerability (0.353), indicating robust capacity to manage climate risks. Bhutan follows with moderate readiness (0.518) and vulnerability (0.527). In contrast, Afghanistan and Bangladesh face significant challenges, with the lowest readiness scores (0.214 and 0.207) and higher vulnerability (0.586 and 0.554). India, Nepal, Myanmar, and Pakistan show moderate levels of readiness and vulnerability, reflecting a mix of capacities and risks across the region. This data underscores the urgent need for targeted interventions to enhance resilience in the most vulnerable countries.

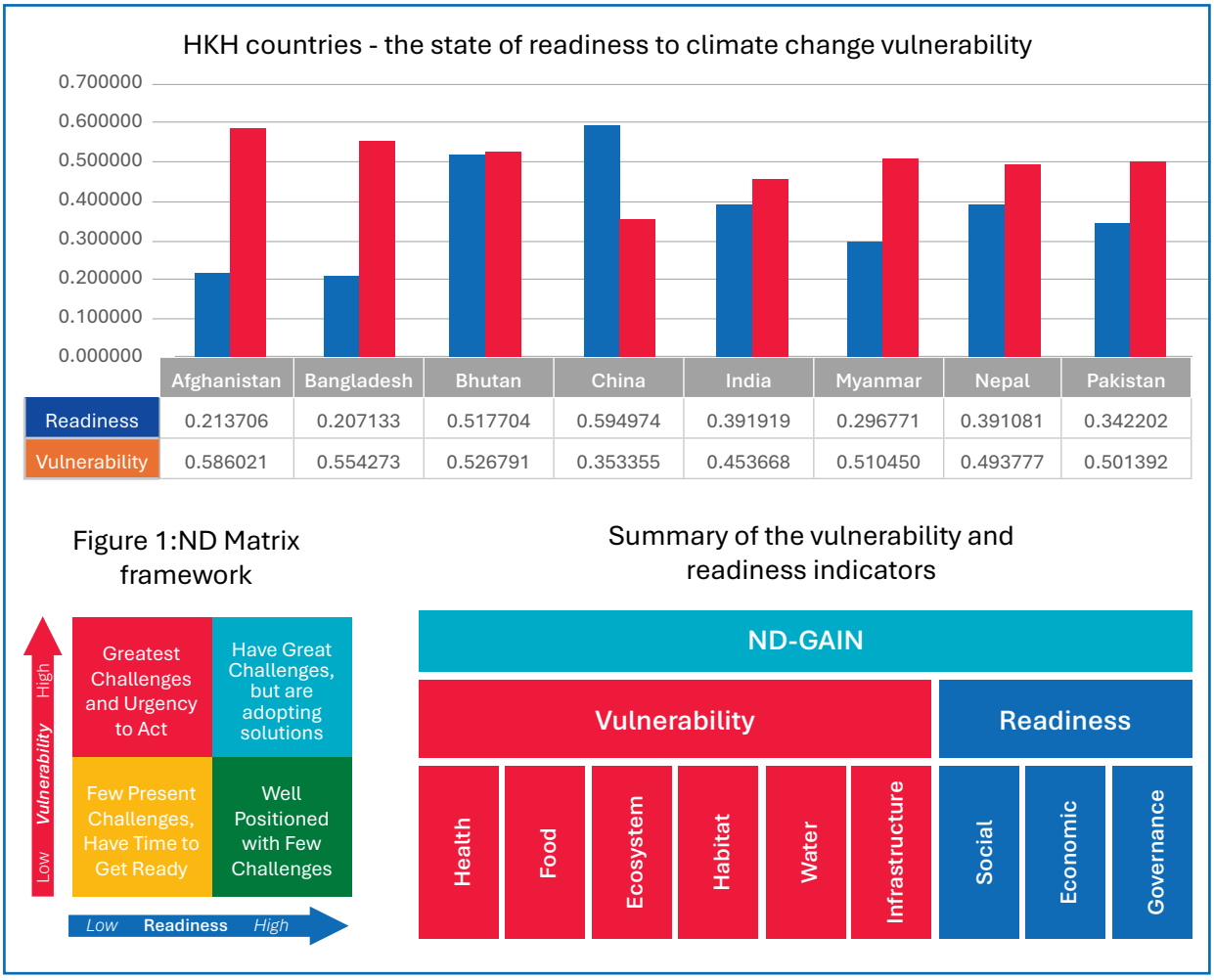


Figure 2:ND Matrix framework and HKH vulnerability and preparedness status 2022.

The HKH region, while vulnerable to climate change, presents a unique opportunity to build resilience and transform challenges into sustainable solutions and resilience (B &D quadrant suit more to HKH). By enhancing preparedness, the region can address severe impacts on agriculture, water resources, glaciers, biodiversity, and livelihoods. The transboundary rivers, which support over a billion people, offer a chance to innovate in water management, ensuring reliable availability and quality despite changing climate conditions. This proactive approach can turn risks into opportunities for regional collaboration, technological advancement, and long-term ecological and economic sustainability.

4 CLIMATE ACTION TARGETS, AND PLANS OF HKH COUNTRIES

Countries in the Hindu Kush Himalaya (HKH) region are committed to building climate resilience through comprehensive strategies. Their primary objectives include reducing vulnerabilities, enhancing adaptive capacities, and integrating climate considerations into national planning, policies, and strategies. Key actions include improving water efficiency, promoting climate-resilient agriculture, ensuring food security and resilience, protecting biodiversity and climate integrated planning and budgeting. With substantial budget requirements and timelines extending to 2030 and beyond, these nations aim to reduce greenhouse gas emissions, enhance natural resource management, and foster sustainable livelihoods. They emphasize strengthening institutional capacity, raising community awareness, promoting research and innovation and advancing cross-sectoral collaboration to support economic resilience, environmental protection, and social equity across critical sectors such as energy, water resources, and agriculture. These efforts are supported by targets for emission reduction, adaptation, and international financial assistance. The table 3 provides a few highlights regarding each country ambition, targets and tentative resources to tackle climate resilience. The key highlights are extracted from each country's NAP and NDC documents).

Table 3: HKH country's plans and strategies

Areas of focus/Goals	Targets and Priority sectors
Afghanistan	
• Reduce vulnerability and enhance adaptive capacity. • Integrating climate change consideration into the national planning processes • Promote sustainable economic and livelihoods and increase access to modern forms of efficient and sustainable energy services • Improve technical capacity in governmental institutions • Adaptive and integrated land and water management • Improve food security, reduce poverty and improve agricultural productions • Raise awareness of people on climate change impacts and adaptation measures.	**Target 2030:** There will be a 13.6% reduction in GHG emissions by 2030 compared to a business as usual (BAU) 2030 scenario, conditional on external support. **Prioritised sectors:** • Energy, • Natural Resource Management, • Agriculture & livestock • Waste management and • Mining.
Bhutan	
• Enhance water efficiency and sustainable management of water resources. • Strengthen agriculture, climate information and agriculture systems. • Promote sustainable land and soil management. • Promote organic farming for enhanced and sustainable agriculture and livelihoods systems. • Food Framework, Qualified market development and export, promote Crop Insurance and Incentive Systems • Climate resilient livestock management. • Increase institutional capacity and investment in climate change research.	Bhutan's 13th Five-Year Plan (FYP) is a strategic framework for sustainable development, with an emphasis on climate-resilient development that integrates low-emission strategies across sectors while decoupling GDP growth from greenhouse gas emissions and enhancing community and ecosystem resilience. **Prioritised sectors:** • Energy, • Water resources and efficiency • Agriculture, livestock, organic farming and natural resource management, • Waste management and mining • Urban planning and climate smart cities.
Bangladesh	
Vision: Building a climate-resilient nation through effective adaptation strategies to foster a robust society and ecosystems and stimulate sustainable economic growth. **Goals:** Ensure protection against climate change	**Mitigation targets:** In the unconditional scenario, GHG emissions would be reduced by 27.56 Mt CO2e (6.73%) below BAU in 2030 in the respective sectors. In the conditional scenario, GHG emissions would be reduced by 61.9 Mt CO2e (15.12%) below BAU in 2030 in the respective sectors.

Areas of focus/Goals	Targets and Priority sectors
• variability and induced natural disasters Bangladesh is highly susceptible to. • Develop climate-resilient agriculture for food, nutrition and livelihood security. • Develop climate-smart cities for improved urban environment and well-being. • Promote nature-based solutions for conservation of forestry, biodiversity, and well-being of communities. • Impart good governance through integration of adaptation into the planning process. • Ensure transformative capacity-building • and innovation for climate change adaptation including sectors: water resources, agriculture, social safety, fisheries, aquaculture and livestock, urban areas, Ecosystem, wetlands and biodiversity along with Policies institutions, research and innovation.	**Prioritised sectors:** • Agriculture, livestock, and fisheries. • Forests, biodiversity and ecosystems. • Water resources. • Energy • Urban settlements physical infrastructure • Disaster risk reduction and management ad (Social protection) • Capacity building, research, data and innovation • Enabling actions/policies and institutions.
China	
China aims to have CO2 emissions peak before 2030 and achieve carbon neutrality before 2060; to lower **CO2 emissions per unit of GDP by over 65% from the 2005 level**, to increase the share of non-fossil fuels in primary energy consumption to **around 25%**, to increase the forest stock volume by 6 billion cubic meters from the 2005 level, and to bring its total installed capacity of wind and solar power to over 1.2 billion kilowatts by 2030. The spectrums of the focus areas include: • Integrating climate change into economic and social development plans • Development of National Strategy on Climate Change Adaptation • Advancing actions on climate change adaptation in key fields (agriculture, forestry and grassland, water resources, public health, and infrastructure. • Promoting GHG emissions control from urban-rural development and construction area (cities, coastal, mountains, and other key ecological areas). • Improving monitoring, early warning, and disaster prevention and mitigation capabilities. • Increasing funding and policy support	Mitigation spectrums include: • Improving the systems and mechanisms on climate change. • Establishing mechanisms for the decomposition and implementation of carbon emissions control targets. • Making progress in carbon emissions trading market. • Low-carbon energy system • Expanding system of green and low-carbon industries • Low-carbon transportation system • Gradual establishment of GHG emissions statistical accounting system. • Use tax policies to support green and low-carbon development. • Strengthen innovation in climate investment and financing policies. • Scaling up investments for science and technology research, development and transfer

Areas of focus/Goals	Targets and Priority sectors
Myanmar	
Goal: to secure the wellbeing and safety of its people, the government has adopted a strategic vision to transform the country into a climate-resilient, low-carbon society that is sustainable, prosperous, and inclusive, for the wellbeing of present and future generations. Specific goals include: • Promote climate-resilient productivity and climate smart responses in the agriculture, fisheries, and livestock sectors • develop resilient, inclusive, and sustainable cities and towns where people can live and thrive. • Investments in education, science, and technology-transfer will also be crucial areas for building a smart, knowledgeable, climate-responsive society. • Myanmar needs to direct its development actions (specifically in the key social, infrastructure, and economic sectors to increase the adaptive capacity of vulnerable communities and sectors • Create and maximize opportunities to pursue a low-carbon growth pathway by ensuring development benefits to communities and all economic sectors.	**Mitigation target:** Myanmar's total emissions reductions contributions as a part of its NDC are 244.52 million tCO2e unconditionally, and a total of 414.75 million tCO2e, subject to conditions of international finance and technical support by 2030. In the energy sector, Myanmar aims to achieve a conditional annual target of avoiding 144.0 million tCO2e emissions by 2030 against that predicted under the BAU (Business as Usual) scenario, of 297.01million tCO2e. Myanmar aims to achieve this target by: increasing the total share of renewable energy (solar and wind) to 53.5% (from 2000MW to 3070MW) by 2030, and decreasing the share of coal by 73.5% (from 7940MW to 2120MW) by 2030. Under its unconditional target, in the energy sector Myanmar will achieve avoiding 105.24 million tCO2e by 2030 from the BAU. **Prioritised sectors:** • Energy, • Agriculture, and Forest and Land use Plan
India	
Adaptation • Attain a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for 'LIFE'– 'Lifestyle for Environment' as a key to combating climate change [UPDATED]. • To adopt a climate friendly and a cleaner path than the one followed hitherto by others at corresponding level of economic development.	**Mitigation Targets:** To reduce Emissions Intensity of its GDP by 45 percent by 2030, from 2005 level [UPDATED]. To achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF) [UPDATED]. To create an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030.

Areas of focus/Goals	Targets and Priority sectors
• To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management. • To mobilize domestic and new & additional funds from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap. • To build capacities, create domestic framework and international architecture for quick diffusion of cutting-edge climate technology in India and for joint collaborative R&D for such future technologies	**Prioritised sectors:** • Agriculture, livestock, and fisheries. • Forests, biodiversity. and ecosystems. • Water resources. • Energy • Urban settlements physical infrastructure • Disaster risk reduction and management ad (Social protection) • Capacity building, research, data and innovation • Enabling actions/policies and institutions.
Nepal	
The over-arching goals are informed by the National Climate Change Policy (2019), and the Nepal NAP 2021-2050 aims to: Build the adaptive capacity and resilience of key natural, social, and economic sectors vulnerable to and at risk of climate change, and service providers. Integrate climate change issues into policies, strategies, plans, and programmes of all sectors and at local, provincial, and federal levels emphasizing Gender Equality, Social Inclusion, Livelihoods and Governance (GESILG) concerns. Ensure equitable resource mobilization and distribution of resources for climate change adaptation through national and international financing, research, technology, and extension services related to climate change adaptation	**Mitigation target:** By 2030, expand renewal electricity generation capacity to 14,031 MW by 2030 and 28,500 MW by 2035 This target includes 10% by 2030 and 15% by 2035 from mini and micro-hydro power, solar, wind power and bioenergy. By 2030: Increase BEV sales to 90% of all private passenger vehicles and 70% of all public passenger vehicles. By 2035, Increase to 95% (private) and 90% (public). 2.1 million households use electric cookstoves (vs. 400,000 in 2024). Expand Improved Cookstoves (ICS) to 750,000 households. Biogas to reach 500,000 households. Eventually aiming to reducing 2,022.17 Gg CO_2e. By 2035: Maintain at least 46% of Nepal's total area under forest cover with an emphasis on sustainable forest management and carbon market engagement. **Prioritised sectors:** • Agriculture and food security • Forests, biodiversity and watershed conservation, • Water resources,

Areas of focus/Goals	Targets and Priority sectors
	• Energy • Rural and urban settlements • Industry: transport and physical infrastructure • Tourism, natural and cultural heritage • Health, drinking water and sanitation, DRR, Gender equality and social inclusion, livelihoods and governance and enabling actions.
Pakistan	
NDC 3.0 goal: Pakistan commits to aligning climate ambition with national development priorities, mobilizing broad-based support domestically and internationally, and steering the nation toward a green, sustainable, and prosperous future. Importantly, this integration ensures that the NDC is not treated as a standalone agenda but as an integral part of Pakistan's overall policy direction. NAP goal: Enhance the sustainable development of vulnerable communities by fostering social, economic, and environmental resilience. This can be achieved through a progressive empowerment process that ensures equitable resource utilization, building on gender-responsive, participatory, transparent, and socially inclusive approaches. Target: In NDC 3.0, Pakistan has set an indicative 2035 voluntary emission reduction target against a projected emission of 2,559 $MtCO_2e$, aiming to lower emissions to 1,280 $MtCO_2e$. Of this, Pakistan aims to an unconditional 17% reduction, while the remaining 33% reduction is explicitly contingent upon provision of resources, access to technology and capacity building, and commensurate ambition and action at the global level, in line with the principles of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC).	**Priority sectors - Mitigation:** • Renewable, Hydro, and Clean • Energy Share • Fuel Mix Transition in Power • Generation: • Transport: • Energy Efficiency: • Grid Flexibility through BESS: • Transmission: • Agriculture • Forestry • Waste Sector **Priority sectors - Adaptation:** • Mainstreaming adaptation planning • Agriculture and Food Systems • Forestry, Biodiversity & Watersheds • Water Resources Management • Urban resilience • Industry, Transport & Infrastructure • Tourism, Natural & Cultural Heritage • Health, Water & Sanitation (Climate & Health) • Disaster Risk Reduction and Management • Climate Education, Green Entrepreneurship, and Capacity Building

Development Finance Flows and Climate Finance in HKH Countries (2018–2021)

Tracking Commitments, Disbursements & Climate Finance

Afghanistan
T. Commitment: **$18.8B**
T. Disbursement: **$17.8B**
Climate Finance Share: **32%**

Pakistan
T. Commitment: **$29.2B**
T. Disbursement: **$22.1B**
Climate Finance Share: **4%**

India
T. Commitment: **$80.6B**
T. Disbursement: **18.8**
Climate Finance Share: **40%**

Nepal
T. Commitment **$8.24B**
T. Disbursement **$7.26B**
Climate Finance Share: **23%**

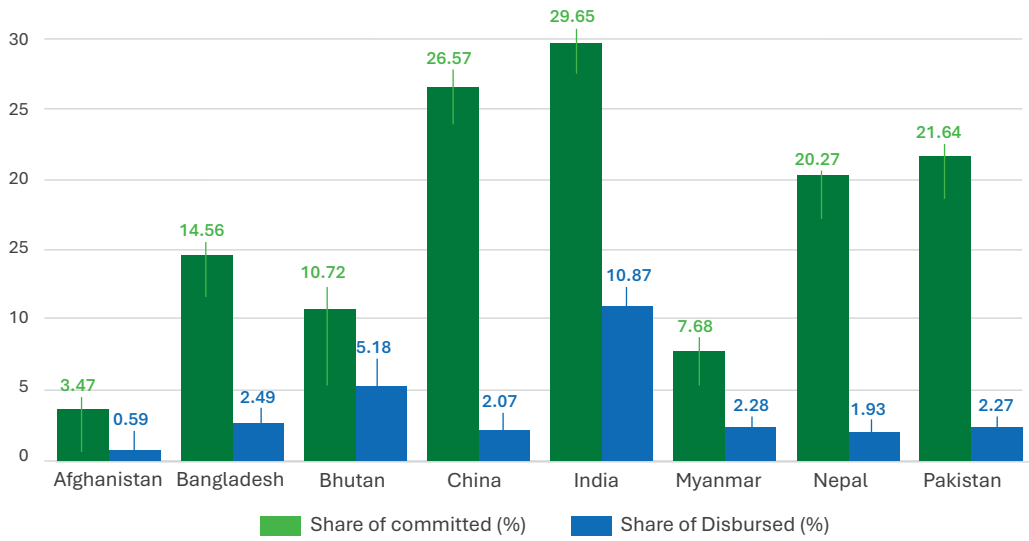
China
T. Commitment: **$35.3B**
T. Disbursement: **$29.1B**
Climate Finance Share: **32%**

Bhutan
T. Commitment: **$0.724B**
T. Disbursement: **$0.751B**
Climate Finance Share: **10%**

Myanmar
T. Commitment: **$12.8B**
T. Disbursement: **$9.6B**
Climate Finance Share: **10%**

Bangladesh
T. Commitment: **$43.4B**
T. Disbursement: **$30.7B**
Climate Finance Share: **21%**

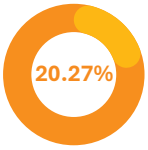
Climate Finance: Commitment vs. Disbursement in Total Development Finance



Climate Finance Share Highlights

India
$23.9 Billion, 29.65% of development finance committed for climate action and got **10.87%** disbursed.

China
$9.38 Billion, 26.57% development finance committed for climate action and disbursed only 2.07%.



Nepal
$1.67 Billion, 20.27% of development finance committed for climate action and got disbursed.

Afghanistan
$0.653 Billion, 3.47% of development finance committed for climate action and only 0.59% got disbursed.

Bhutan: Surpassed Expectations
Bhutan disbursed more than committed (–4% gap)

Afghanistan: Climate Finance Neglected
less than 1% of disbursement was climate finance

India: got highest disbursement of 10.87%.

Trend of Major Gap Persists:
Across HKH countries, witnessed disbursement gaps. 10.87 is the highest disbursement.

5 CLIMATE FINANCE NEEDS, FLOWS, AND GAPS IN THE HKH REGION

5.1 Adaptation and mitigation costed needs

According to the UNFCCC NDC synthesis report 2024 by the secretariat, a total of 93 per cent of Parties communicated an NDC implementation period of until 2030, while 7 per cent specified an implementation period of until 2025, 2035, 2040 or 2050. While 54 per cent of Parties identified 1 January 2021 as their starting date for NDC implementation, 29 per cent indicated that they started implementing their NDC in or before 2020 and 6 per cent mentioned starting implementation in 2022.

Table 4 provides a snapshot of the climate finance needs for countries in the Hindu Kush Himalaya (HKH) covering adaptation and mitigation costs based on the First Determination Report of the UNFCCC (2020) as well as National BDCS and NAP documents..

Table 4: Estimated Climate Finance Needs of HKH countries
Adaptation 2020 to 2050, Mitigation 2020 -2030, Population and USD in billions
Data source: The first report on determination of need by UNFCCC, National NDCs and NAP plans

Country	Adaptation Generally 2020-2050 $ in Billion	Mitigation 2020-2030 $ in Billion	Total Climate Finance Needs (2020-2030) $ in Billion	Per year total climate finance	Total Population in billion	Per Capita Annual Climate Finance Need in USD	Per capita GDP in USD	Per Capita Climate finance need as a percentage of per capita GDP
Afghanistan	18.88	3.98	22.86	1.03	0.042	24.3	416	6%
Bhutan	6.485	14	20.49	1.62	0.001	2126.5	3711	57%
Bangladesh	86.04	60.77	146.81	8.95	0.174	51.4	2551	2%
China	3627.57	4836.76	8464.33	604.60	1.424	424.5	12614	3%
India	2500	185.86	2685.86	101.92	1.464	69.6	2485	3%
Myanmar	1.94	14.33	16.27	1.50	0.055	27.1	1233	2%
Nepal	47.4	73.74	121.14	8.95	0.030	296.5	1378	22%
Pakistan	280.26	307.8	588.06	40.12	0.241	166.1	1365	12%
Total	**6568.58**	**5497.24**	**12065.82**	**768.68**	**3.428**			

Sources

1. Adaptation and mitigation figures are taken from first report on the determination of the needs by UNFCCC (2020) https://unfccc.int/documents/267409. The needs are for the period of 2020-2030.
2. UNFCCC report on need determination (2020) does not mention the adaptation need of Myanmar. Analytical review on climate, environmental degradation and disaster risk by MIMU estimates 3% of annual GDP of Myanmar which turns out to be USD 0.19 billion using GDP of Myanmar for 2022 (World meter).
3. International finance constituted 17% (approximately USD 8.3 billion) of India's total finance for mitigation in 2021-2022, Hence accordingly calculated until 2030.
4. Pakistan, Bhutan and Nepal figures are latest for 2025 so as the higher amounts / trend.

Total Climate Finance need for Hindu Kush Himalaya (HKH) region stands at $12 trillion with $768.68 billion/year including both adaptation (2020-2050) and mitigation (2020-2030). China & India dominate total needs ($8.46T and $2.69T, respectively). China and India, together constitute 92.41% of the total needs. The remaining HKH countries, excluding China and India, still require a total of 62.16 billion per year and 0.17 billion per day. Bangladesh and Pakistan require significant adaptation funding ($86B and $280B).

In terms of annual per capita climate finance needs, Bhutan leads with $2126.5, followed by China 424.5. Other countries include Nepal $ 295.6, Pakistan $166.1, India at $69.6, Bangladesh at $51.40, Myanmar at $27.1 and Afghanistan at $24.3. Per capita annual climate finance need varies widely from highest in Bhutan ($2,126.5) and lowest in Afghanistan ($24.3). Bhutan, Nepal and Pakistan represent the higher per capita GDP percentages 57%, 22% and 12% respectively). Lowest is Bangladesh and Myanmar (2%). The following graph depicts this phenomenon well.

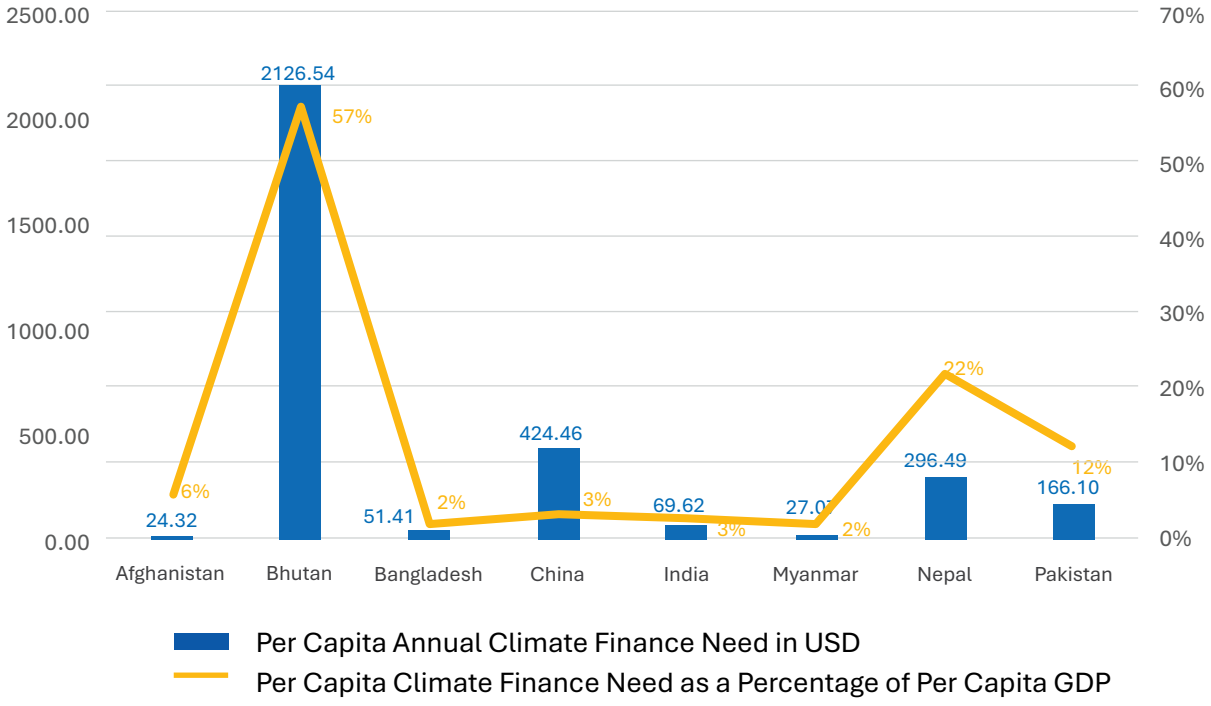


Table 5 compares the estimated climate finance needs (including both mitigation and adaptation) of countries in the Hindu Kush Himalaya (HKH) region with the global adaptation finance benchmarks provided in the UNEP 2023 report as follows.

Table 5: CF estimates of HKH countries in relation to UNEP global adaptation finance needs

Classification	Countries	HKH countries		UNEP global Adaptation Finance Estimate (Adaptation Gap Report 2023	
		Per Capita Annual Climate Finance Need	%age of annual per capita GDP	Per Capita Annual Adaptation Finance Need	%age of GDP
LIC	Afghanistan	~ 24.3	~ 6%	USD 22 PC (IQ range: USD 9–36).	3.09 per cent of GDP (IQ range 1.18–4.96)
LMIC	Bhutan	~ $2126.5	~ 57%	USD 51 PC (IQ range: USD 22–109).	2.5 per cent of GDP (IQ range of 0.77–4.41)
	Bangladesh	~ 51.45	~ 2%		
	Myanmar	~ 27.1	~ 2%		
	Nepal	~ 296.5	~ 22%		
	Pakistan	~ 166.1	~ 12%		
	India	~ 69.62	~ 3%		
UMIC	China	~ 424.46	~ 3%	USD 81 (IQ range: USD 9–238).	1.43 per cent of GDP (IQ range of 0.14–3.20 per cent)

Key findings are:

1. Low-Income Country (LIC):

- Afghanistan has a per capita annual climate finance need of USD ~24.3, which equates to ~6% of its annual GDP—significantly higher than UNEP's adaptation benchmark of USD 22 per capita (IQ: USD 9–36) and 3.09% of GDP (IQ: 1.18–4.96). This indicates a major finance gap and a critical need for international adaptation support.

2. Lower-Middle-Income Countries (LMIC):

- Bhutan has highest per capital climate finance need of ~USD 2126.5~57% of per capita GDP, which is exponentially higher the UNEP per capita benchmark (USD 51).
- Bangladesh, and Myanmar report climate finance needs of ~USD 51.9, and 27.7, respectively, all around 2–5% of GDP, aligning more closely with UNEP benchmarks.
- Nepal stands out with a very high on climate finance need of USD ~296.5 per capita, amounting to ~22% of per capita GDP. Where as Pakistan's per capita annual climate finance need stands at $166.10 ~22% of Per capita GDP which is significantly higher than UNEP's suggested levels, emphasizing its extreme vulnerability and adaptation financing needs.
- India has a substantial absolute need (USD ~69.6), though it represents only ~3% of GDP, still higher than UNEP's indicative thresholds.

3. Upper-Middle-Income Country (UMIC):

- China climate finance need of (USD ~424.5 per capita), accounting for ~3%of its per capita GDP. While the per capita figure exceeds the UNEP benchmark (USD 81; IQ: USD 9–238), its GDP share is significantly above UNEP's 1.43% estimate (IQ: 0.14–3.2%).

In conclusion, the analysis reinforces the urgent need for enhanced climate finance flows to the HKH region, particularly for vulnerable low- and lower-middle-income nations, to address climate risks effectively and build resilience.

5.2 Sector-specific Climate Finance needs for HKH

Table 6 outlines the sector-specific climate finance needs in select HKH countries, emphasizing priority areas such as agriculture, water resources, energy, urban development, health, and disaster risk management. Bangladesh shows the highest total estimated need at USD 185.171 billion, largely driven by substantial investments in water resources, agriculture, and disaster management. Nepal's needs are also significant, particularly in agriculture, urban development, and disaster resilience. Bhutan's requirements are comparatively lower but highlight priorities in rural settlements, energy, and watershed conservation. The figures underscore the diversity in regional climate finance priorities, necessitating a tailored approach for each country to enhance resilience across critical sector.

Table 6: Sector-Specific Climate Finance Needs in HKH Region (in USD Billions) *

	Afghanistan	Bhutan	Bangladesh	Nepal
Agriculture and food security including fisheries, aquaculture and livestock (A+M)	4.5	0.0950	28.48	11.2
Forests, biodiversity and watershed conservation. Ecosystem, wetland and biodiversity	5.7	0.0480	4.77	8.7
Water resources	0.1	0.204	96.139	5.35
Energy	0.105	0.486		
Rural and urban settlements (smart cities)		13	30.62	2.85
Industry, transport and physical infrastructure	0.1			3.05
Tourism, natural and cultural heritage				1.13
Health, drinking water and sanitation		0.0197		4.75
Disaster risk reduction and management, social security		0.0013	21.79	8.5
Enabling actions				
M&E, Research and data		0.0111		
Gender equality and social inclusion, livelihoods and governance		0.002		0.7
Capacity building, policies institutional development, research and awareness		0.020	3.38	0.16
Total		**13.976**	**185.171**	**46.390**

*Sectoral data for China, India, Myanmar and Pakistan was not available for analysis)

5.3 Climate finance in overall development finance flows to HKH

We analysed the Aid Atlas data on climate finance commitments and disbursements from multilateral and bilateral sources for HKH countries over a four-year period (2018-2021). The table 7 highlights climate finance overall commitment and disbursements across HKH countries for all objective and activities which shows the key trends for Development Finance (2018–2021):

Total Commitments vs. Disbursements:

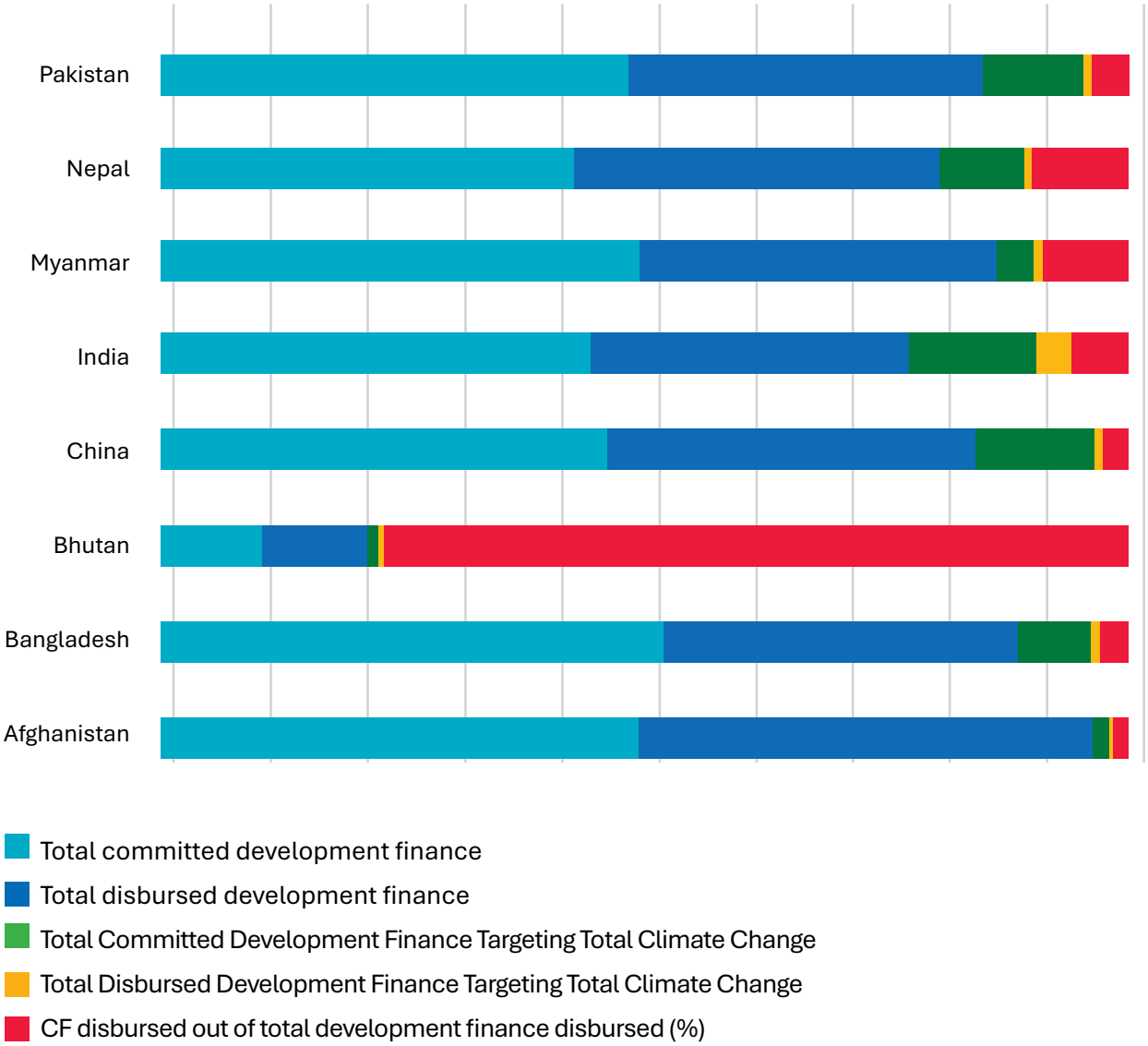
The data on climate finance flows within overall development finance in HKH countries (2018–2021) highlights significant variations in allocation and effectiveness. India received the largest share of climate finance disbursement, amounting to $6.5 billion (10.9% of its total disbursed development finance), followed by Bangladesh with $0.76 billion (2.5%) and China with $0.60 billion (2.1%). In contrast, Afghanistan—despite its high vulnerability—received the lowest allocation, just $0.11 billion (0.6%).

Climate Finance as a Percentage of Disbursements of Total Development Finance:

The proportion of climate finance as a percentage of disbursements varies significantly across countries: India leads with 10.87% followed by Bhutan with 5.33%, indicating a strong focus on climate-related initiatives. Bangladesh (2.48%) and Pakistan (2.26%) also show relatively high prioritization of climate finance. Afghanistan lags with only 0.62% of its disbursements allocated to climate finance, suggesting a focus on other developmental needs. Countries like Nepal and Myanmar exhibit moderate climate finance shares at 1.93% and 2.29% each.%.

Table 7: Percentage of Climate Finance flows out of Development Finance flows into HKH countries

Time period 2018-2021 Data source: Aid Altas Amount in USD Billions					
Country	Total committed development finance	Total disbursed development finance	Total Committed Development Finance Targeting Total Climate Change	Total Committed Development Finance Targeting Total Climate Change	CF disbursed out of total development finance disbursed (%)
Afghanistan	18.8	17.8	0.65	0.11	0.62
Bangladesh	43.4	30.7	6.32	0.76	2.48
Bhutan	0.724	0.751	0.08	0.04	5.33
China	35.3	29.1	9.38	0.6	2.06
India	80.6	59.8	23.9	6.5	10.87
Myanmar	12.8	9.6	0.98	0.22	2.29
Nepal	8.24	7.26	1.67	0.14	1.93
Pakistan	29.2	22.1	6.32	0.5	2.26



Regional Highlights:

Bangladesh and China received the largest total disbursements, $30.7 billion and $29.1 billion, respectively, showing their significance in development finance within the region. Smaller nations like Bhutan and Nepal received comparatively modest disbursements, reflecting their size and resource needs.

Climate Finance Disparity:

Countries with larger economies or significant climate challenges, like India, China, Pakistan, and Bangladesh, appear to attract a higher share of climate finance. Fragile states, such as Afghanistan and Myanmar, allocate a smaller share, possibly due to competing priorities like governance and security.

Commitments-to-Disbursements Ratio:

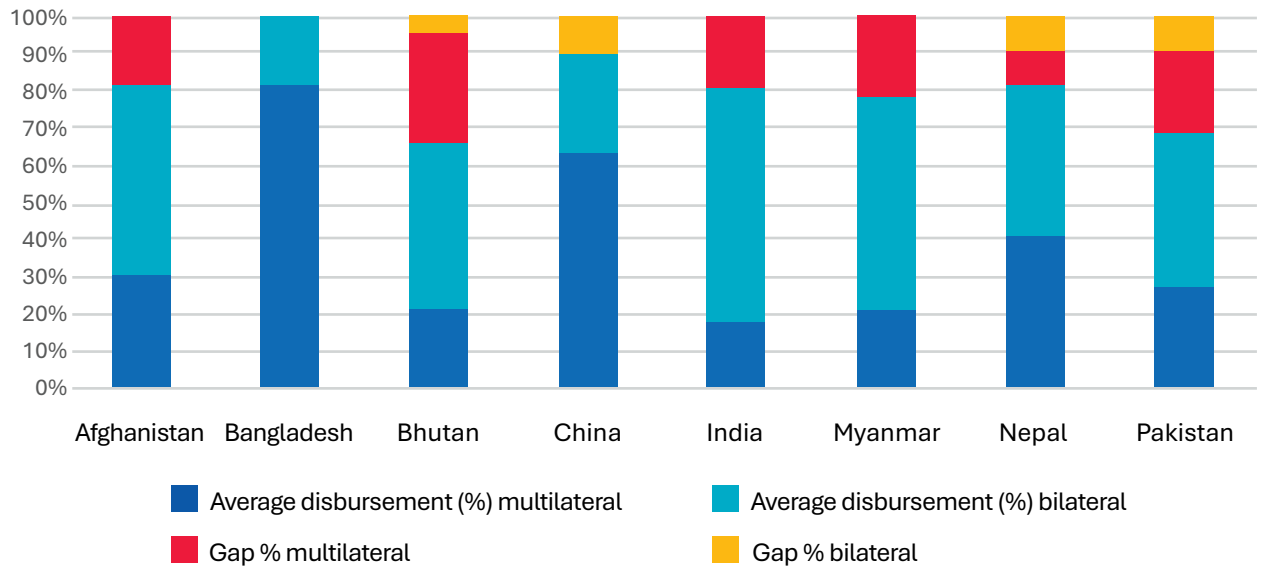
Disbursement efficiency (actual disbursed vs. committed) varies: China and Bhutan have high ratios (82% and 104%, respectively), showing better fund realization. Myanmar and Bangladesh have relatively lower ratios (75% and 71%), indicating challenges in fund absorption or execution.

5.4 Climate finance flows across HKH countries and gaps

Table 8 provides a snapshot of values in USD millions, detailing total financial commitments for adaptation, mitigation, and sectoral support, as well as disbursement pattern and gaps in percentages.

Table 8: Climate finance overall commitments, flows and Gap Table in USD millions
Flow and disbursement data taken from Aid Atlas for the year 2018-2021

	Commitments from Multilateral & Bilateral covering adaptation, mitigation and sectors	Disbursement from Multilateral & Bilateral covering adaptation, mitigation and sectors	Overall gaps in millions	Average disbursement in percentage		Gap in percentages	
				Multi-lateral	Bilateral	Multi-lateral	Bilateral
Afghanistan	3,042.10	2,426	616	62%	105%	38%	-
Bangladesh	215.19	259.63	(44)	513%	285%	-	-
Bhutan	24,322	11,278	13,044	41%	91%	59%	9%
China	5,439.5	2458	2,982	169%	73%	-	27%
India	4,715	2,041	2,674	46%	170%	54%	-
Myanmar	14188	8,606		50%	134%	50%	
Nepal	16,191	8,474.99	7,716	81%	82%	19%	18%
Pakistan	60,893	34,743	26,150	53%	83%	47%	17%



Key observations:

Afghanistan for the said period has received 62% of committed funds from multilateral sources, primarily for energy and cross cutting sectors coverage, resulting in a 38% gap in financial delivery.

The multilateral instruments through which these funds were channelled included ODA grants, loans, and non-export credits with varying percentages. The energy sector has received more money from both funding streams (bilateral as well multilaterals). The disbursement ratio for climate change

adaptation and mitigation from multilateral sources for Afghanistan is as low as less than 1%, whereas the bilateral ratio has exceeded 100%. The focus of the bilateral grants has been on the energy sector, as well as adaptation and mitigation efforts.

Bhutan has experienced a higher disbursement than commitments for both multilateral (513%) and bilateral (285%) funding sources. A significant portion of multilateral funds has been directed toward the energy and transport sectors in the form of ODA grants, loans, and non-export credits. While there have been commitments for Multilateral Development Banks (MDB) loans and grants, actual delivery has been insufficient. Bilateral funding, although also focused on specific sectors, has made a notable contribution to adaptation and mitigation efforts through grants. Overall, Bhutan has received considerably higher financial flows in the region compared to other members. Bhutan has received disbursements compared to commitments, except for adaptation and mitigation from multilateral sources, which is less than 1%.

Bangladesh has a substantial 59% funding gap, despite a high level of commitment, underscoring the significant need for increased disbursement rates. Delivery on multilateral funding for adaptation and mitigation has fallen short, to less than 0.30% of the multilateral commitment. Bangladesh received flows for energy, transport, and cross cutting sector 55%, 47%, and 61% respectively (with the gap of 45%, 39%, and 55%). The bilateral has been better for Bangladesh in term of adaptation and mitigation, energy sector, transport, and cross cutting as it received 72%, 67%, 52% and 173% (with the average gap of 36%). The fund flows on both cases (multilateral and bilaterial) were channelled through a mix of instruments including ODA loans, ODA grants and non-export credits.

For **Nepa**l, total funding commitments have amounted to $8.24 billion, with disbursements reaching $7.2 billion during the four years (2018-2021). Total climate change funding has been $1.68 billion, comprising 43% for mitigation and 67% for adaptation, which represents 20% of the total committed amount. Nepal has demonstrated a satisfactory level of disbursement for the committed funds during this period. Among multilateral sources, the highest disbursements have been in the cross-cutting sector at 101%, followed by energy (52%) and the transport and storage sector (30%), with an average gap of 59%. The disbursement gaps for adaptation and mitigation, as well as the energy sectors from bilateral sources, stand at 38% and 37%, respectively. Disbursement ratio for climate change committed funds is higher for bilateral funding (63%) as compared to multilateral (1%). Nepal received significantly more than committed for the transport and storage sector (120%) and the cross-cutting multisector (as high as 383%). A mix of instruments, including ODA loans, ODA grants, and non-export credits, has been utilized. However, disbursements from the multilateral stream for adaptation and mitigation have been as low as 1%.

Pakistan received the overall commitments of 117 billion for the review period. 68% (80.7 billion) have been disbursed. and out of which 87 billion exhibit disbursement rates exceeding initial commitments in certain years but still reflect a 27% funding gap.

Myanmar: Private sector investments from households, corporations and commercial financial institutions have largely been channelled towards climate mitigation, rather than adaptation and resilience, amounting only to US$1.4 billion or 0.5 percent of GDP in 2019. More generally, Pakistan's total investment-to-GDP ratio remains around 15 percent, low compared to South Asia's regional average of over 30 percent.127

China and **India** show moderate gaps, at 19% and 17% respectively, with robust disbursement.

The gaps are also highlighted in the graph below underscores the disparities in funding flows and highlights the areas requiring more efficient resource mobilization and disbursement strategies to meet climate finance goals in the HKH.

5.5 Financing instruments for climate action in the HKH region

The HKH region faces significant climate finance gaps in mobilizing adequate and effective financial resources for climate adaptation, mitigation and other resilience building activities. There are various traditional and modern innovative market-based mechanisms but accessing these funds and having enough capacity to utilize them is a challenge due to institutional and policy barriers.

Public Finance has been a crucial instrument for climate action with national budget plans and international climate finance mechanisms. Multilateral climate funds such as Global Environment Facility (GEF), Green Climate fund (GCF), Climate Investment Funds (CIFs), World Bank and Asian Development Bank support climate action and finance by providing Grants, loans, Equity, Guarantees and result based payments. However, accessing these funds is a challenge as countries and the organizations must meet certain requirements and follow lengthy approval processes. Bilateral donors and development finance Institutions (DFI) like the World Bank and Asan Development Bank offer concessional loans and other blended finance options. Having a strong national climate finance policy, working with these organizations to establish direct access and working together to develop string proposals will be a crucial step for being able to access these funds.

The role of private sector financing is increasingly being recognized as a need for the hour and a key component in bridging the climate finance gap in the HKH region. Impact investing, Blended Finance and public-private partnerships are a few of the options that HKH as a region should be looking into, particularly for nature-based solutions and sustainable business projects. There is a gap in the system because of the weak financial ecosystem and lack of awareness among the investors. Emerging financial instruments like voluntary carbon markets and climate resilient debt instruments are presenting new and innovative ways to attract investors, however there is a need to establish a well-developed market infrastructure and the need for robust monitoring and implementation systems.

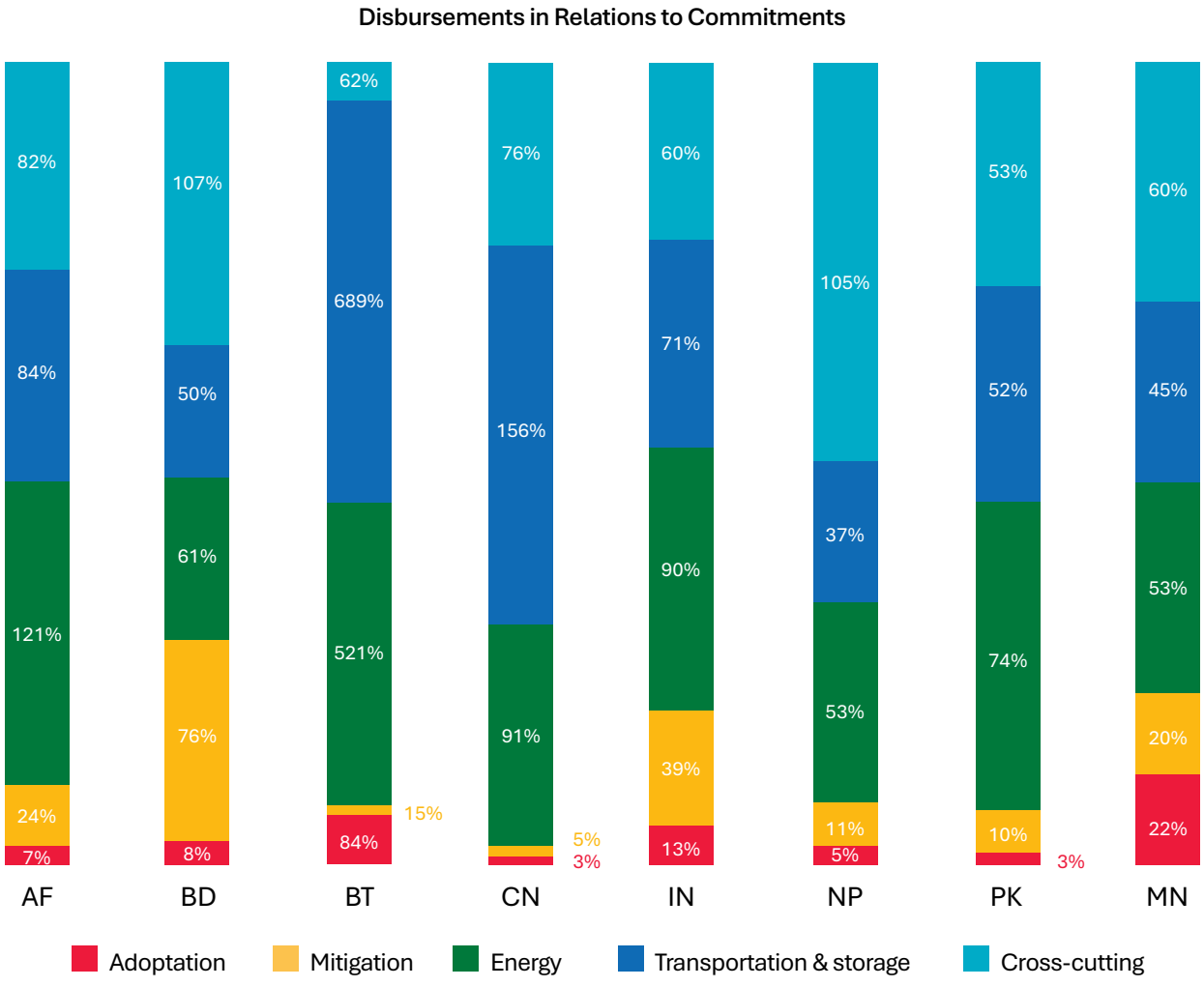
For smallholder farmers and micro, small, and medium-sized businesses (MSMEs), Implementing climate-smart practices, microfinance and community-based financing tools such as crowdfunding, climate-resilient credit programs, and charitable donations offer vital support at the local level. Although these methods aid in resilience building, their general adoption is constrained by issues including high transaction costs, legal restrictions, and limited scalability. Microfinance can have a greater impact if it is integrated into national climate initiatives and community-based financial institutions are strengthened. Innovative financial instruments like green Bonds, debt-for-climate swaps, and carbon markets show promise in addressing climate finance gaps in the HKH region.

Recent events in HKH nations show progress in obtaining climate funding, including Bhutan's participation in carbon trading programs, India's expanding issuance of green bonds, and Nepal's attempts to expedite GCF accreditation for national institutions. India's increasing issuance of green bonds and Bhutan's participation in carbon trading programs show progress in obtaining climate finance. To guarantee the successful implementation of climate finance in the HKH region, a more unified and integrated financing approach is required, combining public and private resources with robust institutional structures, regional cooperation, and blended finance techniques.

5.6 Disbursement pattern and gaps across adaptation, mitigation, and sectors

The disbursement pattern across the eight countries—Afghanistan (AF), Bangladesh (BD), Bhutan (BT), China (CN), India (IN), Nepal (NP), Pakistan (PK), and Myanmar (MN)—shows significant variations across sectors such as adaptation, mitigation, energy, transport & storage, and cross-cutting initiatives. Here's a summary of the trends:

Disbursement percentage in relation to commitments for adaptation, mitigation and sectors:								
	AF	BD	BT	CN	IN	NP	PK	MN
Adaptation	7%	8%	84%	3%	13%	5%	3%	22%
Mitigation	24%	76%	15%	5%	39%	11%	10%	20%
Energy	121%	61%	521%	91%	90%	53%	74%	53%
Transport & storage	84%	50%	689%	156%	71%	37%	52%	45%
Cross cutting	82%	107%	62%	76%	60%	105%	53%	60%



Key observations:

Low Adaptation Disbursement:

Most countries exhibit low disbursement percentages for adaptation, with Afghanistan (7%), China (3%), and Pakistan (3%) being particularly low. Bhutan (84%) stands out as the only country with a significantly high adaptation disbursement rate.

Mitigation Disbursement Imbalance:

Bangladesh (76%) and India (39%) show relatively high disbursement for mitigation, whereas Afghanistan (24%) and China (5%) lag behind.

Over-Disbursement in Energy:

Bhutan (521%) and Afghanistan (121%) display substantial over-disbursement in the energy sector, suggesting completed projects or over-commitment. Other countries remain closer to 50-100%, except China (91%) and India (90%).

Transport & Storage Over-Disbursement:

Bhutan again leads with 689%, followed by China (156%). This indicates significantly higher actual spending compared to commitments. Most other countries are below 100%, with Nepal (37%) showing the lowest percentage.

Cross-Cutting Consistency:

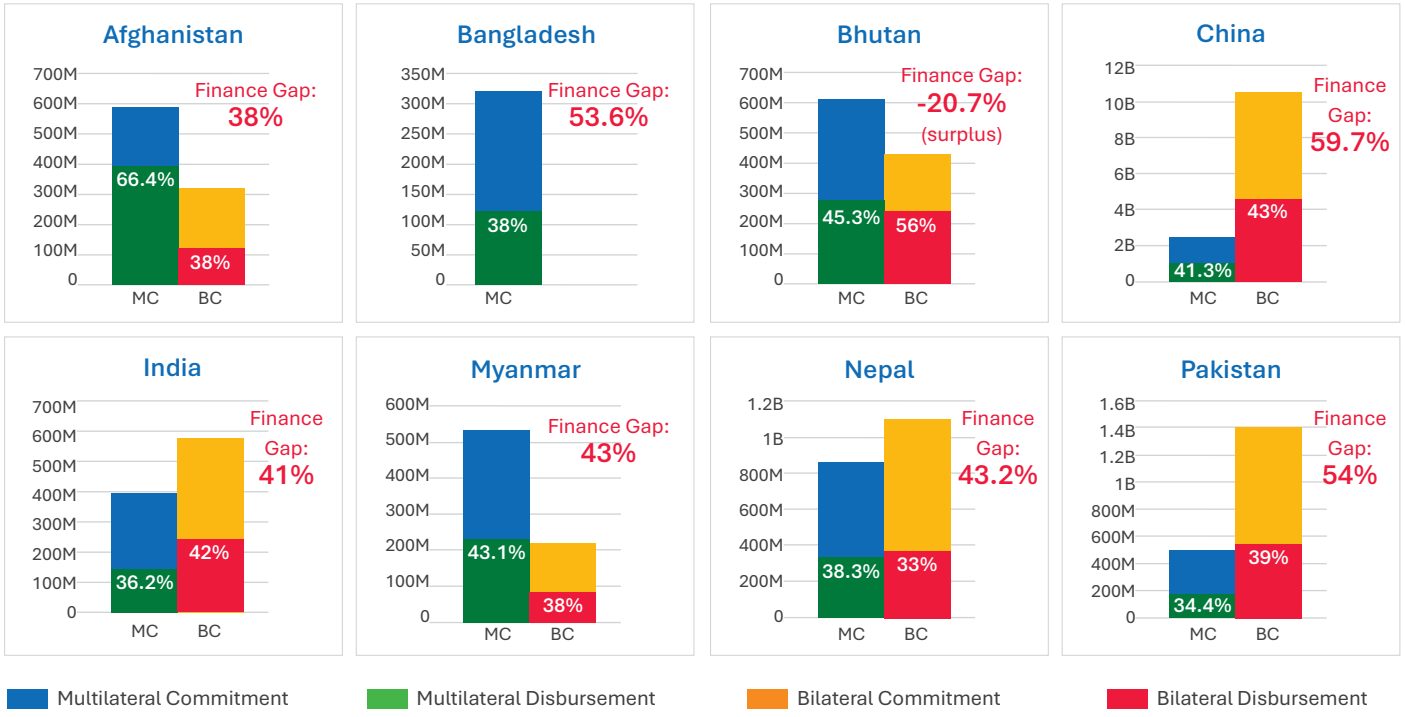
Disbursement percentages for cross-cutting projects are relatively consistent, ranging between 53% (Pakistan) and 107% (Bangladesh), with multiple countries approaching or exceeding full commitment.

A significant disparity exists in disbursement efficiency between countries and sectors, with certain sectors (e.g., energy, transport) showing over-disbursement while adaptation remains underfunded in many cases. Bhutan leads in disbursement percentages across most sectors, while other countries display more moderate or targeted investment patterns, often favouring either energy, mitigation, or cross-cutting initiatives.

Multilateral and Bilateral Finance Flows and Gaps in HKH Countries (2018-2021)

Source: Aid Atlas

Climate Finance Flows & Gaps by Country



Multilateral vs. Bilateral -Disbursement (%)

Afghanistan
Multilateral: 62%
Bilateral: 105%

Bhutan
Multilateral: 513%
Bilateral: 285%

Bangladesh
Multilateral: 41%
Bilateral: 91%

Myanmar
Multilateral: 169%
Bilateral: 73%

Nepal
Multilateral: 46%
Bilateral: 70%

Pakistan
Multilateral: 50%
Bilateral: 134%

China
Multilateral: 84%
Bilateral: 82%

India
Multilateral: 53%
Bilateral: 183%

Key Insights

Major finance gaps exist across HKH countries– disbursements often fall short of commitments.

Pakistan's gap is highest at 54%, with disbursement under 40%.

Bangladesh received only 38–41% of committed funds.

Nepal's gap stands at 43%, with low bilateral performance.

Bhutan overperformed, disbursing 20% more than committed.

Multilateral funds under-delivered across all countries (<45%).

Bilateral finance performed better, but still below 60%.

> **"Despite commitments of over $160B in climate finance to HKH countries, delivery efficiency varies widely — calling for reforms in multilateral fund access and project readiness."**
>
> — Climate Finance Synthesis Report, ICIMOD

5.7 Key insights on HKH climate finance need, flows and gaps

- **Bilateral vs. Multilateral Funding**
  - The disbursement ratio for climate finance is higher for bilateral funding than multilateral funding in most HKH countries.
  - Addressing obstacles to multilateral funding can help ease conditions and increase financial flows.
- **Sectoral Commitment vs. Disbursement**
  - Sectoral climate finance commitments show better disbursement ratios across both bilateral and multilateral mechanisms.
  - Enhancing enabling conditions can further improve multilateral fund disbursements.
- **Financing Mechanisms and Innovations**
  - Grant-based financing and concessional loans remain crucial for HKH countries.
  - Innovative financing tools—such as monetization of natural capital, green and blue bonds, debt-for-climate swaps, equity financing, and results-based climate finance—are essential to bridging adaptation and resilience funding gaps.
- **Growing Finance Needs and Gaps**
  - Climate finance requirements are rising sharply, with global annual needs increasing from USD 8.1 trillion (by 2030) to over USD 10 trillion per year (from 2031 to 2050).
  - Initial Nationally Determined Contributions (NDC) estimates are expected to be significantly lower than updated submissions, reflecting escalating costs.
- **Prioritizing Adaptation and Net-Zero Transitions**
  - Countries must focus on adaptation financing and sectoral net-zero transitions.
  - Strengthening technical climate capacities—taxonomy development, green policy implementation, climate budgeting, and interdepartmental coordination—is vital to attracting investment.
- **Limited Private Sector Engagement**
  - Except for China and India, most HKH countries face financial constraints and rely on external funding.
  - The absence of bankable projects hinders private sector involvement in mitigation efforts.
- **Weak Enabling Environment for Adaptation Finance**
  - The current policy and regulatory landscape is insufficient to drive private investment in climate adaptation.
  - Strengthening policy frameworks is essential to unlocking private sector participation.
- **Asia's Climate Finance Gap**
  - Between 2013 and 2020, Asia received $113 billion in climate finance, but only a small portion was grant-equivalent.
  - The region's estimated climate finance needs stand at $1.3 trillion annually by 2030[19].

6 GLOBAL CLIMATE FINANCE NEEDS, TRENDS AND GAPS

1. Urgent Climate Finance Needs

The UNFCCC's 2022 Needs Determination Report highlights that 153 countries have identified 4,274 specific climate finance requirements. Of these, 1,782 needs are costed at USD 5.8–5.9 trillion by 2030. However, only USD 502 billion is expected from international sources and USD 112 billion from domestic sources, leaving 89% of the identified needs unfunded. Additionally, submissions from 149 countries via National Communications and 62 countries through Biennial Update Reports indicate further financial needs of USD 8.9 trillion and USD 11.5 trillion, respectively. These figures underscore the significant financial gap faced by developing nations in implementing climate commitments under the Convention and the Paris Agreement.

UNFCCC 2024 NDC Synthesis Report in the means of the implementation section narrates that a total of 91 per cent of Parties provided information on finance as a means of NDC implementation, with 69 per cent characterizing finance in terms of international support needed and 24 per cent mentioning finance from domestic sources only. In addition, 46 per cent of Parties provided quantitative estimates of financial support needs, which were often expressed as total amounts over the time frame of the NDC. Of those, 29 per cent provided updated quantitative estimates of financial support needs for the first time in their new or updated NDCs.

UNFCCC on NDC 2024 updated reports states that the mitigation targets range from economy-wide absolute emission reduction targets to strategies, policies, plans and actions for low-emission development as follow:

2. Sectoral and Regional Climate Finance Distribution

Climate finance requirements vary across national reports, including Nationally Determined Contributions (NDCs), Adaptation Communications (ACs), Low Emission Development Strategies (LEDS), and National Adaptation Plans (NAPs). Key findings include:

- LEDS primarily focus on mitigation (82%), while NAPs exclusively address adaptation (100%).
- Mitigation finance is concentrated in energy, waste, forestry, transport, and agriculture.
- Adaptation finance focuses on agriculture, water resources, disaster prevention, and infrastructure.
- The financial needs of developing countries remain underfunded across these sectors.

3. Financing the Global Transition to a Low-Carbon Economy

At COP27 (2022), it was estimated that globally USD 4–6 trillion per year is required to transition to a low-carbon economy. The financing gap for developing countries to meet their NDCs from 2023 to 2030 is nearly USD 6 trillion. At COP29 in Baku, countries agreed on the New Collective Quantified Goal (NCQG) to triple climate finance for developing nations to USD 300 billion annually by 2035, scaling total public and private finance to USD 1.3 trillion per year by 2035.

4. Adaptation Finance Needs Across Income Levels

Analysis of adaptation finance needs in NDCs and NAPs shows that per capita adaptation finance requirements increase with income levels:

- Low-income countries: USD 22 per capita (Interquartile Range (IQ) range: USD 9–36).
- Lower-middle-income countries: USD 51 per capita (IQ range: USD 22–109).
- Upper-middle and high-income countries: USD 81 per capita (IQ range: USD 9–238).
- Least Developed Countries (LDCs): USD 25 per capita (IQ range: USD 13–46).
- Small Island Developing States (SIDS): USD 153 per capita (IQ range: USD 65–258).

5. Trends in Global Climate Finance Flows

The **Global Landscape of Climate Finance 2023** highlights:

- Annual climate finance flows reached nearly USD 1.3 trillion in 2021/2022, doubling from 2019/2020 levels.
- Mitigation finance grew by USD 439 billion, driven primarily by investments in clean energy and electric vehicles.
- Data improvements accounted for USD 173 billion in additional finance tracking, emphasizing the need for better data integration.
- Despite this growth, climate finance must increase at least five-fold annually to meet the estimated USD 10 trillion per year needed from 2031 to 2050.

6. Regional Disparities in Climate Finance

- China, the US, Europe, Brazil, Japan, and India received 90% of the increased funds in 2021/2022.
- LDCs received only USD 30 billion (less than 3% of total finance), while the top 10 most climate-affected countries received just USD 23 billion.
- Private finance contributed 49% of total climate finance (USD 625 billion) but remains concentrated in developed economies.
- China alone mobilised 51% of global domestic climate finance, exceeding all other countries combined.

7. Sectoral Gaps in Climate Finance

- Mitigation finance: USD 1.15 trillion in 2021/2022, with energy (44%) and transport (29%) receiving the largest share.
- Emerging sectors like battery storage and hydrogen are attracting private finance but remain far from scale.
- Agriculture and industry (major emitters) receive less than 4% of total mitigation finance, despite a combined mitigation potential of 20 GTCO2 by 2030.

8. Adaptation Finance Lagging Behind

- Adaptation finance reached USD 63 billion in 2021/2022, a 28% increase from 2019/2020, but far below the estimated USD 212 billion per year needed by 2030 for developing countries.
- Public sector funding dominates adaptation finance (98%), with limited private sector engagement.
- The agriculture, forestry, and land-use sector (AFOLU), critical for adaptation, received just USD 7 billion (11% of total adaptation finance).

9. Multilateral and Bilateral Climate Finance Trends

- Multilateral adaptation finance increased to 14.6% of overall development finance from 2013 to 2017.
- Bilateral adaptation finance rose more slowly, from 4.6% to 6.1% over the same period.
- Public finance channels 57% of total climate finance, but 17% of finance to LDCs is in market-rate debt, worsening debt burdens.
- Annual adaptation costs for developing countries are projected to rise to USD 140–300 billion by 2030 and USD 280–500 billion by 2050.

The climate finance gap continues to widen, with global needs rising from USD 8.1 trillion to USD 10 trillion annually by 2030. In the HKH region, financing demands could reach USD 1 trillion per year, yet domestic resources remain limited, making external funding essential.

Despite an increase in financial flows, disparities remain. Only 3% of global climate finance reaches least developed countries (LDCs), while developed economies attract the majority. In HKH countries, bilateral funding is more accessible than multilateral funding, highlighting structural barriers that require urgent reform.

Traditional financing models—such as grants and concessional loans—are insufficient. Innovative instruments like green bonds, debt-for-climate swaps, and results-based financing are necessary to address adaptation and resilience gaps. However, the private sector remains largely untapped due to weak enabling environments and a lack of bankable projects.

Mitigation finance is concentrated in energy and transport, while adaptation finance prioritizes agriculture, water, disaster prevention, and infrastructure—areas of significant vulnerability in HKH nations. Strengthening climate finance ecosystems, improving policy alignment, and building technical capacity are crucial for mobilizing investment and enhancing climate resilience in the region.

7 CURRENT POLICY LANDSCAPE AND KEY CHALLENGES OF CLIMATE FINANCE IN THE HKH

The eight HKH countries compromise diverse nations with varying economic and institutional capacities, vulnerabilities, and climate finance strategies. The countries have implemented various policies, strategies, and initiatives to enhance climate finance for mitigation and adaptation. Broadly speaking some of the key challenges for HKH countries in increasing climate finance flows include weak institutional capacity and coordination across government levels, historically competing development priorities (particularly for the LDCs), and lack of enabling frameworks, environments, and regulations to enhance the financial sectors' role and increase private investments into climate-related issues.

The current global political climate additionally creates uncertainty of current and future volume of public and multilateral funds for climate finance in the HKH countries and globally. This can pose challenges in the present and immediate future – especially for those HKH countries with a low degree of diversification of funding sources for climate finance initiatives, investments, and activities.

Afghanistan has generally prioritized agricultural productivity, biodiversity conservation, and water management but under extreme fiscal constraints and political transitioning. International assistance, primarily through bilateral and multilateral mechanisms, plays a crucial role in the country, but funds have in recent years been focused on humanitarian and development activities. Despite being highly vulnerable to the effects of climate change, Afghanistan has largely been unable to access climate finance funds in the last years due to political and procedural issues, and the environment for private investment is challenged by fiscal constraints. However, the UN has in late 2024 indicated ambitions to unseal climate project financing into the country[21]. This potential development should be monitored. Key challenges include a lack of institutional capacity, severely constrained access to climate finance due to governance and political issues, and limited technical readiness to engage in mechanisms such as carbon markets or blended finance instruments[22].

Bhutan has a constitutional mandate to maintain forest cover and its carbon-negative status and directs substantial resources toward environmental preservation. Compared to the other HKH countries, Bhutan stands out with its strong disbursement rates for especially energy (hydropower in particular) and transportation projects which underlines its robust utilization of international funds for climate finance and strong policies and strategies on climate and environmental preservation.

A current key challenge for Bhutan is to create enabling conditions, policies, and regulations, for increasing private green investments, as well as strengthening the financial sector's role in climate finance[23]. Key barriers include limited technical capacity for project preparation and low private sector participation due to a small domestic financial sector. Bhutan is, after approval of article 6 of the Paris Agreement at COP29, in the early stages of exploring carbon market engagement, particularly through voluntary carbon credits tied to forest conservation[24]. There is an opportunity to further develop financial instruments such as carbon credits or green bonds tailored to Bhutan's context[25].

Bangladesh channels substantial funds towards climate adaptation and mitigation, particularly in coastal and flood-prone areas. The country relies heavily on multilateral and bilateral finance for energy, transport, and cross-sectoral initiatives. Bangladesh has received significant climate financing from the GCF and other multilateral climate funds. Development agencies and partners have traditionally played a central role in governing development and climate funds.

A key challenge for Bangladesh is improving legislative and institutional capacity for efficient implementation of existing polices and plans, as well as strengthen coordination across governing bodies and levels of governance[26]. Additional barriers include fragmented data systems and information to support climate investment decisions, insufficient capacity in the financial sector to assess climate-related risks and opportunities. Bangladesh, and technical capacity gaps for project development and monitoring[27]. Bangladesh has initiated efforts to develop carbon market readiness under the World Bank's Partnership for Market Implementation (PMI), which could open doors for voluntary carbon trading in the future[28].

China is a large economy and endorsed a blue print for establishing a green financial system back in 2016[29]. Following this, China has introduced green finance pilot zones at province/city level, made strides on green bond and credit markets, as well as adopted several guidelines and policies on green finance in e.g. the banking industry, and green taxonomy[30].

The relative success of China's green financial reform, also underlined by China's climate neutral ambition for 2030, can be attributed to factors such as standardization and strong coordination stemming from the top-down approach and buy-in from high-level government. China has also increased green investments in other countries, particularly those included in the Belt and Road Initiative, over the past years. One of the key challenges for China is to increase the private sector's contribution to climate finance[31].

Secondly, while key sectors in China have undergone a green transition, the country also continues to rely significantly on fossil fuels. China has developed one of the largest domestic carbon markets in the world through its national Emissions Trading System (ETS), launched in 2021. However, challenges remain in expanding its sectoral coverage and ensuring high-quality monitoring, reporting, and verification[32]. In addition, key barriers include regional disparities in technical capacity and uneven enforcement of green finance guidelines across jurisdictions.

India is, like China, a large global economy and has attracted increasing investments and funding for climate mitigation from private, multilateral, and bilateral sources. As part of the Brazil, South Africa, India, and China bloc , India has increasingly taken a significant stand at the global level advocating for increased climate finance from developed to developing countries, and India's transition to renewable energy sources has been significant over the past 10 years[33]. In the country's National Action Plan on Climate Change, it established eight concrete missions to work on the different priority areas of the plan, including a mission focused on protecting the Himalayan ecosystem. Several schemes, strategies, and initiatives have been carried out under the respective missions however varying in effectiveness[34]. While India has made good progress in attracting international climate finance, the country still faces some obstacles.

These include effectiveness of regulations and coordination across levels of government as well as the perceived risk of investors as India remains a developing country[35]. Another barrier is the massive capital needed for the large-scale projects necessary to ensure India's transition.

In terms of increasing domestic climate financing, India has made some progress but remains a developing economy with competing development priorities. India is one of the first countries in the region to launch a formal domestic carbon market framework in 2023 under the Carbon Credit Trading Scheme (CCTS), which aims to regulate emissions in key sectors. However, operationalization remains in early phases, and key challenges include monitoring, reporting and verification infrastructure, pricing, and market liquidity[36]. In addition, technical barriers related to project preparation, access to reliable climate data at the sub-national level, and alignment of state-level policies with national goals challenge climate finance scale-up.

Nepal has invested in mitigation and adaptation projects relying on particularly bilateral funding and with low disbursement of multilateral climate finance flows. Nepal has taken steps to integrate climate change into public financial management by adopting different relevant frameworks and policies[37]. Key challenges for Nepal include ensuring effective implementation of policies and plans and to address gaps in coordination, particularly across government levels, technical capacity and financial resources, as well as enabling private green investments[38].

The latter issue has recently gained increased attention when Nepal 's central bank adopted the Nepal Green Finance Taxonomy in 2024 focused on the role of the financial sector in closing the climate finance gap[39]. Nepal is also actively engaging in in voluntary carbon markets, with forestry and REDD+ projects playing a key role.

In 2023, Nepal sold 1.3 million tons of verified carbon credits to the World Bank's Forest Carbon Partnership Facility. However, significant barriers include institutional coordination, lack of carbon pricing frameworks, and limited technical expertise in monitoring, reporting and verification[40]. In addition, Nepal also faces challenges such as fragmented data systems, limited technical support for developing bankable projects, and weak governance mechanisms at local levels to absorb and manage funds effectively.

Myanmar adopted the detailed Myanmar Climate Change Strategy in 2019 focusing on increasing both public and private climate finance into the countr[y41]. However, the current investment climate in Myanmar has been severely constrained by the political and security situation since 2021 leading to economic contraction, high inflation, etc. from international sanctions.

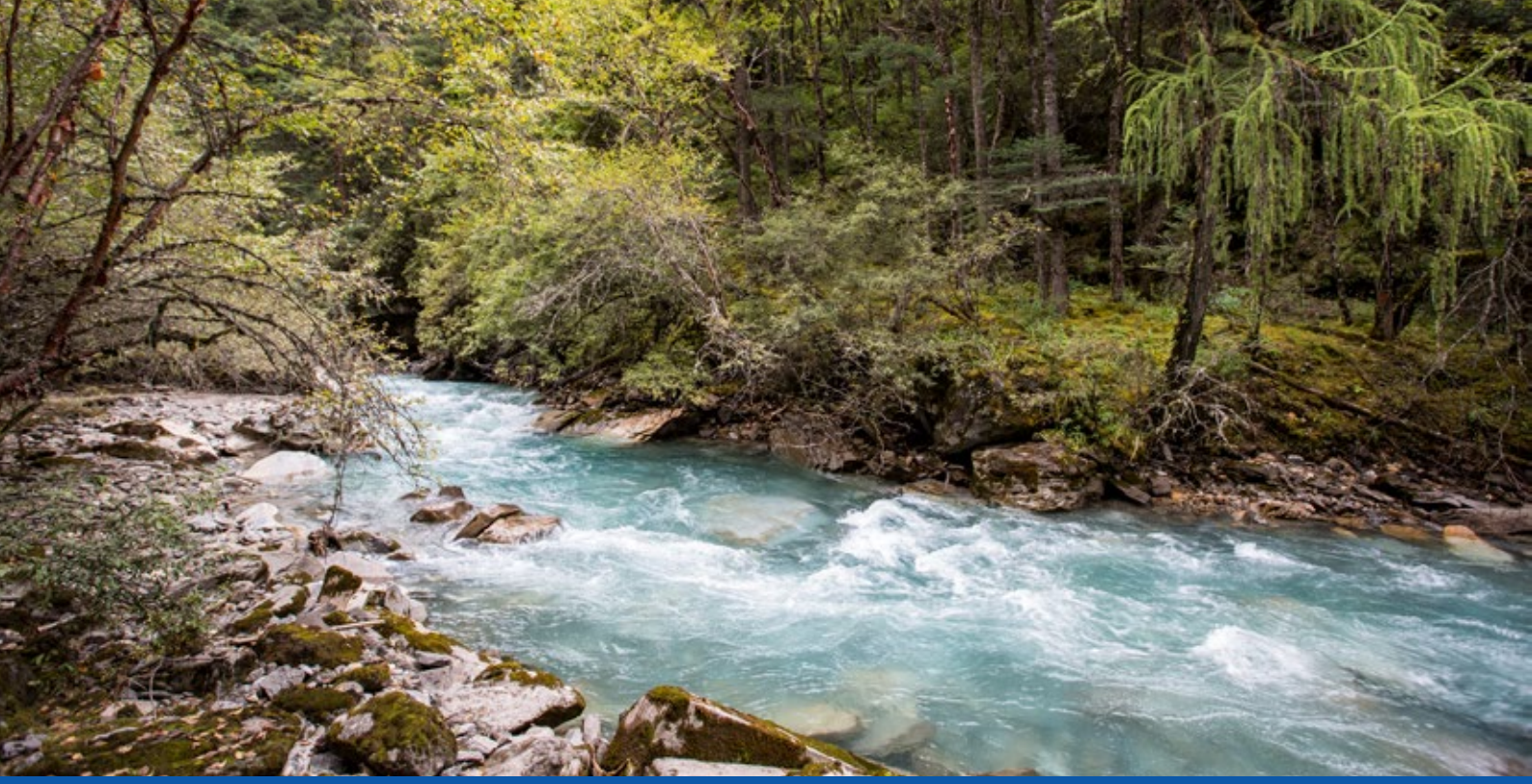
The country receives international assistance for especially humanitarian and development purposes but its ability to attract climate finance is currently limited by the political situation and fiscal constraints. In addition to macroeconomic

and political instability, Myanmar faces severe capacity constraints in institutional coordination, low access to climate finance knowledge and tools, and limited technical expertise to develop and implement viable climate finance projects.

Pakistan has a relatively large economy but has historically allocated limited resources to climate finance, primarily addressing agriculture, food security, and water scarcity issues and challenges. However, Pakistan has engaged in Climate Public Expenditure and Institutional Review (CPEIR) at both federal and sub-national levels to assess and improve climate-related financial management and released the first-ever national climate finance strategy in 2024 focusing on the private as well as the public sector[42].

The effective implementation and operationalization of the strategy should be observed and supported. Pakistan is also exploring the potential of both voluntary and compliance carbon markets. A notable initiative is the Sindh Forest Carbon Partnership, aiming to generate carbon credits through afforestation. However, challenges persist around institutional readiness, transparency, and the development of a national carbon registry .

In addition, key challenges include fragmented governance and weak coordination among institutions, limited capacity for climate finance planning at the provincial level, lack of integrated data systems, and technical hurdles in designing finance-ready climate projects.



8 OPPORTUNITIES AND RECOMMENDATIONS FOR ICIMOD

1. Global advocacy for HKH recognition and increased Climate Finance flows

2. ICIMOD is uniquely positioned to advocate for the HKH agenda on global decision-making platforms such as the UNFCCC, COP and SBDTA as well as with donors, investors, policymakers, and expert forums. Leveraging its strengths in climate science, policy engagement, and convening power, ICIMOD can use robust data on climate vulnerabilities, adaptation needs, and mitigation potential in mountain regions to build a compelling case for increased climate finance allocation. This advocacy will ensure that mountain-specific priorities are integrated into global climate finance frameworks, funding mechanisms, and allocation decisions, securing the resources needed to address the unique challenges and opportunities of the HKH region.

2. Strengthening National and Regional Climate Finance Strategies and Capacities:

ICIMOD can support HKH countries to develop clear, mountain-specific climate action plans for respective countries that align with global frameworks like the Paris Agreement and NDCs while integrating these priorities into national planning and budgeting processes. ICIMOD can help develop taxonomies, implement budget tagging, and introduce innovative financing tools to enhance capacity and create enabling conditions. By convening diverse stakeholders—including governments, regulators, multilateral development banks (MDBs), financial institutions, private sector, and investors—ICIMOD can foster partnerships, collaborations and align efforts to access, manage, and scale up climate finance and green investments opportunities.

Additionally, ICIMOD can build stakeholder capacities in critical areas such as adaptation and mitigation assessment, budgeting, planning, data management, implementation, and monitoring, reporting, and evaluation of climate finance. To further enhance collaboration, ICIMOD can leverage its convening power to establish an **HKH Climate Finance Network/Taskforce.**

This platform would facilitate regular dialogue, knowledge exchange, and coordinated action, serving as a hub for mobilizing climate finance, investments, and aligning regional efforts toward climate resilience and sustainability goals. The network could begin with the formation of HIWG (HKH Investment working group) to guide its strategic direction and ensure inclusive, impactful outcomes.

Through these networks and partnerships, regional climate finance and investment plans can be initiated, alongside close collaboration with regional organizations on resource pooling, knowledge sharing, and the development of transboundary projects that attract larger-scale funding. This integrated approach will strengthen the HKH region's capacity to address climate challenges and achieve sustainable development goals.

3. Support HKH nations in climate finance reporting to UNFCCC

ICIMOD can assist HKH nations in developing high-quality Biennial Transparency Reports (BTRs) and other UNFCCC submissions, alongside financing and advocacy strategies for Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). By engaging national authorities through structured dialogues, training sessions, and knowledge-sharing workshops, ICIMOD can promote best practices in preparing BTRs, resource allocation, and mobilization strategies. These efforts will enable countries to secure funding from both domestic and external sources, including global and regional climate finance mechanisms. Strengthening reporting and financing strategies is critical for establishing credible mitigation pathways and effectively implementing adaptation targets, ensuring that HKH nations can meet their climate commitments and build resilience.

4. Strengthening Policy Engagement, Coherence, and Climate Finance Mobilization

The policy landscape is complex yet critical for HKH countries. Governments must prioritize investments in both policy formulation and implementation, focusing on enhancing coordination and building capacities for effective adaptation, mitigation, and sectoral alignment. These efforts are vital to foster stronger collaboration with multilateral development banks (MDBs), development finance institutions (DFIs), and development partners, ensuring timely and efficient support for climate initiatives.

ICIMOD can play a pivotal role by engaging RMCS, MDBs, DFIs, development partners, and government agencies to develop coherent policies and strengthen capacities. This will create an enabling environment for implementing robust financing mechanisms, driving sustainable development and climate resilience across the region. Additionally, strengthening public-private partnerships will help attract and sustain climate investments, while fostering long-term resilience and growth in the region.

5. Leveraging Data Science to Enhance Climate Finance Policy in the HKH Region:

Improving climate finance data is critical for evidence-based policymaking in the HKH region. ICIMOD can play a pivotal role by developing a centralized climate finance database for HKH, serving as a comprehensive resource for informed decision-making and risk reduction, particularly in climate risk assessments and scenarios development. This database would enable the design of innovative green financial instruments, support pipeline development, and facilitate long-term budgeting and resource allocation for adaptation, mitigation, and sectoral development.

Provide enabling environment: ICIMOD can play a key role in engaging RMCS, MDBs, DFIs, development partners, and government agencies to develop coherent policies and related capacities. There is a critical and urgent need to help RMCs set standards, methodological frameworks and transparency assurances in which ICIMOD can play an effective role.

6. Catalyse climate finance and investments

Accessing global climate funds such as the Green Climate Fund (GCF), Global Environment Facility (GEF), and Adaptation Fund requires strong project proposals that demonstrate clear impacts, scalability, and alignment with fund priorities. Building capacity to design and submit high-quality proposals is essential. Public-Private Partnerships: Engaging the private sector through blended finance models can unlock additional resources for climate-resilient infrastructure, renewable energy, and sustainable livelihoods (emission reduction from agriculture (including livestock), ecosystem degradation (wetlands and permafrost), transport and SLCFs) in mountain regions. ICIMOD's global advocacy, partnerships with MDBs, DFIs, governments, and the private sector, along with policy engagement and the establishment of an HKH Climate Finance Network, are critical initiatives. However, its direct support in mobilizing climate finance will be essential for significantly scaling up funding flows and driving impactful climate action in the region. Community-Led Initiatives: Involving local communities in climate finance planning and implementation of projects can enhances project effectiveness and accessibility for those who need assistance most.

ANNEXES

Climate Finance Country Profiles

Afghanistan

Climate Finance Country Profile

Climate risks

- Water Shortages
- Desertification
- Reduced Snowfall
- Food/Livelihood Insecurity
- Droughts

ND-GAIN Index

Vulnerability score	Readiness score
0.59	0.21

- 41 M Pop.
- 2.5% Growth Rate
- 75% Mountains
- 162nd Rank Gender Inequality

Where is Afghanistan on climate finance?

Total Climate Finance

$22.86 B
Total climate finance needs (2020-2050)

$24.3
Per capital climate finance annual need

- Equals 6% of per capita GDP
- Exceeds UNEP's LMIC benchmark of 3.09%

Actual Flow (2018-2021)

$18.8 B	Total commitments for overall development finance
$17.8 B	Total disbursement
$108 M	Disbursed climate finance share

Sources of climate finance

ADB (50%), IDA (36%), EU institutions (excl. EIB) (4%)

Instruments

Loans (6.5%), Grants (93.4%)

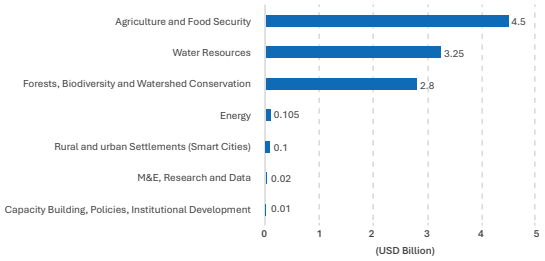
Adaptation

$18.88 B
Total adaptation finance needs (2021-2050)

Top 3 priority sectors

41.7%	Agriculture and Food Security
30.1%	Water Resources
26%	Forests, Biodiversity, and Watershed Conservation

Figure 1. Adaptation priorities by sector, 2020-2030



$39.1 M committed
Actual adaptation flows (2018-2021)
Equivalent to 50.5% climate finance

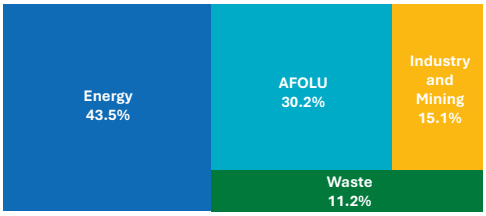
Mitigation

$3.98 B
Total mitigation needs (2021-2030)

Sectoral priorities

43.5%	Energy
30.21%	AFOLU
15.11%	Industry and Mining
11.18%	Waste

Figure 2. Mitigation priorities by sector, 2020-2030



$38.1 M committed
Actual mitigation flows (2018-2021)
Equivalent to 49.1% climate finance

Recommendation

Expand integrated financing approaches: Blend climate finance and development projects to address urgent needs while building longer-term climate resilience through disaster risk reduction and cross-sectoral and infrastructure interventions.

Build incremental climate resilience: Foster climate engagement through NGOs, civil society, community aligned with national priorities. Promote nature-based solutions such as rainwater harvesting, drought-tolerant crops, and distributed solar energy to help build enhanced capacities of highly vulnerable yet least prepared communities to address climate challenges.

Support just climate finance: Ensure engagement of diverse communities to strengthen their livelihoods through targeted support in agriculture, water, and renewable energy systems.

Strengthen climate governance capacity: Enhance partnerships with the international communities to build national level technical and governance capacities to integrate climate finance into national planning, spending and management of climate resources.

Facilitate access to climate finance: Pursue and increase access to climate resources from global funds and innovative financing, including smaller adaptation or resilience grants focused on priority areas such as disaster risk reduction, climate-resilient agriculture, and water conservation.

Mobilize innovative climate finance: Explore innovative financing mechanisms, including blended finance, concessional funding, and global climate funds

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

Bangladesh
Climate Finance Country Profile

Climate risks
- Coastal Vulnerability (Cyclones, Sea-Level Rise, Salinity)
- Urban Floods
- Extreme Weather Events

ND-GAIN Index
Vulnerability score	Readiness score
0.55	0.21

- 174 M Pop.
- 1.1% Growth Rate
- 10% Mountains
- 5.0%
- 127th Rank Gender Inequality

Where is Bangladesh on climate finance?

Total Climate Finance

$146.81 B
Total climate finance needs (2020-2050)

$51.4
Per capital climate finance annual need
- Equals 2% of per capita GDP
- Exceeds UNEP's LMIC benchmark of 2.5%

Actual Flow (2018-2021)
- **$43.4 B** Total commitments for overall development finance
- **$30.7B** Total disbursement
- **$0.76 B** Disbursed climate finance share

Sources of climate finance
IDA (53.8%), ADB (21.3%), Germany (6.5%)

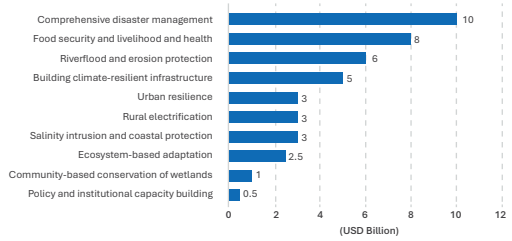
Instruments
Loans (92.3%), Grants (7.5%)

Adaptation

$86.04 B
Total adaptation finance needs (2021-2050)

Top 3 priority sectors
- **23.8%** Comprehensive disaster management
- **19%** Food and water security and livelihood
- **14.3%** River flood and erosion protection

Figure 1. Adaptation priorities by sector, 2015-2030



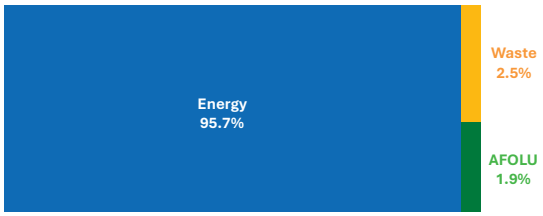
$39.1 M committed
Actual adaptation flows (2018-2021)
Equivalent to 50.5% climate finance

Mitigation

$60.77 B
Total mitigation needs (2021-2030)

Sectoral priorities
- **95.7%** Energy
- **2.5%** Waste
- **1.9%** AFOLU

Figure 2. Mitigation priorities by sector, 2020-2035



$38.1 M disbursed
Actual mitigation flows (2018-2021)
Equivalent to 49.1% climate finance

Recommendation

Consolidate and Deepen Climate Budget and Reporting: Leverage further development on budget tagging, reporting, and transparency, e-tagging, audit-trailed MRV platforms, and integrated dashboards. Strengthen central mechanisms to pool domestic and external funds, standardize reporting, and tag budget ceilings and green procurement.

Mobilize Innovative Finance: Strengthen Bangladesh Climate Finance Facility to mobilise public, private, and international capital. Scale blended finance instruments, challenge funds, and thematic bonds to crowd in private investment.

Expand Private Investment: Provide concessional credit and incentives for industries to adopt low-carbon technologies. De-risk private investments in renewable energy, resilient agriculture, and coastal adaptation through public guarantees and risk-sharing mechanisms.

Harmonize Climate Finance: Operationalize the National Adaptation Investment Framework as the central coordination platform. Integrate carbon finance strategy to enable offsets and emission-reduction credits for garments, steel, energy, and other high-impact sectors.

Strengthen Climate Resilience: Channel resources to coastal and flood-prone regions, including embankment reinforcement, climate-resilient housing, salinity-resistant crops, and mangrove restoration. Develop carbon-linked agri-finance and insurance pools to protect farmers, households, and MSMEs.

Expand and Diversify Climate Finance Sources: Strengthen disaster risk reduction and local adaptive capacity by broadening instruments such as forecast-based financing, microinsurance, and community resilience grants.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

Bhutan
Climate Finance Country Profile

Climate risks
- Biodiversity Loss
- Habitat Degradation
- Rising Temperatures
- Disease Risks
- Power Generation Impacts due to Water Level Changes

ND-GAIN Index

Vulnerability score	Readiness score
0.55	0.21

- 0.86 M Pop.
- 1.2% Growth Rate
- 99% Mountains
- 0.0%
- 80th Rank Gender Inequality

Where is Bhutan on climate finance?

Total Climate Finance

$20.49 B
Total climate finance needs (2020-2050)

$2126.5
Per capital climate finance annual need
- Equals 57% of per capita GDP
- Exceeds UNEP's LMIC benchmark of 2.5%

Actual Flow (2018-2021)

$724 M	Total commitments for overall development finance
$751 M	Total disbursement
$38.9 M	Disbursed climate finance share

Sources of climate finance
IDA (39%), ADB (26%), GEF (22%)

Instruments
Loans (61.1%), Grants (38.9%)

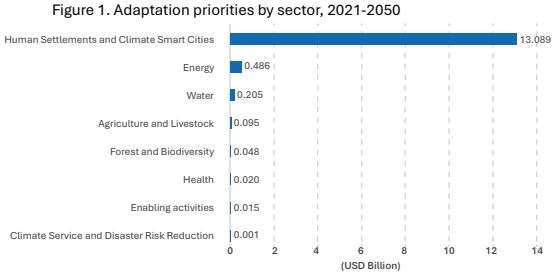
Adaptation

$14 B
Total adaptation finance needs (2021-2050)

Top 3 priority sectors

93.8%	Human Settlements and Climate Smart Cities
3.5%	Energy
1.5%	Water

Figure 1. Adaptation priorities by sector, 2021-2050



$39.1 M committed
Actual adaptation flows (2018-2021)
Equivalent to 50.5% climate finance

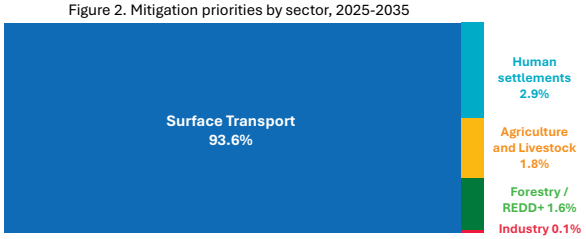
Mitigation

$6.5 B
Total mitigation needs (2021-2035)

Sectoral priorities

93.6%	Surface transport
2.9%	Human settlements
1.8%	Agriculture and livestock
1.6%	Forestry/ REDD+
0.1%	Industry

Figure 2. Mitigation priorities by sector, 2025-2035



$38.1 M disbursed
Actual mitigation flows (2018-2021)
Equivalent to 49.1% climate finance

Recommendation

Scale Nature-Based Financing: Leverage Bhutan's constitutional forest cover mandate and carbon-negative status to expand NbS financing. Enhance watershed protection, biodiversity conservation, and ecosystem-based adaptation to safeguard agriculture, hydropower, and water security.

Strengthen Private Sector Investment: Develop blended finance facilities, concessional credit lines, and risk-sharing instruments to support SMEs, green tourism, climate smart agriculture, and clean energy value chains.

Unlock Innovative Finance: Mobilize REDD+ results-based financing and build institutional readiness for Article 6 market participation, such as voluntary carbon credit projects tied to forest conservation and renewable energy.

Advance Green Taxonomy: Finalize and operationalize the green taxonomy to enable better classification of projects and further curtail greenwashing. Diversify financing through thematic instruments, including green, social, and sustainability bonds.

Promote Climate Responsive PFM Best practices: Integrate climate budget tagging into the Integrated Financial Management Information System (IFMIS). Manage tagging quality and results through audits and verifications. Link tagged programs to budget ceilings and green procurement preferences, and introduce performance-based transfers for subnational entities that meet resilience and mitigation KPIs. Digitize reporting to enhance transparency, accountability, and confidence while effectively tracking climate outcomes.

Strengthen Climate Resilience: Climate-proof large-scale infrastructure and investments. Scale up ecosystem-based adaptation in human settlements, agriculture, and disaster risk reduction through inclusive planning.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

China

Climate Finance Country Profile

Climate risks

- Typhoons
- Floods
- Droughts
- Impacts on Ecosystems like Forests, Grasslands, and Water Resources

ND-GAIN Index

Vulnerability score	Readiness score
0.35	0.59

- 1419 M Pop.
- -0.1% Growth Rate
- 33% Mountains
- 0.0%
- 47th Rank Gender Inequality

Where is China on climate finance?

Total Climate Finance

$8464.3 B
Total climate finance needs (2020-2050)

$424.5
Per capital climate finance annual need

- Equals 3% of per capita GDP
- Surpasses UNEP's UMIC benchmark of 1.43%

Actual Flow (2018-2021)

$35.3 B	Total commitments for overall development finance
$29.1 B	Total disbursement
$0.6 B	Disbursed climate finance share

Sources of climate finance
ADB (37.6%), IBRD (32.6%), EIB (11%)

Instruments
Loans (95.2%), Grants (2.1%)

Adaptation

$3627.57 B
Total adaptation needs (2021-2050)

Priority sectors*

- **Disaster risk prevention and flood control measures,** such as building sponge cities, dikes, and drainage systems
- **Water Security** (drought management, river basin protection)
- **Ecosystem & Land Use Management** (forests, wetlands, grasslands)

(*sectoral data unavailable for analysis)

$2.1 B committed
Actual adaptation flows (2018-2021)
Equivalent to 26.7% climate finance

Mitigation

$4836.76 B
Total mitigation needs (2021-2030)

Priority sectors*

- **Renewable Energy & Grid Modernization** (solar, wind, UHV grid)
- **Industrial Decarbonization** (steel, cement, chemicals, aluminum)
- **Buildings & Urban Energy Efficiency**

(*sectoral data unavailable for analysis)

$6.87 B committed
Actual mitigation flows (2018-2021)
Equivalent to 73.2% climate finance

Recommendation

Scale Innovative Finance: Scale up blended finance instruments, such as green equity, sustainability-linked bonds, and risk-sharing mechanisms. Strengthen carbon offset mechanisms, including crediting for carbon capture, utilization, and storage, agriculture, and industrial sectors.

Invest in Climate-Resilient Infrastructure: Prioritize investments in sponge cities, climate-resilient urban infrastructure, early warning systems, and methane abatement. Facilitate integrated mitigation-adaptation project pipelines, including smart manufacturing, digital solutions, and low-carbon transport.

Enhance Private Sector Engagement: Accelerate green credit and bond market development through concessional finance, risk-weighted incentives, and the Macroprudential Assessment framework. Incentivize financial institutions to expand green portfolios by linking regulatory provisions, such as allowing verified green assets to qualify as collateral.

Strengthen Climate Finance Ecosystem: Consolidate green finance instruments under a single coherent framework, such as the updated Green Finance-supported Project Catalogue (2025) that merges formerly separate lists for loans and bonds.

Advance MRV: Align monitoring, reporting, and verification (MRV) with international benchmarks like the Paris Agreement Enhanced Transparency Framework (ETF). Mandate climate disclosure for listed companies and enhance tracking and monitoring finance flows for ultimate allocation and impact

Leverage Demand-Side Opportunities: Expand financing for green consumption, such as clean technology exports, electric vehicles, and energy-efficient appliances. Promote green mortgages and consumer loans to incentivize low-carbon behaviour.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

India

Climate Finance Country Profile

Climate risks

- Heatwaves
- Floods
- Droughts
- Biodiversity Loss
- Climate Effects on Agriculture and the Himalayan Region

ND-GAIN Index

Vulnerability score	Readiness score
0.45	0.39

- 1451 M Pop.
- 0.8% Growth Rate
- 55% Mountains
- 12.9%
- 108th Rank Gender Inequality

Where is India on climate finance?

Total Climate Finance

$2685.86 B
Total climate finance needs (2020-2050)

$69.6
Per capital climate finance annual need

- Equals 3% of per capita GDP
- Exceeds UNEP's LMIC benchmark of 2.5%

Actual Flow (2018-2021)

$80.6 B	Total commitments for overall development finance
$59.8 B	Total disbursement
$6.5 B	Disbursed climate finance share

Sources of climate finance
IBRD (20.8%), ADB (20%), Germany (16.8%)

Instruments
Loans (91.5%), Grants (1.7%), Others (6.8%)

Adaptation

$2500 B
Total adaptation needs (2021-2050)

Priority sectors*

- Lifestyle for Environmental (LIFE)
- Agriculture and water resources
- Disaster management

(*sectoral data unavailable for analysis)

$6.34 B committed
Actual adaptation flows (2018-2021)
Equivalent to 26.1% climate finance

Mitigation

$185.86 B
Total mitigation needs (2021-2030)

Priority sectors*

- **Hard-to-abate industries** like steel and cement
- **Renewable energy** (solar, wind, storage)
- **Transport** (EVs, charging infra, public transit)

(*sectoral data unavailable for analysis)

$17.1 B committed
Actual mitigation flows (2018-2021)
Equivalent to 71.5% climate finance

Recommendation

Operationalize Climate Finance Taxonomy: Finalize and implement the draft taxonomy to harmonize definitions, ensure interoperability with national and international systems, and curb greenwashing.

Accelerate Innovative Finance: Launch Carbon Credit Trading Scheme with robust MRV, credible pricing, and phased sectoral rollout. Expand blended finance tools and platforms for MSME. Scale PPP models for renewable energy, resilient infrastructure, and adaptation projects.

Scale Transition Finance: Establish dedicated transition finance facilities for hard-to-abate sectors, such as steel, cement, and petrochemicals, supported by concessional credit, risk-sharing tools, and R&D incentives for decarbonization.

Enhance Climate Finance Best Practices and MRV Framework: Enhance the granularity of tagging and tracking outcomes and disclosures. Ensure consistent implementation and consideration of climate risks, flows, outcomes, and co-benefits in economic and fiscal planning and management disclosures.

Strengthen Private Investment: Expand issuance of Green, Social, and Sustainability bonds, backed by tax incentives, credit enhancements, and de-risking tools such as minimum return guarantees, and forecast-based financing.

Strengthen Sub-national Climate Finance Systems: Strengthen mainstreaming of climate risk and resilience criteria into all public infrastructure investments. Scale state-level climate budgeting and develop project preparation facilities to generate pipelines of bankable adaptation projects.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

Myanmar
Climate Finance Country Profile

Climate risks

Coastal Erosion, Disasters, Agricultural Impacts, and Vulnerability due to Extreme Events

ND-GAIN Index

Vulnerability score	Readiness score
0.51	0.30

51 M Pop.
2.0% Growth Rate
55% Mountains
2.0%
119th Rank Gender Inequality

Where is Myanmar on climate finance?

Total Climate Finance

$16.27 B
Total climate finance needs (2020-2050)

$27.1
Per capital climate finance annual need

- Equals 2% of per capita GDP
- Within UNEP's LMIC benchmark of 2.5%

Actual Flow (2018-2021)

$12.8 B	Total commitments for overall development finance
$9.6 B	Total disbursement
$0.22 B	Disbursed climate finance share

Sources of climate finance
IDA (47.6%), ADB (31.6%), Poland (5.9%)

Instruments
Loans (88.9%), Grants (10.1%)

Adaptation

$1.94 B
Total adaptation needs (2021-2050)

Priority sectors*

- **Forestry & Ecosystem Restoration** (mangroves, dry zone reforestation)
- **Water Resources** (flood control, irrigation, reservoirs)
- **Coastal Zone Protection** (cyclone shelters, mangrove belts)

(*sectoral data unavailable for analysis)

$38.7 M committed
Actual adaptation flows (2018-2021)
Equivalent to 39.4% climate finance

Mitigation

$14.33 B
Total mitigation needs (2021-2030)

Priority sectors*

- **Forestry** (REDD+, avoided deforestation, carbon sequestration)
- **Energy** (hydropower, solar, wind)
- **Agriculture**

(*sectoral data unavailable for analysis)

$58.6 M committed
Actual mitigation flows (2018-2021)
Equivalent to 59.6% climate finance

Recommendation

Budget Tagging and Development of Robust MRV Systems: Develop climate budget codes and allocate sectoral funds for climate adaptation and mitigation. Pilot climate budget tagging and establish results-based MRV framework to track climate finance flows, efficiency, and outcomes.

Strengthen Climate Governance: Implement the National Environmental Policy and Myanmar Climate Change Policy through a multi-stakeholder mechanism that aligns national, subnational, and sectoral strategies.

Enhance Access to Climate Finance Resources: Build on readiness to access national, international, and blended climate finance instruments to mobilize investments. Enable the accreditation of national entities to manage smaller adaptation grants.

Unlock Private Sector Investment: Diversify financial instruments, including grants, guarantees, climate-smart insurance, loans, equity, and debt-based mechanisms. Develop climate finance frameworks to crowd in private investment.

Scale Nature-Based Solutions: Expand and promote integrated farming, agrobiodiversity corridors, eco-village models, and coastal mangrove reforestation. Empower schools, eco-clubs, and local communities for adaptation actions addressing urban heat, flooding, and biodiversity protection.

Promote Regional Cooperation: Align with the ASEAN Green Taxonomy and regional climate platforms. Enable cross-border coordination in early warning and disaster preparedness to strengthen regional resilience.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

Nepal
Climate Finance Country Profile

Climate risks

- Glacier Retreat
- Biodiversity Loss
- Floods
- Droughts
- Landslides
- Glacial Lake Outburst Floods

ND-GAIN Index

Vulnerability score	Readiness score
0.49	0.39

- 31 M Pop.
- 1.3% Growth Rate
- 77% Mountains
- 0.4%
- 126th Rank Gender Inequality

Where is Nepal on climate finance?

Total Climate Finance

$73.74 B
Total climate finance needs (2020-2050)

$296.5
Per capital climate finance annual need

- Equals 22% of per capita GDP
- Exceeds UNEP's LMIC benchmark of 2.5%

Actual Flow (2018-2021)

- **$8.24 B** Total commitments for overall development finance
- **$7.26 B** Total disbursement
- **$0.14 B** Disbursed climate finance share

Sources of climate finance

~90% from MDBs: World Bank/IDA (55%), ADB (22%), AIIB (11%)

Instruments

Loans (88.3%), Grants (9.6%)

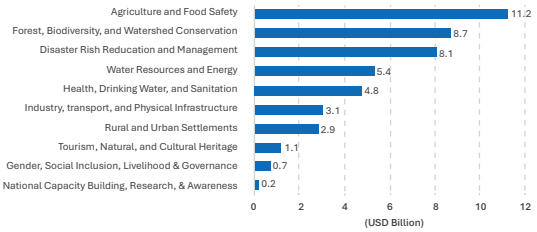
Adaptation

$47.4 B
Total adaptation needs (2021-2050)

Top 3 priority sectors

- **24.4%** Agriculture & food security
- **18.9%** Forestry, biodiversity & watershed conservation
- **17.5%** Disaster risk reduction & management

Figure 1. Adaptation priorities by sector, 2015-2050



$0.79 B committed
Actual adaptation flows (2018-2021)
Equivalent to 47% climate finance

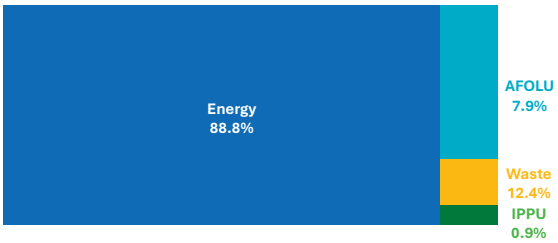
Mitigation

$73.7 B
Total mitigation needs (2021-2035)

Sectoral priorities

- **88.8%** Energy
- **7.9%** AFOLU (Agriculture, Forestry, and Other Land Use)
- **2.4%** Waste
- **0.9%** IPPU (Industrial Processes & Product Use)

Figure 2. Mitigation priorities by sector, 2020-2035



$0.88 B committed
Actual mitigation flows (2018-2021)
Equivalent to 53% climate finance

Recommendation

- **Scale multilateral finance:** Strengthen robust project pipelines, align climate priorities with the GRID framework, and prepare for potential reductions in concessional funding following LDC graduation.
- **Promote innovative finance mechanisms:** Leverage voluntary and compliance carbon markets, blended finance, diaspora and impact bonds to unlock untapped capital. Deploy public funds to de-risk private investment and scale public-private partnerships. Leverage advantage of natural resources through payment of ecosystem, biodiversity, and Nbs financing,
- **Catalyze private investment:** Implement the Green Finance Taxonomy and ESRM guidelines. Establish blended finance facility through instruments, such as guarantees, concessional credit, interest subsidies, and development of bankable private sector project for hydropower, e-mobility, resilient agriculture, and SMEs.
- **Enhance MRV and tracking system:** Integrate climate-risk screening, robust MRV systems, and digital climate budget tagging to track expenditures against outcomes to enhance effectiveness of climate finance resource planning and management across the administrative levels.
- **Promote diversification of climate finance sources:** Diversify resources including grant-based, long-term adaptation finance that is locally governed. Equip local governments to absorb climate funds effectively through planning grants, predictable transfers, and capacity-building.
- **Promote collaborations and best practice sharing:** Collaborate with regional and global players to address loss and damage issues and promote South-South collaboration on partnerships, exchange of best practices of climate finance, and investments in priority areas such as clean energy, water security, and climate-resilient infrastructure.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

Pakistan

Climate Finance Country Profile

Climate risks

- Rising Temperatures
- Food/Water Insecurity
- Biodiversity Loss
- Extreme Weather and Uneven Monsoon Rains (floods, heatwaves, Glacier melting, GLOFS)

ND-GAIN Index

Vulnerability score	Readiness score
0.50	0.34

- 251 M Pop.
- 2.0% Growth Rate
- 60% Mountains
- 4.9%
- 164th Rank Gender Inequality

Where is Pakistan on climate finance?

Total Climate Finance

$588 B
Total climate finance needs (2020-2050)

$166.1
Per capital climate finance annual need

- Equals 12% of per capita GDP
- Exceeds UNEP's LMIC benchmark of 2.5%

Actual Flow (2018-2021)

$29.2 B	Total commitments for overall development finance
$22.1 B	Total disbursement
$50 M	Disbursed climate finance share

Sources of climate finance
IDA (34.7%), IBRD (30.4%), ADB (14.6%)

Instruments
Loans (95.5%), Grants (4.11%)

Adaptation

$280.3 B
Total adaptation needs (2021-2050)

Priority sectors*

- Disaster risk reduction & management
- Environmental conservation and biodiversity protection
- Sustainable infrastructure and services

(*sectoral data unavailable for analysis)

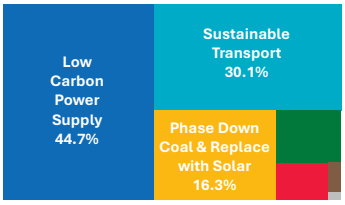
$1.84 B committed
Actual adaptation flows (2018-2021)
Equivalent to 29.1% climate finance

Mitigation

$307.8 B
Total mitigation needs (2021-2035)

Priority sectors*

44.7%	Low Carbon Power Supply
30.1%	Sustainable Transport
16.3%	Phase Down Coal & Replace with Solar



$4.43 B committed
Actual mitigation flows (2018-2021)
Equivalent to 70.1% climate finance

Recommendation

Strengthen Capacity for Implementation of Climate Finance Framework: Strengthen governance and institutional capacity to finalise and implement National Climate Finance Strategy, newly launched Green Taxonomy and unified public climate fiscal management. Build technical capacity and coordination mechanism among regulators, banks, sectors and corporates to integrate taxonomy criteria and guidelines into spending, lending, reporting, and portfolio allocation.

Develop Innovative Finance: Establish national carbon registry and scale voluntary and compliance carbon markets. Operationalize green sukuk, diaspora bonds, impact bonds, and blended-finance to mobilize capital for nature-based solutions, coastal resilience, and urban climate initiatives.

Catalyze Private Investment: Deploy de-risking instruments, such as credit guarantees, partial risk-sharing facilities, concessional refinancing lines, and outcome-linked guarantees. Guarantee loans for green projects for MSMEs and technical assistance grants to bridge return-on-investment and tenor gaps. Expand sustainability-linked loans, climate insurance, and catastrophe bonds.

Implement Climate Budget Tagging and Strengthen MVR: Promote tagging climate-related expenditures and climate budgeting across federal and provincial planning. Build Monitoring, Reporting, and Verification system to track financial inputs, outcomes, and impacts of climate investments. Transition from voluntary to phased mandatory disclosure for corporates.

Expand Equitable Finance: Ensure inclusive safeguards and direct adaptation finance by creating direct-access windows for vulnerable groups and local governments. Strengthen local adaptive capacity in climate-smart agriculture, early warning systems, and nature-based solutions.

Strengthen Regional and Global Cooperation: Advocate for the Loss and Damage Fund, debt-for-nature swaps, and other regional and global financing opportunities to support climate adaptation and resilience. Expand disaster-risk financing toolkit with innovative instruments, including parametric insurance, contingent credit lines, and emergency funds. Promote cross-border collaboration on hydrology, early-warning systems, and regional connectivity.

Sources: Aid Atlas, NAPs, NDCs, UNFCCC and World Bank

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