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REGIONAL

Review of climate action and environmental policies of the Hindu Kush Himalayan region

SUMMARY FOR POLICYMAKERS

MAIN FINDING

Inadequate investment and weak institutional and technical capacity hinder effective implementation of climate action and environmental policies across the Hindu Kush Himalayan (HKH) countries.

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Abbreviations and acronyms

AQM	Air Quality Monitoring
COP	Conference of Parties
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GESI	Gender Equality and Social Inclusion
HKH	Hindu Kush Himalaya
HI-WISE	Water, Ice, Society, and Ecosystems in the HKH
ICIMOD	International Centre for Integrated Mountain Development
INR	Indian Rupees
LDC	Least Developed Country
MDCPAP	Male Declaration on Control and Prevention of Air Pollution
MEAs	Multilateral Environmental Agreements
MHEWS	Multi Hazard Early Warning Systems
MOIF	Mountain of Opportunity Investment Framework
MTAP V	Fifth ICIMOD MTAP, covering the period 2023–2030
MTAP	Medium-Term Action Plan
$MtCO_2e$	Metric tons of carbon dioxide equivalent
NAP	National Adaptation Plan
NBSAP	National Biodiversity Strategy Action Plan
NDC	Nationally Determined Contribution
OECM	Other Effective Area-based Conservation Measure
RMC	Regional Member Country of ICIMOD
SFDRR	Sendai Framework for Disaster Risk Reduction
SLCFs	Short-lived climate forcers
UNCBD	United Nations Convention on Biological Diversity
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank

1. Background

The HKH is a major source of food, energy, water, and a hub of cultural and biological diversity. However, the region is also highly vulnerable to climate and environment risks. We are witnessing rapid climate change, biodiversity loss, increased pollution, and disaster risks. It is time to take urgent actions to minimise impending risks at the local and transboundary levels.

The Hindu Kush Himalaya (HKH) extends over 3500 kilometres (km) across eight countries, encompassing all of Bhutan and Nepal, and parts of Afghanistan, Bangladesh, China, India, Myanmar, and Pakistan. A major source of food, energy and water, and a vital carbon sink, the region is also remarkably rich in cultural and biological diversity. The HKH provides ecosystem services to two billion people living in the mountains and downstream along the HKH river systems (ICIMOD, 2023a). It is known as the 'Third Pole' as it has the highest concentration of snow and glaciers outside the polar region.

The HKH is hit hard by the triple planetary crisis of climate change, biodiversity loss, and pollution. The region has been experiencing extreme weather events at an increasing rate. Recent events include the glacial lake outburst in India (Sikkim), Bhutan, and Pakistan (Hunza) in 2023, floods resulting from unpredictably heavy rainfall in Pakistan (2022), and the flooding in Melamchi drinking water project in Nepal (2021). Such climate and environmental disasters have destroyed ecosystems and caused immense loss of life and property.

Biodiversity loss is escalating in the region, with 70%–80% of original habitats already lost since 1500 [Wester et al. (eds), 2019]. Several studies indicate that the HKH has become the most polluted region in the world (World Bank, 2023). Glaciers receded 65% faster between 2011 and 2020 compared to the previous decades and could lose up to 80% of their remaining volumes by 2100 (ICIMOD, 2023)..

1.1 SCOPE AND OBJECTIVES

The International Centre for Integrated Mountain Development (ICIMOD) is an intergovernmental knowledge and learning centre in the HKH region, committed to fostering environmental awareness, advancing socio-ecological inclusivity, and strengthening climate resilience across the region in the eight aforesaid countries, which are ICIMOD's Regional Member Countries (RMCs).

In this connection, ICIMOD's goal-setting publications like the 'Hindu Kush Himalaya Assessment: Mountains, Climate Change, Sustainability and People' [Wester et al. (eds), 2019], the HKH Call to Action (2020), ICIMOD Strategy 2030: Moving Mountains, and ICIMOD's Medium-Term Action Plan (MTAP-V, 2023–2026), reinforce the critical need to link national, regional, and global policy processes to enable policy responses with practical solutions. Environmental and climate policies have wide impacts that go beyond national boundaries and affect the broader region and the world.

From this perspective, ICIMOD conducted a review of climate and environmental policies of its RMCs to track the implementation status of Multilateral Environmental Agreements (MEAs) in the region. The specific objectives of the study were to:

i) Review policy instruments and processes of RMCs in relation to MEAs

ii) Analyse the achievements, gaps, challenges and future priorities in policy implementation toward MEAs

iii) Enhance ICIMOD's role in RMCs' policy making and response toward MEAs for the HKH region.

2. Approach

Climate and environmental policy experts from five RMCs – Bangladesh, Bhutan, India, Nepal, and Pakistan – reviewed the existing national climate and environmental policies and regulatory frameworks of the respective countries. Consultations with key authorities in the field of biodiversity, climate change, disaster risk reduction and environment were also conducted. The experts submitted their findings in the respective national reports. Findings from these reports were validated at a Regional Consultative Workshop on Climate Change Policy and Investment in the HKH convened by ICIMOD in 2023.

Simultaneously, a desk review was carried out at ICIMOD to gather global and regional level supplementary data and information. The MEAs reviewed included United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention on Biological Diversity (UNCBD), Sendai Framework for Disaster Risk Reduction (SFDRR), and air pollution-related declarations and agreements.

Drawing upon both the exercises, this summary report provides insights into the implementation status of the relevant MEAs in respective countries, analyses the gaps, and provides recommendations for bridging gaps and optimising implementation of MEAs in the HKH region.

2.1 POLICY ANALYSIS FRAMEWORK

This report uses a comprehensive policy framework for assessing the extent to which MEAs are consistent with national policies and legal instruments. The framework is derived from a thorough scanning of country-specific constitutional provisions[1] in respect of the implementation of climate change, biodiversity and environment policies in each of the five aforesaid countries (Table 1).

[1]A constitution is an aggregate of the basic principles and laws of a nation, state, or social group that determine the powers and duties of the government and guarantee certain rights to the people in it (https://www.merriam-webster.com/dictionary/constitution). For example, Article 30 (1) of the Constitution of Nepal guarantees a 'clean environment' as a fundamental right of every citizen, while Article 30 (2) encourages the state to formulate necessary legal frameworks to balance environment and development (https://www.icimod.org/event/environment-convention-2075-environment-for-sustainable-development/)

TABLE 1

CLIMATE CHANGE AND ENVIRONMENTAL POLICY ANALYSIS FRAMEWORK (IPCC, 2022 AND RMCs NATIONAL CLIMATE AND ENVIRONMENT POLICIES REPORT 2023).

REVIEW AND ANALYSIS OF CLIMATE CHANGE AND ENVIRONMENTAL POLICIES	Status of climate change and environmental provisions in national constitutions
	Availability of national climate change and environmental policies
	Policy formulation processes and stakeholder engagement
	Exploration of regulatory frameworks related to climate change, biodiversity conservation, disaster risk reduction, and environmental protection
	Analysis of available Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), National Biodiversity Strategy and Action Plan (NBSAP), disaster risk reduction (DRR) plans, and pollution prevention strategies
	Mainstreaming of policies and plans in periodic and fiscal policies and programmes
	Financing framework to implement climate change, biodiversity and environmental policies
	Institutional framework for the implementation of the policies
	Analysis of progress, achievements and outcomes of policy implementation, and lessons learnt
	Gap analysis (investment, capacity, data, technology, and governance)
	Identify ways to address the gaps and future priorities

3. Major findings

Key finding

All five RMCs studied – Bangladesh, Bhutan, India, Nepal, and Pakistan – have established necessary national policies and institutional frameworks and integrated them with national development plans and programmes to achieve environmental, disaster, climate change and biodiversity related agendas. No significant gaps were identified in national climate and environmental policies.

3.1 MEAs RATIFIED IN ALL FIVE RMCS

To become party to MEAs and agreements, member countries must sign and ratify the related conventions. All RMCs have ratified UNFCCC, UNCBD, SFDRR, and the subsequent agreements and taken the responsibility to implement MEAs by formulating national policies appropriate for the specific conditions of each country.

3.2 UNEVEN TEMPO OF NATIONAL POLICY DEVELOPMENT ACROSS RMCs

National Climate Change Policy, Disaster Management Act, National Biodiversity Strategy and Action Plan (NBSAP), and policies and acts for air pollution prevention have been developed by all RMCs. To implement the Paris Agreement, NDCs have been updated by all RMCs with their climate goals. Bangladesh, Bhutan, India, and Nepal have their NAPs in place, while it is under way in Pakistan.

3.3 POLICY ADOPTION IN NATIONAL PLANS IS UBIQUITOUS

In all five countries, these policies have been integrated into the national development plans and programmes to achieve environmental security, disaster management, climate action and biodiversity conservation-related agendas.

3.4 LIMITED FUNDING FOR POLICY IMPLEMENTATION FROM DOMESTIC SOURCES

While all five countries have been making dedicated efforts to implement the policies using available financial resources and institutional capacity, internal funding toward implementing these policies, particularly the NDCs and NAPs, is limited, with a higher dependency on external / international sources for financial and technical support (for a detailed discussion see Section 4.1 of this report). This is in parity with the global scenario, given that over 80% of the NDCs, globally, are attached to international financial and technical support (UNEP, 2023). India, however, has largely used domestic sources to finance its climate actions.

3.5 PLUMMETING AIR QUALITY IN THE INDO-GANGETIC PLAIN AND HIMALAYAN FOOTHILLS

The Indo-Gangetic Plain and Himalayan Foothills (IGP-HF) – comprising Bangladesh, India, Nepal, and Pakistan – has one of the most polluted airsheds in the world. Major regional sources of air pollutants include cooking and heating, transport, power generation, industry, burning of domestic, municipal, and agricultural waste, land clearance, and intensive forest fires.

3.6 LOCALISED AIR POLLUTION PREVENTION APPROACHES ARE INEFFECTIVE REGIONALLY

Air pollution travels long distances across municipal, provincial, and national boundaries. A recent study by the World Bank (2023) revealed that 30%–50% of air pollution in the South Asia region is transboundary. Hence, approaches confined to a specific city – or even country – are not sufficient to prevent air pollution. National- and regional- level approaches including pollution prevention policies, standards and plans, and collaborative national and regional mechanisms are necessary for overcoming air pollution in the region.

3.7 FOREST COVER AND PROTECTED AREA SYSTEMS ON THE RISE

The 2023 State of Forest Report by the Forest Survey of India highlights that India's forest cover stands at 21.76% of its total geographical area, with a net increase of 156.41 sq. km since 2021. In terms of biodiversity conservation, 5.28% of India's area is designated as Protected Areas (PA).

In Nepal, deforestation has been reversed between 1990 and 2015. According to the Forest Resource Assessment (GoN, 2016), forests and other wooded lands (OWL) together cover 44.74% of the country's total land area. Protected areas account for about 24% of the national land area, and 17.32% of the forest area lies within these protected zones.

In Bangladesh, the total forest area spans 2.6 million hectares, or 17.4% of the total land area (GoB, 2021a).

As of 2020, 13% of Pakistan's land was under protection. The government's Protected Areas Initiative aims to increase this to at least 15% by 2030, with plans to establish new national parks, promote eco-tourism, and create green jobs (UNEP, 2021).

3.8 BIODIVERSITY CONSERVATION INTEGRATED INTO GOVERNMENT PLANS

The HKH region faces a major threat of biodiversity loss due to the effects of climate change and unsustainable development. NBSAPs have been integrated into all sectors of the government in the aforesaid RMCs.

The governments of Bhutan, India, and Nepal have allocated about 50%–64% of funds for the implementation of their NBSAPs. Besides, RMCs have also mobilised technical assistance, as well as bilateral and multilateral funds to fill the funding gap.

Bhutan for Life[2], for instance, established by the Royal Charter granted by His Majesty the King of Bhutan in 2018, is an innovative financing mechanism, anticipated to mobilise USD 41.3 million as a transition fund for investment in protected areas. The model includes domestic financing of USD 68 million and another USD 7 million from the Bhutan Trust Fund for Environmental Conservation.

3.9 CLIMATE-INDUCED LOSS AND DAMAGE ON THE RISE IN NATIONAL INCOME ACCOUNTING

A review of national climate and environmental policy reports from the five RMCs revealed that an average of 2% of national gross domestic product (GDP) was lost annually during 2019–2021 due to climate-induced disasters. If current trends continue, and with the increasing frequency and severity of such events, the region could face an average GDP loss of up to 5% by 2030 (UNFCCC, 2023).

Projected losses in GDP per capita due to climate change in these RMCs are significantly higher than the global average of about 7%. Specifically, Bhutan is projected to face a potential loss of 18%, Nepal 13%, India 10%, and Pakistan 10% by the year 2100. Pakistan has already suffered considerable economic damage due to the unprecedented floods in August 2022, resulting in an estimated loss of USD 30 billion – equivalent to 8% of its total GDP (UN, 2023).

3.10 RISING DEMAND FOR MULTI-HAZARD EARLY WARNING SYSTEMS

About 52% of the world is covered by Multi Hazard Early Warning Systems (MHEWS) (UNEP, 2023). However, their coverage in the HKH region is poor, and the progress across the four MHEWS pillars – disaster risk knowledge, observation and forecasting, dissemination and communication, and preparedness to respond – is uneven. Adequate and robust MHEWS are essential for saving lives and property. National governments, municipalities, and communities of the studied RMCs are therefore demanding that end-to-end MHEWS in the region be strengthened and expanded.

[2]See https://bfl.org.bt/ for details.

4. Gap analysis

Common gaps identified

Despite clear signs of increasing climate and environmental risks and their impacts in the HKH region, implementation of climate and environmental policies remains weak or poor due to inadequate investment, insufficient institutional and technical capacity, and shortage of reliable data.

Key Investment Gap

National governments of the five RMCs have allocated 50%–64% of the national budget for biodiversity conservation, while projecting about 86%–90% investment for the implementation of the NDCs and NAPs from external funding sources. With significant gaps between funding commitments and actual payments from external sources, often contingent to funders' priorities, effective implementation of these policies is hindered.

Although substantial progress has been made in these five RMCs in developing national policies, legal instruments and plans for facilitating the implementation of MEAs, actual implementation – of both national policies and plans and the MEAs, in tandem – is impaired by several gaps and challenges. We have identified substantial gaps in three major areas, namely, investment, institutional capability, and availability of credible data/information, affecting successful implementation.

4.1 INADEQUATE INVESTMENT

Among the RMCs studied, Bangladesh, Nepal and Pakistan have outlined both conditional and unconditional climate goals and actions. Unconditional actions are those that countries could implement using their own resources and capabilities, whereas conditional actions are subject to international financing or what other countries can commit. A major challenge in the region is inadequate funds for implementing MEAs .

The total investment requirement for climate action for 2021–2030 in the five RMCs is estimated at USD 1654.65 billion, of which 72% is proposed for mitigation and 28% for adaptation purposes. Table 2 provides further details on the country-specific investment requirements for climate action, with India constituting 68% of the total requirement from all five countries. However, in four of the five RMCs, available estimates of the share of internal funding for implementing NDC

and NAP is minimal, ranging from 8%–14%, vis-a-vis external funding ranging between 88%–92%, even higher than the global average of 80%.

A snapshot of country-specific investment situation across all five RMCs is provided in Table 3, below.

TABLE 2

TOTAL INVESTMENT REQUIREMENT AND FUNDING SOURCES FOR CLIMATE ACTION FOR 2021–2030 IN THE FIVE RMCS.

	Total investment requirement for climate mitigation and adaptation for 2021–2030 (USD billion)			Estimated share of internal vs. external funding sources in total investment (%)	
Countries	Mitigation	Adaptation	Total	Internal source	External source
Bangladesh	130	70	200	12	88
Bhutan	7.56	13.09	20.65	10	90
India	834	206	1040	-	-
Nepal	25	21	46	8	92
Pakistan	196	152	348	14	86
Total	1192.56	462.09	1654.65		
Global				20	80

The gap between investment need for climate action and actual fund flow widened during 2017–2021. As a result, the average funding gap reached up to 80% in Bangladesh, Bhutan, Nepal, and Pakistan during this period.

BANGLADESH

High dependence on external funding, is a critical funding gap for the implementation of activities stipulated in NDC, NAP, and DRM

Bangladesh's updated NDC includes the main mitigation measures under both conditional and unconditional scenarios along with the estimated investment requirements under the respective scenario for 2021–2030. The 27-year (2023–2050) NAP of Bangladesh identifies high-priority and

moderate-priority interventions with a total investment cost equivalent to USD 230 billion. According to estimates, cyclone and flood damage will cost Bangladesh an average of USD 3.2 billion annually, or 2.2% of its GDP.

However, the Government of Bangladesh spent only USD 1.2 billion annually for climate action in 2022 vis-à-vis an annual requirement of USD 8.5 billion till 2025. Further, natural disasters caused economic losses worth more than USD 10 billion in Bangladesh between 2000 and 2013; however, only USD 2 billion or 20% of the estimated loss was available from internal funding for disaster response.

BHUTAN

High dependence on external funding, is a critical funding gap for the implementation of the NDC, NAP, and SFDRR.

It is estimated that Bhutan needs USD 7.56 billion to implement the second NDC (2021) and achieve the mitigation targets by 2030. Sustainable hydropower is the highest priority and highest cost sector (54%) for climate change mitigation. The estimated budget for implementing the NAP is USD 13.09 billion, with the highest priority and highest cost sector being human settlement and climate smart cities, requiring 99% of the total cost of NAP till 2030. There is already a 46% gap between funding commitment from external sources and the actual amount disbursed in Bhutan during 2017–2021.

INDIA

Climate actions largely financed by domestic sources, but funding gaps exist.

According to initial official estimates, India needs about USD 206 billion to implement adaptation actions (in agriculture, forestry, fisheries, infrastructure, water resources, and ecosystems) between 2015 and 2030 (at 2014–15 prices). The National Institution for Transforming India has estimated mitigation costs at USD 834 billion (at 2011–12 prices) for the period up to 2030.

India's climate actions so far have been largely financed from domestic sources. Preliminary estimates suggest that overall USD 1040 billion (at 2014–15 prices) will be required for scaling up climate actions between 2023 and 2030.

India has been investing a large amount of financial resources in biodiversity conservation. Against the estimated annual requirement of INR 1.09 trillion for biodiversity conservation, INR 0.7 trillion has come from domestic sources, indicating a 36% financial gap for the implementation of biodiversity related policies, strategies, and plans.

NEPAL

Investments for climate action dominated by external funding; a substantial investment gap exists.

Nepal requires USD 25 billion for mitigation and USD 21 billion for adaptation between 2021 and 2030. However, the NAP and the 'Long-Term Strategy for Net-zero Emissions' reports estimate that USD 47.4 billion will be needed for adaptation and USD 196.1 billion for mitigation between 2021 and 2050. These are conditional on external funding for climate action. Only 9% of external funds committed by multilateral and bilateral development partners has been received during 2017–2021.

Nepal had projected an agricultural and food security need of USD 11.2 billion during 2020–2023 but received USD 20.87 million or just 1.7% of the

projected need. An estimated USD 673 million was required for the successful implementation of the NBSAP during the 2014–2020 period. However, the funding gap hindered the implementation of plans for protected area management, forestry, agriculture, and livestock sectors.

Nepal assessed a requirement of USD 8.05 billion for disaster risk management (DRM) during 2017–2021 and secured an external commitment of USD 250.67 million. However, the actual amount received was USD 12.98 million.

PAKISTAN

Climate action is contingent on external funding; substantial investment gaps exist.

The total projected investment needs for a comprehensive response to Pakistan's climate and development challenges between 2023 and 2030 amount to approximately USD 348 billion, or 10.7% of the cumulative GDP for the same period (Pakistan, 2023). Of this total, adaptation and resilience needs amount to USD 152 billion.

Pakistan has revised its NDC targets for the 2021–2030 period, with the goal of achieving 50% reduction (15% conditional +35% unconditional) in projected emissions by 2030. Transition to clean energy by 2030, under the NDC, is projected to cost USD 101 billion, and a projected USD 800 million will be required to sequester emissions of around 148.76 Metric tons of carbon dioxide equivalent ($MtCO_2e$) under the Ten Billion Tree Tsunami Programme (TBTTP) during 2021–2025. Overall, a huge amount of funding is required for the implementation of the updated the NDC, NAP, NBSAP, and DRM measures in Pakistan.

Pakistan's adaptation actions include increasing PA coverage from 13% in 2020 to 15% of the total land area by 2030, which is estimated to require USD 139 million, and an estimated investment of USD 150 million is needed for establishing climate-resilient infrastructure under the Recharge Pakistan Programme during 2024–2030 for building climate resilience through ecosystem-based adaptation for integrated flood risk management.

TABLE 3

COUNTRY-WISE INVESTMENT SCENARIO IN ALL FIVE RMCs

Bangladesh		Bhutan		India		Nepal		Pakistan	
Budget required to implement NDC targets 2021–2030	USD 33,625.64M under unconditional scenario	Funding required to implement mitigation (NDC) targets, 2021–2030	USD 7.56B – sustainable hydropower is the highest priority cost sector (54%)	Preliminary estimated budget for meeting adaptation targets – 2015–2030 at 2014–15 prices	USD 206B	NDC budget requirement, 2021–2030	USD 25B Internal sources: USD 3.4B (13.6%). External sources: USD 21.6B	NDC targets 2021-2030	50% reduction in emissions by 2030 (USD 101B for clean energy transition)
	USD 130,952.98M under conditional scenario	Estimated budget for implementing NAP	USD 13.09B	Estimated mitigation costs till 2030 at 2011 prices	USD 834B	NAP budget estimate, 2021–2050	USD 47.4B Government sources: USD 1.5B (3%) External sources: USD 45.9B (97%).	Ten Billion Tree Tsunami Programme (TBTTP)	Sequester around 148.76 MtCO2e emissions (USD 800M)
Estimated investment required to implement NAP, 2023–2050	USD 230 Billion	Highest priority and highest cost sector in NAP	Human settlement & climate smart cities (99%)	Adaptation cost for India in energy sector alone in 2030s	USD 7.7B	Agricultural and food security fund requirement	USD 11.2 B Received USD 20.87M (1.7%)	Building climate resilience	Through EBA and building climate resilient infrastructure (USD 150M)
Government funding	USD 1.2 B per year for climate change in 2022	Funding commitment from external sources (2017–2021)	USD 91.1M – 46.2% for mitigation and 53.4% for adaptation	Total investment required for climate change action up to 2030	USD 1040B	DRM fund requirement	USD 8.05B USD 12.98M received	Increasing PA coverage	From 12% to 15% of the total land area by 2023 (USD 139M)
Funding requirement in climate change management	USD 8.5 B per year until 2050	Disbursed amount during 2017–2021	USD 41.92 M (46%)	Climate induced economic L&D by 2050	1.8% of GDP annually	NBSAP budget estimated for 2014–2020	USD 673M	Loss and damage	Estimated recovery cost particularly for infrastructure damage (USD 7-14B)

Bangladesh		Bhutan		India		Nepal		Pakistan	
Economic loss due to natural disasters during 2000–2013	USD 10 B			Financial gap in biodiversity conservation	36%	Climate induced L&D	2% of GDP till 2021 and; projected GDP loss up to 13% in the extreme warming scenario by 2100.		
Fund available for disaster management during 2000–2013	USD 2 B (20%)					NDC budget requirement, 2021-2030	USD 25B Internal sources: USD 3.4B (13.6%). External sources: USD 21.6B		

Note: M: Million; B: Billion; EBA: Ecosystem-based Adaptation; L&D: Loss and damage

4.2 INADEQUATE INSTITUTIONAL AND TECHNICAL CAPACITY

Climate change management and disaster risk reduction (DRR), biodiversity conservation, and pollution prevention demand coordination and collaboration between government and non-government institutions. Robust institutional, professional, financial, and technical capacity is necessary for the implementation of MEAs.

Despite the progress made so far, all five RMCs reported that there is inadequate institutional capacity for effective implementation of climate and environmental policies, plans, and activities. The reasons include institutional fragmentation and bottlenecks, lack of coordination among the organisations involved, bureaucratic complexity, and governance-related issues. Lack of skilled human resources is another obstacle for translating plans and policies into actions on the ground. All countries, except India, reported insufficient capacity to access multilateral funding sources, like the Green Climate Fund (GCF), Global Environment Facility (GEF), and Adaptation Fund (AF). Country-specific challenges are presented below:

BANGLADESH

Coordination among various ministries and diverse stakeholders is a key challenge in implementing MEAs in Bangladesh. Maintaining a fine balance between conservation and development activities is another delicate issue hindering policy processes, including implementation. Further, a lack of financial, institutional, and technical capacity has prevented Bangladesh from effectively implementing its climate plans and policies.

Common capacity gap

All RMCs reported inadequate institutional and professional capacity for implementing climate and environmental policies, plans, and activities. The reasons include institutional fragmentation and bottlenecks, lack of coordination with the organisations involved, bureaucratic complexity and governance-related issues. Lack of skilled human resources is another obstacle to translating plans and policies into actions on the ground.

BHUTAN

Designated institutions lack adequate capacity to collate data and prepare reports to fulfil their obligations. Access to financial resources is a persistent challenge. There are institutional bottlenecks due to fragmented roles and responsibilities in climate change management, biodiversity conservation and DRM sectors.

INDIA

Compared to the other four RMCs, India has better institutional and bureaucratic mechanisms with skilled human resources. However, lack of coordination among the implementing agencies and a significant financial gap in climate change and DRR sectors are hindering the implementation of climate and environmental policies.

NEPAL

Nepal has all MEA-related policies, strategies, plans, and tools in place but with the newly established federal system still being institutionalised, there are numerous challenges in implementation. These include weak organisational settings at different levels of government, uncertainty, overlapping roles and responsibilities, critical shortage of capable human resources, and poor coordination, monitoring, and reporting systems. In addition, line ministries have a poor understanding and weak ownership of climate change, biodiversity, DRM, and pollution control agendas.

PAKISTAN

Shortage of funds, and low institutional and technical capacity are the main challenges in implementing the MEAs in Pakistan. National and sectoral coordination mechanisms for implementing NDC, NBSAP, DRR and pollution-related plans and programmes are weak.

4.3 LACK OF RELIABLE, STANDARDISED AND TIMELY DATA

Reliable, adequate, and accurate data is essential for evidence-based policy making, strategic planning, programming, and informed management decisions. Data is crucial for all policy processes including issue identification, policy formulation, implementation, monitoring and evaluation. Implementing agencies are responsible for timely progress reporting on MEAs with reliable and updated data. Data gaps in RMCs include the lack of data sharing platforms, the absence of regional climate information services, inconsistent data, and data produced at national level falling below global standards.

Data gap

Some of the main data-related challenges in the five RMCs include inconsistent climate (related) data, lack of data-sharing platforms and regional climate information services. India has a stronger data management system and capacity compared to the other four RMCs.

Compared to other RMCs, India has better data infrastructure, management system and capacity. However, there are issues of data reliability, legitimacy, and use due to several institutional bottlenecks. Nepal has weak data infrastructure, management systems and capacity to meet the data requirements for climate change mitigation and DRM, biodiversity conservation and pollution prevention. There is no legal mechanism for monitoring transboundary air pollutants and their impacts in Nepal. Bangladesh, Bhutan, and Pakistan have data management systems in place, but there are challenges in timely data collection, analysis, synthesis, reporting, and use.

4.4 DEARTH OF COST-EFFECTIVE TECHNOLOGY

All the five RMCs are struggling to implement air pollution control measures as they lack cost-effective technology for tracking air pollution. More investment is needed in research and technology to enhance MHEWS and build resilient infrastructure.

5. Recommendations

Key message

Strategic policy and institutional reforms are needed to increase international, domestic and private financing for climate action in the region.

Below are some of the recommendations for filling the gaps in the implementation of climate and environmental policies in the HKH region. As climate and environmental policies have global, regional, and national implications, specific actions are recommended for each level.

5.1 DIVERSIFYING INVESTMENT STRATEGIES

GLOBAL

- Reform the global finance architecture so that developing and least developed countries (LDCs) can gain easier access to multilateral funds.

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- Prepare strategy and action plans for increasing investment in the mountains to tackle the triple planetary crisis.
- Develop action plan and investor alliance protocols to implement the Mountain of Opportunity Investment Framework (MOIF)[3].

RMCS

- Enable private-sector investment by providing incentives and de-risking investments to aid global transition towards low greenhouse gas emissions and short-lived climate forcers[4] (SLCFs) to achieve NDC targets and the goals of climate-resilient development, biodiversity conservation, and pollution prevention.

[3]See https://www.icimod.org/wp-content/uploads/ICIMOD-MOIF-Flyer-2023.pdf for details

[4]Short-lived climate forcers (SLCFs) affect climate and are, in most cases, air pollutants. They include aerosols (sulphate, nitrate, ammonium, carbonaceous aerosols, mineral dust and sea spray), which are also called particulate matter (PM), and chemically reactive gases (methane, ozone, some halogenated compounds, nitrogen oxides, carbon monoxide, non-methane volatile organic compounds, sulphur dioxide and ammonia) (Source: https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-6/).

- Significantly increase domestic fund flow within the countries for climate action, DRR and pollution control.
- Integrate climate and environment agenda in mainstream development planning.

5.2 CAPACITY ENHANCEMENT

- Prepare regional capacity development strategies and guidelines in key areas like air pollution prevention, DRR and MHEWS, data analysis, MEA submission and reporting, etc.
- Develop capacity for global negotiation, technology transfer for air pollution prevention, DRR, biodiversity conservation and climate change management, and improve access to global multilateral and bilateral funding mechanisms.
- Increase global, regional, and national funding sources for capacity development.
- Strengthen the regional and national capacity for tackling air pollution and handling MHEWS through regional/sub-regional capacity-building programmes.
- Build national capacity to analyse the collected data and for MEA submission and reporting.

5.3 ADDRESSING DATA AND INFORMATION GAPS

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- Review existing regional and national databases to address the critical data gaps and information needs for evidence-based policy and decision making.
- Develop data-sharing protocols at the national, regional, and international levels.
- Conduct mountain biodiversity assessments on a regular basis.
- Establish a comprehensive transboundary air quality monitoring and management system.
- Establish a framework for co-assessing economic and non-economic losses and damages resulting from climate change in the HKH region.

RMCs

- Improve the data management infrastructure to increase access to data and ensure rapid response to hazard risks.
- Enhance the database for monitoring and timely reporting.
- Use reliable data and information for evidence-based policy decisions.

GLOBAL

- Simplify data monitoring, verification, and reporting systems.

5.4 POLICY AND INSTITUTIONAL REFORMS

GLOBAL

- Develop global standards for Other Effective Area-based Conservation Measures (OECMs) for implementation by the parties.

REGIONAL/ICIMOD

- Help establish a high-level regional mechanism for addressing transboundary climate risks, biodiversity, and air pollution-related issues, and foster a common understanding of these issues among RMCs.

- Analyse the UNFCCC and UNCBD Conference of the Parties (COP) decisions to assist RMCs in re-aligning their national policies.
- Develop a regional guiding framework for assessing losses and damages from climate-induced disaster risks.
- Assess the impact of climate change on mountain biodiversity and build synergy between UNFCCC and UNCBD to facilitate dialogues on mountain issues in the global policy discourse.
- In collaboration with RMCs, formulate a policy on regional/sub-regional airsheds to reduce air pollution.

RMCs

- Build a strategy for public-private-community partnership for effective implementation of climate and environmental policies.
- Integrate biodiversity conservation into policies, regulations, and development processes.
- Review and reform national emission standards (source wise) to meet air pollution reduction targets.
- Formulate transboundary multi-hazard risk reduction strategy.
- Develop and implement national-level disaster-resilient infrastructure standards.
- Set up institutional mechanisms or use existing ones (e.g., Himalayan State Regional Council & National Coordination Committee in India) to respond to climate and environmental issues in a coherent and coordinated manner.

5.5 ADVANCING TRANSBOUNDARY COOPERATION

REGIONAL/ICIMOD

- Establish transboundary mechanisms for promoting regional collaboration in common interest areas such as DRR, landscape-level conservation, and pollution prevention.
- Develop mechanisms for facilitating transboundary data and information sharing among HKH countries.
- Enhance transboundary landscape and integrated river basin management systems.

5.6 INVESTING IN RESEARCH AND TECHNOLOGY

- Develop and prioritise cost-effective air pollution prevention technologies/solutions to reduce air pollution.
- Invest in research and technology development for climate change mitigation and adaptation, and biodiversity conservation.
- Invest more in MHEWS to save lives and property.

5.7 GESI-INCLUSIVE REGIONAL AND NATIONAL POLICIES

ICIMOD/RMCS

- Mainstream gender equality and social inclusion (GESI) principles in regional and national climate change policies and plans for effective climate action.

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