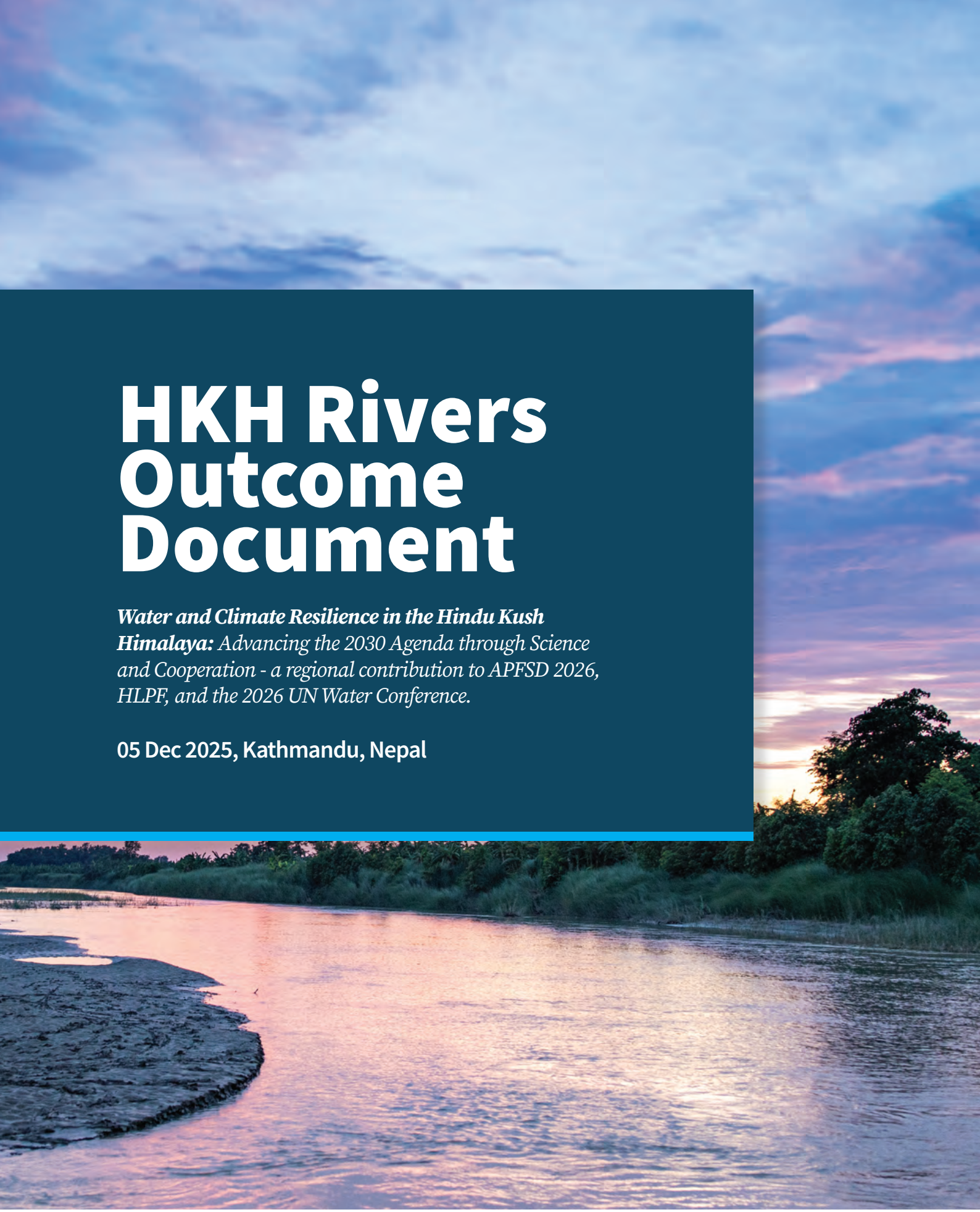

HKH Rivers Outcome Document

Water and Climate Resilience in the Hindu Kush Himalaya: *Advancing the 2030 Agenda through Science and Cooperation - a regional contribution to APFSD 2026, HLPF, and the 2026 UN Water Conference.*

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HKH Rivers Outcome Document

This Outcome Document
synthesises the deliberations of the regional workshop
'Water and Climate Resilience in the HKH: Advancing the SDG 2030 Agenda through Science and Cooperation',
held on 4–5 December 2025 at
International Centre for Integrated Mountain
Development (ICIMOD) Headquarters, Kathmandu, Nepal, and
convened by ICIMOD, the UN Water Convention (UNECE), United
Nations Economic and Social Commission for Asia and the Pacific
(UNESCAP), and International Union for Conservation of Nature (IUCN).

1. The HKH rivers story

The Hindu Kush Himalaya (HKH) is the 'water tower of Asia' – the world's Third Pole, holding the largest volume of ice and snow outside the Arctic and Antarctic. Its glaciers, snowfields, and monsoon-fed headwaters sustain ten major river systems, including the Indus, Ganges, Brahmaputra, and their tributaries. From the high plateaus of Tibet and the Himalaya to the densely populated deltas of South Asia, these rivers are the backbone of water, food, energy, ecosystems, and cultures for nearly two billion people. Yet this lifeline is under mounting pressure as climate change, rapid population growth, urbanisation, and rising water demand converge to intensify climate–water risks across the region.

1.1. A critical water source for nearly two billion people

Stretching across eight countries – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan – the HKH forms the headwaters of a connected set of river systems. As the world's 'Third Pole', its glaciers and snowfields regulate the timing and quantity of flows that sustain downstream irrigation, hydropower, urban water supply, and freshwater ecosystems across the Indus, Ganges, Brahmaputra, Meghna, and other rivers.

The major HKH-fed river basins are among the most densely populated and water-dependent regions on Earth. The Indus River Basin alone supports about 268 million people and underpins the world's largest contiguous irrigation system, critical for Pakistan's food security and rural livelihoods. The Ganges River Basin is home to over 600 million people, nearly half of India's population and the entire population of Nepal, and generates around 40% of India's Gross Domestic Product (GDP) while also supporting most of Nepal's economy. The Brahmaputra River Basin supports around 114–130 million people across Bangladesh, Bhutan, China, and India and many of whom rely directly on riverine ecosystem services for agriculture, fisheries, transport, and wetlands-based livelihoods.

Across these river basins, climate-sensitive livelihoods, especially smallholder farming, pastoralism, and riverine fisheries, are already strained by high poverty levels, landlessness, and limited social protection. In the Ganges and Brahmaputra River basins, large shares of the population live below national poverty lines, and many communities in chars (temporary river islands or silt deposits) and floodplains face repeated displacement from floods and erosion.

Indus River Basin: The 3,200 km Indus River drains about 1.1 million km^2 across Afghanistan, China, India, and Pakistan, with 60–80% of its runoff derived from snow and ice melt, making it one of the most meltwater-dependent river basins in the world. It feeds a vast irrigation network and is central to food production and rural livelihoods, yet the lower river basin is already among the most water-stressed regions globally. Climate change is expected to increase water demand by 5–15% over the next three decades and disrupt melt- and rainfall-driven flows, heightening the risks of drought, floods, and groundwater depletion. Recent mega-floods in the basin, affecting tens of millions of people, illustrate how extreme rainfall combines with embankment failures and sedimentation to amplify losses.

Brahmaputra / Yarlung Zangbo–Jamuna–Meghna system: The 2,880 km Brahmaputra (Yarlung Tsangpo in China, Jamuna in Bangladesh) drains roughly 580,000 km^2 across Bangladesh, Bhutan, China, and India. About 30% of its flow comes from snowmelt on the Tibetan Plateau, with the remainder generated by some of the heaviest monsoon rainfall in the world. The river carries enormous sediment loads, sustains rich floodplain ecosystems, and supports agriculture, fisheries, and navigation, but also causes severe recurrent floods, erosion, and land loss, particularly in Assam and Bangladesh. High-elevation warming of about 0.3–0.4 °C per decade and expanding glacial lakes in the Namcha Barwa–Siang region have heightened glacial lake outburst flood (GLOF) and flash-flood hazards, while more intense monsoon rainfall drives

recurrent inundation of the lowlands; flood peaks are rising, and dry-season stress is worsening where groundwater is shallow, or storage is limited.

Ganges River Basin: Originating from the Gangotri glacier, the 2,525 km Ganges River drains a basin of about 1.09 million km^2 across Bangladesh, China, India, and Nepal. While snow and glacier melt contribute a modest share of total annual flow, they provide 12–38% of dry-season flows in some reaches – a critical buffer when monsoon rainfall is absent. The river basin's monsoon-dominated climate produces both devastating floods and seasonal droughts, and future scenarios project a 1–27% increase in summer rainfall by 2050, amplifying flood risk while changing recharge and dry-season water availability.

These hydrological and climatic shifts are tightly intertwined with accelerating ecosystem degradation. Across the Indus, Brahmaputra, and Ganges River basins, ecosystems from glacierised headwaters to deltas are being reshaped by climate warming, altered hydrology, and intensive land and water use. In the high mountains, rising temperatures are driving glacier retreat and changing snowmelt timing, disrupting headwater streams, cold-water habitats and downstream flow seasonality that sustain wetlands, fisheries, and floodplain agriculture. In the mid-hills and plains, cascades of dams, barrages, and embankments fragment rivers, trap sediment, and sever river–floodplain connectivity, eroding the ability of wetlands and riparian forests to buffer floods, recharge groundwater, and maintain habitat diversity. In the Indus and Brahmaputra River systems, these pressures are compounded by rapid agricultural expansion, sand mining, roads, and urbanisation in floodplains, while in the Ganges, heavy groundwater abstraction and hydropower development further modify baseflows and seasonal extremes.

At the deltas of the Indus and Ganges-Brahmaputra-Meghna (GBM) systems, freshwater reduction, sediment trapping, and sea-level rise are accelerating salinity intrusion, land loss, and mangrove decline, threatening the livelihoods of millions of coastal households. Across all three river basins, warming, monsoon shifts, and human modification are generating systemic, compounding water–climate hazards that increasingly transcend political boundaries, demanding coordinated, river basin-wide resilience strategies.

These growing climate–water risks are undermining reliable safe water supplies and increasing disaster threats for rapidly expanding and vulnerable settlements. Effective climate action in the HKH will depend on science-based, cooperative, climate-resilient river basin governance that safeguards water, protects people and infrastructure, and supports long-term adaptation for nearly two billion people.

1.2. The region needs a stronger voice in global SDG processes

The 2025 International Year of Glaciers' Preservation has brought the importance of the cryosphere to the global stage. Globally, up to 60% of freshwater originates from mountains, and the HKH sustains nearly two billion people whilst supporting some of the world's most dynamic economies. As the International Year of Glaciers' Preservation comes to a close, it is vital to maintain a strong and continuous voice of mountainous regions such as the HKH in global Sustainable Development Goals (SDG) discussions on water and climate. Global assessments often highlight the importance of transboundary cooperation, integrated water management, and inclusive river basin institutions. However, the HKH's unique cryosphere–water–society linkages and the distinct challenges of the 'Third Pole' and other mountainous regions are not always visible in the wider regional and global narratives and can be further amplified to inform deliberations at forums such as the High-Level Political Forum on Sustainable Development (HLPF) and the Asia-Pacific Forum on Sustainable Development (APFSD).

This low visibility in regional and global narratives is not due to a lack of regional evidence or initiative. Over the past decade, comprehensive assessments such as Water, ice, society, and ecosystems in the Hindu Kush Himalaya (HI-WISE), together with river basin-level studies for the Indus, Ganges, and Brahmaputra, have clearly documented the scale of cryospheric change, the dependence of downstream communities and economies on mountain water, and the growing risks from floods, droughts, groundwater depletion and cascading hazards. Regional dialogues and networks, including the Upper Indus Basin Network (UIBN) and multi-stakeholder platforms in the Ganges and

Brahmaputra, have helped identify shared priorities for climate–resilient inclusive development and have advanced good practices in cooperation.

However, these scientific insights and collaborative efforts are often dispersed across sectors and not systematically channelled into SDG reporting, regional preparatory processes, or global financing and cooperation mechanisms. Strengthening the HKH voice in global forums therefore requires a unified science-informed narrative that showcases the region's evidence base and cooperation pathways. Such a shared message can draw together insights on cryosphere change, multi-hazard risks, water–energy–food–ecosystem interdependencies and social inclusion, translating them into policy-relevant contributions for APFSD, HLPF, and the 2026 UN Water Conference.

By building on existing assessments and river basin dialogues, HKH countries and regional institutions can jointly articulate how climate-resilient basin management supports SDG progress through coordinated adaptation strategies, shared monitoring, strengthened mechanisms for transboundary water management and scaled-up Nature-based Solutions. Framed in this way, the HKH emerges not only as the world's 'Third Pole' but also as a strategic pillar of global water, climate, and development stability – whose perspectives and priorities can significantly enrich multilateral processes and the achievement of the 2030 Agenda.

1.3. Purpose of this Outcome Document

This Outcome Document is based on contributions from government representatives, river basin networks, researchers, civil society and youth participants at the 4–5 December 2025 regional workshop in Kathmandu.

- To distil key climate–water evidence and SDG messages from HKH basin science.
- To articulate practical solutions, cooperation, investment, and multilateral entry points.
- To offer actionable recommendations for APFSD, regional preparatory meetings, HLPF, and the 2026 UN Water Conference.

2. HKH climate–water evidence and SDG linkages

2.1 Key climate–water risk

I. MELTING CRYOSPHERE AND SHIFTING FLOWS

The HKH is warming at roughly 0.28°C per decade, with glacier mass loss accelerating by around 65% compared to the previous decade. Peak meltwater is expected around mid-century, followed by declining flows, fundamentally altering the timing and reliability of water supply for downstream users. Studies project a 30–50% loss of glacier mass in a 1.5°C world and 60–70% under higher-warming scenarios, with major implications for long-term water security, hydropower, irrigation, and ecosystems in the Indus, Ganges, and Brahmaputra River basins.

II. ESCALATING MULTI-HAZARD AND CASCADING RISKS

Cryosphere change is already linked to growing chains of hazards, such as GLOFs, landslides, and debris flows, that cascade through river systems and settlements. One study suggests that, by the end of the century, about one million people living within 10 km of glacial lakes could be exposed to such risks. These hazards compound with more intense monsoon floods, flash floods, droughts, and heatwaves, threatening lives, infrastructure and services in mountain valleys, plains, and megacities alike.

III. ECOSYSTEMS UNDER STRESS AND WEAKENING NATURAL BUFFERS

From glacierised headwaters to deltas, river, wetland, and mountain ecosystems are being reshaped by warming, altered flow regimes, and intensive land and water use. Dams, embankments, and sand mining fragment rivers and trap sediment, reducing river–floodplain connectivity and the buffering functions of wetlands and riparian forests. In the GBM deltas, reduced freshwater and sediment, combined with sea-level rise, are accelerating salinity intrusion, land loss, and mangrove decline, reducing natural protection for tens of millions of people in low-lying coastal zones.

IV. INFRASTRUCTURE AND SERVICES NOT BUILT FOR A NEW CLIMATE

Irrigation systems, hydropower, Water, Sanitation, and Hygiene (WASH) services and transport networks across the HKH river basins were largely designed for past hydrological conditions. They are increasingly exposed to floods, landslides, sediment surges, and low-flow extremes that exceed design thresholds. Without systematic climate-risk screening, risk-informed standards, and transboundary early warning, these systems will face rising disruption, economic losses, and service gaps, undermining progress on water security, urban resilience, and inclusive development.

V. SOCIAL VULNERABILITY, INEQUITY, AND 'BAD WATER'

Climate–water risks interact with poverty, gender inequality, migration, and informality (informal settlements). Poor households, women, youth, Indigenous Peoples, and marginalised communities are concentrated in exposed locations (mountain slopes, river islands, peri-urban settlements) and often lack secure land tenure, social protection, and voice in decision-making. At the same time, growing 'bad water' problems – pollution, unsafe drinking water, and inadequate sanitation – compound climate stress, leading to health risks and lost livelihoods even when physical water is abundant.

VI. SHARED RISKS AND THE HIGH COST OF NON-COOPERATION

More than 60% of HKH runoff crosses at least one international border, creating shared benefits but also shared risks. Many recent cryosphere-related disasters have had transboundary or river basin-wide implications, while upstream infrastructure

and land-use decisions reverberate downstream. Economic analyses suggest that countries in the GBM region lose billions of dollars annually due to fragmented management, and that water-security expenditures in river basins like the Indus could be reduced dramatically through cooperation. The cost of non-cooperation – in lives, livelihoods, and public budgets – is simply too high.

VII. DATA, MONITORING, AND KNOWLEDGE GAPS IN A POLITICALLY SENSITIVE REGION

Despite strong scientific advances, key gaps remain in consistent cryosphere monitoring, joint hydrological observations, hazard and loss data, and gender-disaggregated impact information. Geopolitical sensitivity has created a 'vicious circle of mistrust': limited cooperation leads to fragmented data and incomplete science, which in turn feeds misconceptions and further mistrust. Closing these gaps through shared monitoring, open data, and co-produced basin assessments is essential to underpin effective climate-risk reduction and SDG follow-up.

2.2 Linkages between the 2030 Agenda and water-climate risks

Climate–water risks in the Indus, Ganges, and Brahmaputra River basins map directly onto the global SDG 6, 11, and 13 indicator framework. Progress assessments show that, while enabling policies exist in many countries, the world is largely off track on the indicators that matter most for HKH river basins.

2.2.1 Water and sanitation (SDG 6)

- **Basic services and WASH (6.1.1, 6.2.1)**: In many HKH sub-basins, rural and peri-urban communities still depend on springs, shallow wells, and nearby rivers or streams, which are highly sensitive to seasonal variability and extreme events. When floods, droughts, or pollution occur, these sources are among the first to fail or become unsafe.
- **Water quality and wastewater (6.3.1, 6.3.2)**: A large share of domestic and industrial wastewater is discharged untreated into rivers, and many water bodies fail to meet good ambient water-quality standards. In HKH basins, high sediment loads, low-flow periods, and pollution from urban and agricultural sources combine to degrade ecosystems and increase the costs of supplying safe water.
- **Water use efficiency and stress (6.4.1, 6.4.2)**: Some countries have improved water-use efficiency, but these gains are often offset by rising demand from cities, industries, and agriculture. Many HKH river basins already face high or worsening water stress, particularly melt-dependent systems like the Indus and dry-season-stressed tributaries in the Ganges and Brahmaputra.
- **Integrated water resources management and cooperation (6.5.1, 6.5.2)**: The share of countries implementing Integrated Water Resources Management (IWRM) has grown, yet relatively few have reached 'high implementation', and only a limited fraction of transboundary river basin area is covered by operational arrangements for cooperation. In the HKH, where most major rivers cross borders, cooperation remains sensitive; science-based basin networks and frameworks such as the United Nations Economic Commission for Europe (UNECE) Water Convention provide important avenues for progress.
- **Water-related ecosystems (6.6.1)**: Wetlands, springs, and riverine ecosystems are shrinking or degrading under climate change and land-use pressures. In the HKH, rapid cryosphere loss, floodplain encroachment, and river-corridor modification are eroding the natural buffers that regulate floods, maintain baseflows, and support biodiversity and livelihoods.

2.2.2 Sustainable cities and communities and disaster risk reduction (DRR-related indicators of SDG 11)

- **Human impacts of disasters (11.5.1)**: Indicators on deaths, missing persons, and people directly affected by disasters show that disaster risk remains a major challenge. HKH countries experience frequent floods, landslides, GLOFs, and storms. Exposure is growing as populations and assets concentrate in river valleys, alluvial plains, and unstable slopes.

- **Economic losses and infrastructure disruption (11.5.2):** Economic losses and disruptions to critical services from disasters continue to rise. In HKH river basins, extreme events damage hydropower and irrigation systems, transport corridors, water-supply and sanitation networks, undermining long-term development and deepening inequalities.
- **National and local DRR strategies (11.b.1 / 11.b.2):** Many countries have adopted national DRR strategies, but local implementation lags. In HKH river basins, local governments often lack the resources and technical capacity to translate national DRR and climate policies into risk-informed land-use planning, infrastructure design, watershed management and community preparedness.

2.2.3 Climate action and disaster risk reduction (DRR-related indicators of SDG 13)

- **Disaster risk and preparedness (13.1.1, 13.1.2, 13.1.3):** Reporting shows slow or regressing progress on reducing disaster deaths and affected people, even as more countries adopt DRR strategies. For HKH river basins, this highlights the need to connect national DRR and climate frameworks with basin-scale analytics and local action, especially in upstream–downstream 'risk corridors', where hazards propagate through entire river systems.
- **Climate integration into planning and emissions intensity (13.2.1, 13.2.2):** Many countries have climate strategies, but these do not consistently integrate transboundary water and cryosphere risks, and greenhouse-gas emissions per unit of GDP are not declining fast enough to stabilise the climate system. For HKH river basins, this translates into accelerating glacier melt, shifting monsoons, and more intense extremes that outpace current planning and design standards.
- **Capacity building, education, and targeted support (13.3.1, 13.b.1):** Climate and water education is only partially mainstreamed in curricula and professional training, and support to vulnerable countries for climate planning and management remains uneven. For HKH countries, this constrains the ability of river-basin authorities, local governments, and communities to interpret climate–water data, operate early-warning systems, and design river basin-scale adaptation investments.

Taken together, these indicators show that the Indus, Ganges, and Brahmaputra River basins sit at the intersection of high climate–water risk and slow SDG progress. River basin science provides the evidence needed to localise SDG 6, 11, and 13 in the HKH context, but realising this potential will require deliberate efforts to close evidence gaps and re-orient policies, investments, and cooperation mechanisms around river-basin resilience.

2.3 Key evidence gaps and proposed actions

Session 3 group work identified several critical evidence gaps and priority actions that must be addressed to align HKH river-basin management with SDG 6, 11, and 13.

I. CRYOSPHERE–HYDROLOGY MONITORING AND MODELLING

- Incomplete and inconsistently shared data on glacier mass balance, snow cover, permafrost, and high-mountain precipitation.
- Limited long-term flow records in headwater catchments.
- Proposed action: Expand and harmonise cryosphere–hydrology monitoring networks; co-develop river basin-scale models for the Indus, Ganges, and Brahmaputra that can inform seasonal forecasts, flow-regime projections and multi-hazard risk assessments.

II. HAZARD, LOSS, AND MULTI-HAZARD EARLY WARNING DATA

- Fragmented or missing records on floods, landslides, GLOFs, droughts, and heatwaves.
- Limited standardised data on deaths, people affected, and economic losses linked to SDG 11.5 and 13.1 indicators.
- Proposed action: Establish river basin-scale hazard and loss databases, link them to national disaster-loss accounting systems and SDG reporting, and strengthen interoperable, multi-hazard early-warning systems across shared basins.

III. ECOSYSTEM AND NATURE-BASED SOLUTIONS (NBS) EVIDENCE

- Sparse, uncoordinated data on wetlands, river corridors, springs, floodplains, and urban green spaces, and limited quantification of how NbS reduce flood peaks, erosion, drought impacts, and heat stress.
- Proposed action: Map and monitor critical water-related ecosystems across the Indus, Ganges, and Brahmaputra; document and evaluate NbS pilots (e.g. springshed restoration, floodplain rehabilitation, urban wetland protection) and scale up those with strong resilience, biodiversity, and livelihood benefits

IV. INFRASTRUCTURE RISK, PERFORMANCE, AND DESIGN THRESHOLDS

- Limited systematic assessment of climate and cryosphere risks to hydropower, irrigation, WASH, transport, and embankment systems.
- Weak integration of updated climate and flow scenarios into design standards and investment decisions.
- Proposed action: Develop basin-wide infrastructure risk screenings and guidelines that integrate GLOF, landslide, and extreme-flow scenarios into project design, operation, and maintenance; and use these insights to inform SDG 6 and 11 indicators on services and infrastructure resilience.

V. SOCIO-ECONOMIC AND INCLUSION DATA AT BASIN AND LOCAL SCALES

- Inadequate gender disaggregated and locality-specific data on exposure, vulnerability, and adaptive capacity.
- Limited understanding of how risks intersect with poverty, migration, informal settlements, and the situations of Indigenous Peoples and marginalised groups.
- Proposed action: Integrate social and inclusion metrics into basin assessments and DRR/ disaster risk management (DRM) systems; support community-based monitoring and citizen science to capture local risk patterns and priorities.

VI. DATA HARMONISATION, OPEN SCIENCE, AND INSTITUTIONAL INTEROPERABILITY

- Institutional silos, inconsistent data formats, and restricted access impede sharing between countries, agencies, and networks.
- Cryosphere and river basin analytics are not systematically linked to SDG monitoring frameworks.
- Proposed action: Promote open data and 'open hydrology' principles for HKH river basins; harmonise key datasets (hydrology, hazards, ecosystems, infrastructure) across the Indus, Ganges, and Brahmaputra; develop shared river basin dashboards that directly map onto SDG 6, 11, and 13 indicators.

VII. POLICY UPTAKE AND IMPLEMENTATION TRACKING

- Limited tools to track how basin science informs Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), national DRR strategies and local DRR plans, and how this, in turn, influences the SDG trend.
- Feedback loops between basin analytics, policy decisions, and SDG reporting remain weak.
- Proposed action: Co-develop simple 'science–policy–SDG' tracking frameworks with governments and basin networks; use them to monitor how new evidence from the Indus, Ganges, and Brahmaputra assessments is reflected in national and local strategies, investments, and SDG progress reports These gaps are not starting from zero. Ongoing basin assessments (Indus, Ganges, Yarlung Zangbo–Brahmaputra–Jamuna), regional initiatives such as HI-WISE and HKH networks [CryoHub, DRR Hub, Glaciers-to-Ocean (G2O) project, Meghna Forum, UIBN, Yarlung Zangbo–Brahmaputra–Jamuna Basin Network (YBJBN)] are already closing parts of the evidence deficit. Sustained support is now needed to consolidate this work into shared observatories, interoperable models and decision-support tools that can directly feed APFSD 2026, the HLPF, and the 2026 UN Water Conference.

3. National perspectives on the water–climate

3.1. National policies, local practices, and regional cooperation needs

National roundtable discussions examined how countries in the HKH region are addressing the water–climate nexus through policies, local practice and cooperative mechanisms. Participants reflected on rising climate and hydrological risks, evolving national responses, and opportunities to align basin management with broader development objectives.

The roundtable brought together government officials, experts, and practitioners from the HKH region to discuss how countries understand and address the water and climate change nexus. The roundtable session framed the discussion around national policies, local practices, climate resilience, stakeholder engagement, regional implications of water management and opportunities for cooperation. Understanding who drives the national dialogue on water and climate change issues and how awareness is shared between national and local levels was deemed important.

In a special dignitary address, Bangladesh reflected that while water historically connects South Asian nations, the region remains politically fragmented. As a lower-riparian country, Bangladesh is heavily influenced by hydrological changes in Bhutan, China, India, and Nepal and is impacted by the country's recurring climate-related challenges, including floods, droughts, salinity intrusion, and cyclones. Bangladesh emphasised that water issues in Bangladesh are regional in nature and urged the need for stronger cooperation, while highlighting Bangladesh's national efforts in river restoration, pollution control reforms, and the emerging concept of 'water justice'. Bangladesh underscored the value of the UN Water Convention for building shared data systems, improving disaster forecasting, and strengthening cooperation among riparian states.

National initiatives in water resource management were presented by speakers from Bhutan, India, and Nepal. Bhutan presented its approach grounded in Gross National Happiness, with strong laws, watershed restoration, community-based water governance, glacier monitoring, and inclusive development practices. India highlighted its growing work on urban water resilience, including nationwide data platforms, Urban River Management Plans, climate cells in cities, and NbS supported by youth and innovation initiatives. Nepal shared major policy updates such as the 2020 Water Resources Policy, river basin-wide planning, climate-resilient infrastructure, and practical measures like spring revival and water storage ponds in hills. All countries noted the rising costs and risks associated with climate change and the need for regional cooperation to complement national action.

Bangladesh presented additional perspectives on the criticality of transboundary cooperation in South Asia. Based on research across multiple basins around the world, the speaker highlighted benefit-sharing as the most effective model for cooperation, covering benefits to the river, from the river, due to the river, and beyond the river. The speaker outlined concrete opportunities for South Asia, including joint hydropower development, navigation corridors, shared data systems, climate modelling, and river basin-wide flood forecasting.

Further scientific and governance insights were provided by experts from India. Rivers must be understood as dynamic systems of water, sediment, biodiversity and energy, and warned of declining lean-season flows due to glacier retreat, delayed and erratic monsoons, and increasing evapotranspiration (evaporation and transpiration) under warming conditions. Excessive water withdrawals and fragmented planning threaten ecological flows, and more realistic demand management and respect for river geomorphology is critical. When considering four-way benefits to the river, namely, benefits from the river, benefits due to the river, and benefits beyond the river and its invisible services like flushing sediment, their interrelations with transboundary multi modal

constituents including communities, sectoral stakeholders, eco-systems, water security, disasters and political economy at large have to be considered in an aggregated, organised, and institutionalised framework. In this regard, integrated water governance with stronger inter-sectoral coordination is essential, and it is also important to combine scientific knowledge with traditional community practices. More regional platforms, accessible climate finance for local governments and South–South learning opportunities are needed.

The discussion session raised questions on regional flood-forecasting systems, the scope of the UN Water Convention, and the potential role of the private sector, an actor often underrepresented in current water–climate dialogues. Panellists agreed on the importance of river basin-scale approaches, reducing unrealistic water demand, strengthening early-warning systems, and mobilising a broader range of stakeholders.

On water-climate change relations, it was also noted that technocratic polarisations and segregation of development and climate change issues exist, where technocrats, policymakers, and communities have differing opinions. Moreover, a disaster-centric discourse on climate change also tends to ignore other crucial aspects, including inter-disciplinary impact factors, significance of cross-institutional collaborations, vertical and horizontal criss-crossing, and appreciation of policies concerning some of the opportunities that enhance capacity to both understand and deal with 'beyond-disaster' issues of climate change. There is a need to better integrate climate change into larger development dialogues and mainstream narrative, and to translate highly technical scientific information into a public social commodity easily assimilated by communities needs to be addressed.

3.2. Key takeaways

RIVER BASIN-WIDE COOPERATION

- Water challenges are both national and regional, and stronger river basin-wide cooperation is needed.
- The UN Water Convention was highlighted as a platform for shared data, research, and early-warning collaboration.

CLIMATE AND HYDROLOGICAL RISKS

- Climate change is shifting monsoon patterns, increasing extreme events and reducing lean season flows.
- There is an urgent need for river basin-scale flood forecasting and early-warning systems.

NATIONAL POLICIES AND LOCAL PRACTICES

- Countries are updating water laws and moving towards more integrated, river basin-based management.
- Practical measures, including spring revival, aquifer recharge, and NbS, are expanding across the region.

GOVERNANCE AND INSTITUTIONS

- Fragmented governance and weak coordination persist across sectors and levels.
- Stronger links are needed between science, policy, and community practices, with emphasis on inclusion of women, youth, and vulnerable groups.

DATA AND KNOWLEDGE SYSTEMS

- Reliable, accessible data on water, climate and river health remains limited.
- A regional data hub could significantly improve forecasting, planning, and joint action.

ECONOMIC AND DEVELOPMENT DIMENSIONS

- Water management must align with agriculture, energy, environment, and trade priorities.
- Hydropower trade, navigation, and shared infrastructure offer regional development potential.
- Ecological flows and realistic water-demand planning are critical for long-term sustainability.

ROLE OF THE PRIVATE SECTOR

- Private sector engagement remains limited but is important for innovation, finance and technology solutions.

4.Inclusion and practice

4.1. Inclusive science and water governance

Discussions across the workshop underlined that climate and water risks in the HKH cannot be addressed without putting people at the centre of river basin governance. Participants stressed 'inclusive science' – knowledge, tools, and solutions created with and for last-mile communities – and 'inclusive water governance', where decisions on allocation, infrastructure, and risk management account for gender, age, disability, social hierarchy, and lived realities.

Speakers highlighted that vulnerable groups are not only at risk but also key actors in resilience. Women, youth, Indigenous Peoples, and local communities hold place-based knowledge, manage everyday water use and are often first to observe climate impacts. Examples from the Meghna and Mahakali river basins illustrated how citizen science, Women Empowerment Centres, youth networks, and inclusive university policies can turn communities into partners in monitoring, early warning, advocacy, and local planning.

At the same time, participants pointed to persistent gaps: warning messages that do not reach those most at risk; scientific information that is not accessible or actionable; and citizen-generated data that is not sufficiently recognised in formal systems. Addressing these gaps requires long-term investment in social capital and institutions, not only hardware and infrastructure.

4.2. Key directions emerging from the workshop included:

- Design early-warning and information systems around 'last-mile first' principles, using local languages, low-tech channels, and clear evacuation support so women, youth, the elderly, and people with disabilities can act in time.
- Recognise women and youth as agents of change, not only vulnerable groups – including them as citizen scientists, local leaders, first responders, entrepreneurs, and members of village and river basin-level committees.
- Strengthen citizen science and community monitoring through training, co-developed methods and partnerships with universities and technical agencies, so community data is both empowering locally and credible for policy and modelling.
- Invest in social capital and economic empowerment, including women's groups, youth organisations and local networks, with access to finance, skills, and livelihood diversification to reduce the long-term poverty impacts of floods and droughts.
- Improve data integrity and usability by combining professional monitoring with community observations, clear quality-control protocols, and accessible platforms for storing and sharing information.
- Embed inclusion in governance and finance, by requiring gender-responsive and youth-inclusive arrangements, budget lines for community engagement and citizen science, and monitoring frameworks that track who participates and who benefits.
- Taken together, these insights reinforce a core HKH message: climate-resilient river basins will depend not only on stronger models, infrastructure, and agreements, but also on institutions and practices that treat local people as co-creators of knowledge and co-owners of solutions.

5. Cooperation pathways and regional mechanisms

5.1 Strengthening river basin and regional cooperation

5.1.1 Science-based river basin networks as engines of cooperation

Across the HKH, science-based river basin networks have emerged as practical platforms to break the vicious circle of mistrust and move from fragmented analysis to joint evidence and action.

- The **UIBN** brings together experts from Afghanistan, China, India, and Pakistan around a shared vision of a resilient Indus River Basin, coordinating work on data, cryosphere, hydrology, hazards, and gender/socioeconomics. It is developing a co-authored Indus Basin Assessment and has been recognised by UNECE as a global good practice in data sharing, demonstrating how a voluntary non-political network can advance cooperation in a sensitive river basin.
- The **YBJBN** is co-producing a basin-wide scientific assessment through four thematic working groups, turning science into a neutral platform for persuasion, dialogue, and multi-track diplomacy in a highly dynamic sediment-rich system.
- The **Meghna Knowledge Forum** pilots inclusive, multi-stakeholder dialogue and NbS in a relatively less politicised basin, linking land-use change analysis, climate impacts, youth engagement, and private-sector initiatives to a shared vision of healthy rivers and resilient communities.
- Complementing these basin platforms, the **HKH DRR Hub** and **HKH CryoHub** provide regional, issue-focused mechanisms: the DRR Hub focuses on cascading, river basin-scale disasters, and the science–policy–practice interface for multi-hazard early warning, while the CryoHub synthesises snow, glacier, permafrost, and cryospheric-hazard knowledge into collective messages for policy and global forums.

Together, these networks form an ecosystem of cooperation that can:

- Jointly assess climate–water risks and produce basin assessment reports and scenarios.
- Promote river basin-scale interoperable data, shared monitoring, and early warning.
- Provide safe, neutral spaces for dialogue, trust-building, and science diplomacy.
- Support translation of evidence into national planning and regional commitments.

5.1.2 Regional platforms and mechanisms as bridges to the global level

Science-based networks in the HKH increasingly connect with regional and global cooperation mechanisms, creating pathways from local evidence to multilateral action.

The UNECE Water Convention and its Task Force on Water and Climate offer a practical global framework for strengthening cooperation. Bangladesh's accession in June 2025, the first in South Asia, demonstrates how a lower-riparian, climate-vulnerable country can use the Convention to support integrated water resources management, capacity building and deeper collaboration with co-riparians. Its 'twinning' arrangement with the Netherlands illustrates the tangible benefits of membership, including direct access to technical expertise, institutional strengthening, and support for climate adaptation planning in deltaic and transboundary contexts.

The recognition of UIBN by the Water Convention and engagement with the **Global Network of Basins Working on Climate Change** (co-managed by UNECE and INBO) show how informal HKH networks can access technical support, exchange with peers worldwide and position their river basins within global climate-adaptation discussions. HKH networks could evolve towards a role similar to the **Arctic Monitoring and Assessment Programme (AMAP)**, providing credible assessments that inform high-level political cooperation in another geopolitically sensitive region.

Going forward, strengthening basin and regional cooperation will mean:

- Consolidating and resourcing HKH basin networks (G2O, Meghna Forum, UIBN, YBJBN) to complete and regularly update joint basin assessments and risk dashboards.
- Expanding participation of governments, communities, women, youth, and the private sector in these networks to ensure legitimacy and inclusiveness.
- Systematically linking network outputs to regional and global platforms [e.g. APFSD, the Asia-Pacific Water Forum (APWF), International Network of Basin Organizations (INBO), IUCN, the UNECE Water & Climate Task Force, UNESCO/Hydrology, Energy, and Environmental Programme (HELP)] so that HKH evidence informs regional positions and global reviews of water and climate goals.
- Using these technical and basin-focused pathways to reduce political sensitivities, by foregrounding neutral, problem-solving collaboration on data, risk analytics, early warning, and NbS as entry points to deeper cooperation.

These cooperative pathways position science-based networks as core delivery mechanisms for climate-resilient river-basin management in the HKH, and as key vehicles for carrying HKH messages into APFSD 2026, the HLPF, and the 2026 UN Water Conference.

6. Recommendations for the 2026 UN Water Conference, APFSD, and related processes

6.1. Water for people: safe, reliable WASH services in climate-stressed river basins

- Make WASH systems climate-resilient in HKH basins by using cryosphere and hydrology evidence to climate-proof rural and urban water-supply, sanitation, and hygiene services, especially in flood- and drought-prone settlements and along upstream–downstream risk corridors. Ensure that the gender equality, disability, and social inclusion (GEDSI) approach is integrated into the planning and implementation of WASH services.
- Prioritise vulnerable mountain and riverine communities that still depend on springs, shallow wells, and river intakes, supporting spring revival, safe storage, water-quality monitoring, and contingency supplies so that sources do not fail during extremes.
- Strengthen the compilation and dissemination of climate- and disaster-resilient, gender, disability, and socially inclusive WASH services among HKH countries.
- Embed risk-informed WASH and basic services in local DRR plans and track progress through local DRR and SDG reporting.

6.2. Water for prosperity: climate-resilient livelihoods, food, and energy

- Use river basin analytics to guide irrigation, agriculture, and hydropower decisions, so that investments in canals, groundwater use, storage, and power plants reflect changing flows, sediment loads, ecological flow, and multi-hazard risks, and the potential for benefit sharing in the Indus, Ganges, and Brahmaputra.
- Improve land use zoning, solid waste management, wastewater treatment and re-use, and water-use efficiency to combat ecological and hydrological dysconnectivity, water pollution, and water scarcity.
- Scale up NbS that support livelihoods (e.g. springshed restoration, re-connected floodplains, river-corridor and wetland rehabilitation, urban wetlands), positioning them as core components of climate-smart agriculture, fisheries, DRR tools, and tourism.
- Explore community-led approaches for NbS and ecosystem conservation, ice-, snow-, rain- and groundwater harvesting and/or storage, maintenance of drainage systems, waste management, and other relevant fields.
- Develop a pipeline of HKH ‘prosperity projects’ that bundle resilient irrigation, sustainable hydropower, NbS, and value chains, ready for presentation to climate and development finance partners.

6.3. Water for planet: protecting cryosphere, rivers, and ecosystems

- Bring a distinctive ‘Third Pole’ message to the Water Conference through highlighting how climate change, rapid glacier loss, snowpack changes, and permafrost thaw are reshaping flows, extremes, disaster risks, and ecosystems across ten major river systems in the HKH.
- Commit to monitoring and restoring water-related ecosystems (glaciers, wetlands, river corridors, deltas, and mangroves) in

the Indus, Ganges, and Brahmaputra, with clear links to SDG 6.6.1 and biodiversity targets and in combination with including local and Indigenous communities and knowledge sources.

- Showcase NbS in the HKH as examples for other mountainous regions and the world at large, documenting how well-designed ecosystem measures reduce flood peaks, erosion, drought impacts, and heat stress while supporting biodiversity and local economies.
- Further develop, strengthen, and scale-up community-based early warning systems.

6.4. Investments for water – financing HKH resilience

- Prepare an HKH investment pipeline of programmatic proposals suitable for climate and development finance that target climate–water resilience, bundling monitoring/observatories, NbS, resilient infrastructure, and institutional strengthening.
- Invest in developing more refined models, new or improved innovative technologies, and the dissemination of effective low-cost technologies.
- Promote innovative and blended-finance models, such as resilience bonds, climate-resilient hydropower and irrigation PPPs, and payments for ecosystem services, to crowd in private capital alongside public and climate finance, while safeguarding community and environmental outcomes.

6.5. Water for cooperation and multilateral processes – bringing HKH river basins into regional and global decision making

Drawing on the overall proceedings of the workshop (rather than any single session), the following cross-cutting directions were inferred:

- Greater sharing of good practices and appropriate technologies between countries, alongside stronger collaboration among universities and research institutions within the HKH and beyond, would reinforce science-based cooperation.
- Where suitable, pragmatic use of global cooperation mechanisms (such as UN and regional water platforms, and instruments like the UNECE Water Convention's Water and Climate Task Force and the Global Network of Basins) can support improved data sharing, adaptation planning, and ecosystem protection, without predetermining political outcomes.
- Basin collaboration platforms in the HKH (including existing basin networks and forums) can serve as neutral, expert-informed spaces for joint assessments, interoperable data exchange and, where appropriate, multi-hazard early warning across borders.
- HKH river basin evidence should be more systematically reflected in national and regional processes, including NDCs, NAPs, national DRR strategies, Voluntary National Reviews, and inputs to APFSD, HLPF, and the 2026 UN Water Conference, so that cryosphere–water risks and cooperation needs are visible in global SDG reviews.
- A shared HKH narrative and set of messages on water–climate resilience in the Indus, Ganges, and Brahmaputra can help position the region in UN forums (CBD, Sendai, UNFCCC, UN Water Conference), highlighting its role in global water and climate stability.

7. Annex

Workshop rationale and agenda

Water and Climate Resilience in the HKH

Advancing SDG 2030 Agenda through science and cooperation

Dates: 04–05 December 2025 | ICIMOD Headquarters, Kathmandu, Nepal | Hybrid

Convenors: ICIMOD, UN Water Convention (UNECE), UNESCAP, and IUCN

Rationale

Glaciers are melting, rivers are shifting, and communities are on the frontline, yet the HKH is still too quiet in global water debates. These changes jeopardise countries' progress on SDG 6 (Clean water and sanitation), SDG 11 (Sustainable cities and communities), and SDG 13 (Climate action). With two billion people depending on its river basins, the HKH must be central to SDG 6, 11, and 13. The world cannot achieve these goals without its voice. Despite strong scientific evidence, the region's priorities remain underrepresented in global Sustainable Development Goals (SDGs) review processes.

This workshop is designed to serve as a bridge between river basin-focused initiatives in the HKH, such as the Upper Indus Basin Network (UIBN), the Yarlung Zangbo–Brahmaputra–Jamuna Basin Network (YBJBN), and the Ganges Initiative - and global and regional UN platforms, namely: Asia-Pacific Forum on Sustainable Development (APFSD), Voluntary National Reviews (VNRs), High-level Political Forum (HLPF) on Sustainable Development, and UN Water Conference 2026. It will convene government agencies, basin organisations, researchers, civil society, and youth leaders to translate science into SDG-aligned insights and cooperative actions.

It aims at achieving three interlinked priorities, including situating basin science within the framework of SDG 6, SDG 11, and SDG 13 by mapping evidence and identifying gaps, thereby ensuring that knowledge generated in the HKH is directly tied to global targets. It also emphasises regional cooperation mechanisms by engaging UNECE, ICIMOD, UNESCAP, IUCN, and their national partners to link HKH initiatives to multilateral processes in ways that foster collaboration while reducing sensitivities.

This workshop lays the groundwork for taking the region's voice, evidence, and priorities to the global stage through an HKH Rivers Outcome Document that will translate basin science into clear SDG 6, 11, and 13 insights, strengthen regional water cooperation to respond to growing climate risks, and inform inputs to key processes such as APFSD, the HLPF, and the UN Water Conference 2026.

Objectives

- Gather regional inputs and priorities as part of the preparatory process for the UN Water Conference on SDG 6 scheduled for December 2026 and other Agenda 2030 review mechanisms, ensuring that the voices and needs of the Hindu Kush Himalaya region are well reflected.
- Translate basin science from the Indus, Brahmaputra, Ganges and key sub-basins into SDG 6, SDG 11, and SDG 13, compile relevant insights, identify critical knowledge gaps, and co-develop cooperative actions such as regional

data-sharing mechanisms, early warning protocols, resilient infrastructure guidelines, and harmonised monitoring strategies.

- Strengthen links between HKH basin initiatives and global expert platforms such as UNECE Water and Climate Task Force to enhance technical collaboration and exchange of lessons on basin cooperation.
- Promote inclusive approaches (youth, women, citizen science) and facilitate regional dialogues and simulations that build trust and demonstrate practical pathways for joint multi-hazard responses.

Expected outputs

- Consolidated regional perspective on how basin science in the HKH connects to SDG 6, 11, and 13, highlighting shared challenges, evidence gaps, and opportunities for cooperation, expressed through recommendations and cooperative pathways for regional and global processes (APFSD, VNRs, HLPF, UN Water Conference).
- Synthesised input package combining evidence snapshots, SDG-aligned messages, and suggested cooperative actions, adaptable for different audiences and serves as a bridge between basin networks, regional dialogues, and UN review mechanisms.
- Shared follow-up roadmap linking ICIMOD, UN Water Convention, UNESCAP, IUCN and national partners with trusted multilateral platforms, with milestones and submission routes to ensure HKH priorities are reflected in global water and climate discussions.

The workshop is being hosted by ICIMOD in collaboration with the UN Water Convention (UNECE), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), and International Union for Conservation of Nature (IUCN).

Agenda

Day 1: 4 December 2025

Venue: Kailash Hall, ICIMOD Headquarter

Time: 9:00 am

Time	Activity
09:30–10:15	**Opening Session:** ICIMOD to coordinate Background and objectives – **Faisal Mueen Qamer**, Lead River Basins, ICIMOD Welcome remarks by the host – **Qianggong Zhang**, Head of Climate and Environmental Risks, ICIMOD Welcome remarks by the co-host – **Mikiko Tanaka**, Director, South and Southwest Asia Sub-regional Office Welcome remarks by the co-host – **Remy Kinna**, Legal Officer, Secretariat of the Water Convention, UNECE Keynote speech – **Shahbaz Khan**, Director of the UNESCO Regional Office in Beijing and Governing Council Chair, Asian Pacific Water Forum. [45 minutes]
10:15–10:45	Group photo and tea break
10:45–12:15	**Session 1:** Water–Climate Risks and Regional Science Collaboration in the HKH Chair: **Hester Biemans**, Professor and Researcher Global Water Resources at Wageningen University Rapporteur: **Manisha Maharjan,** ICIMOD **Scene Setting Presentation:** Cryosphere change, transboundary flow shifts, and cascading climate extremes in the HKH – **Arun B. Shrestha,** ICIMOD Science-Based Networks for Water–Climate Cooperation in the HKH: This session brings together leading basin networks to share scientific insights, achievements, and opportunities for collaboration that strengthen transboundary understanding and climate adaptation. Discussions will highlight synergies among networks and pathways to advance SDG 6, 11, and 13 through science-based cooperation. • Upper Indus Basin Network (UIBN) – **Muhammad Ashraf,** Country Representative, IWMI Pakistan • Meghna Forum, **Vishwa Ranjan Sinha,** IUCN Asia Regional Office • Yarlung Zangbo–Brahmaputra–Jamuna Basin Network (YBJBN), **Sonia Binte Murshed**, BUET, Bangladesh • HKH Disaster Risk Reduction (DRR) Hub – **Saswata Sanyal,** ICIMOD *(virtual)* • HKH CryoHub – **Mohd Farooq Azam,** ICIMOD **Session synthesis**: Key takeaways, directions for strengthening science-based cooperation in the HKH. [90 minutes]
12:15–13:15	Lunch break

13:15–14:30	**Session 2:** Engagement of UNECE Water & Climate Task Force: Pathways and Opportunities for the HKH Chair: **Md Anwar Kadir**, Member, Joint Rivers Commission, Bangladesh Session Coordinator: **Remy Kinna,** UNECE Water Convention Secretariat Rapporteur: **Michael Koch**, UNESCAP This session explores how the UNECE Water and Climate Task Force and its Global Network of Basin Organisations can support the Hindu Kush Himalaya (HKH) region in strengthening transboundary water cooperation and climate resilience. It will highlight Bangladesh's experience as the first South Asian Party to the Water Convention and the benefits of its twinning arrangement with the Netherlands. Presentations from UNECE, INBO, and Australia's DFAT will outline the Task Force's structure, achievements, and opportunities for HKH countries and basin initiatives to engage. Opening Remarks: • **Md Anwar Kadir**, Member, Joint Rivers Commission, Bangladesh • **Neeltjie Kielen,** Delegated Representative Water, Embassy of the Kingdom of the Netherlands in Bangladesh (*virtual*) Panellists: • **Jos G. Timmerman,** Senior expert water and climate, Ministry of Infrastructure and Water Management, The Netherlands (virtual) • **Edouard Boinet,** Project Manager, INBO (virtual) • **Sagar Prasai,** Water Governance Advisor, Australian Embassy, Nepal • **Md Abdul Hossen,** Former Member, Joint Rivers Commission, Bangladesh (virtual) • **Shawahiq Siddiqui, I**nternational Water Law Expert **Session synthesis**: Key takeaways, opportunities in the HKH to engage with the global tools, lessons and climate adaptation strategies. [75 minutes]
14:30–15:00	Tea break
15:00–16:30	**Session 3:** From Science to SDG-Aligned Actions Session chair: **Kenzo Hiroki**, Coordinator of High-level Experts and Leaders Panel on Water and Disasters (UN HELP) Session coordinator: **Faisal M. Qamer,** ICIMOD Rapporteur: **Rashed Uz Zzaman**, ICIMOD This session will translate basin science and regional assessments into concrete, SDG-aligned actions by linking evidence from the Indus, Brahmaputra/Yarlung Zangbo/Jamuna, and Ganges sub-basins to global targets, identifying gaps in monitoring and cooperation, aligned with the six Interactive Dialogues of the 2026 UN Water Conference. The session will feed into APFSD 2026, the Asia-Pacific Preparatory Meeting for the UN Water Conference, and regional VNR inputs. Five working groups: • **Climate–Water Risks:** Water for Planet / DRR / resilience • **Ecosystems & NbS:** Water for Planet / Water for Prosperity • **Resilient Infrastructure:** Water for Prosperity / Water for People • **Policy, Innovation & Implementation:** Water in Multilateral Processes / Investments for Water • **Basin Governance & Cooperation:** Water for Cooperation / Water in Multilateral processes • **Report back:** Presentation of key results from each thematic group. • **Session synthesis:** Key actionable points, emerging priorities and linkages to UN processes; HKH SDG Action Matrix [90 mins]
18:30–20:00	Reception dinner

Day 2

Date: Friday, 5 December 2025

Venue: Kailash Hall, ICIMOD Headquarter

Time: 9:00 am

Time	Activity
09:00–10:30	**Session 4:** Roundtable on Water–Climate Nexus: National Perspectives Session Co-moderators: **Mikiko Tanaka,** Head, ESCAP South and South-West Asia Office **Mahendra P. Lama,** Professor, Jawaharlal Nehru University Rapporteur: **Jing Huang** (ESCAP) The Roundtable reflects on national-level solutions and challenges in managing water resources in a sustainable manner as risks from climate change rise across the Hindu Kush Himalaya region. Government policy makers and experts will share solutions, challenges and cooperation needs for sustainable, inclusive and climate-resilient water management. Special Address by Dignitary (Virtual) H.E. Syeda Rizwana Hasan, Advisor to the Interim Government, Ministry of Water Resources and Ministry of Environment, Forest and Climate Change, Bangladesh Panel Discussion: • **Debolina Kundu,** Director, National Institute for Urban Affairs, India *(virtual)* • **Sanjeeb Baral**, Joint Secretary, Water Resources and Energy Research Center, Water and Energy Commission, Nepal • **Pema Thinley**, Deputy Chief Planning Officer, Office of Cabinet Affairs & Strategic Coordination, Office of the Prime Minister & Cabinet, Bhutan • **Md Abdul Hossen,** former Member, Joint Rivers Commission, Bangladesh *(virtual)* • **Kalyan Rudra,** Chairman, West Bengal Pollution Control Board, India • **Arvind Kumar,** President, India Water Foundation, India • **Session Synthesis**: Key takeaways, highlight national experiences in integrating water and climate strategies to build resilience in the HKH. [90 minutes]
10:30–11:15	**Session 5**- Inclusion and Practice Session Chair: **Veena Vidhyadharan**, Oxfam in Asia Session Coordinator: **Vishwa Ranjan Sinha,** IUCN Rapporteur: **Yeshi Lham,** ICIMOD This session explores how inclusive science through youth engagement, gender-sensitive approaches, citizen science, and Nature-based Solutions can drive water and climate resilience in the HKH. • **Md. Shahadat Hossain,** Institute of Water Modelling (IWM) - Bangladesh • **Liang Gao,** Sichuan University – China • **Rajan Subedi,** Oxfam - Nepal • **Mahwish Afridi,** Hashoo Foundation – Pakistan **Session Synthesis**: Key takeaways, inclusive approaches in basin strategies [45 minutes]
11:15–11:30	Tea break

11:30–13:00	**Session 6:** Aligning Multilateral Action for SDG 6 & 13 Moderator: **Anshuman Varma,** ESCAP Session Coordinator**: Mikiko Tanaka**, ESCAP Rapporteur: **Michael Koch** (ESCAP) Building upon Session 3, this session aims to provide a platform for regional and international partners to share new insights and ongoing efforts in the HKH that can inform and contribute to global processes on water and climate. Overview of the session Working Groups: • **Climate–Water Risks:** Water for Planet / DRR / resilience • **Ecosystems and NbS:** Water for Planet / Water for Prosperity • **Resilient Infrastructure:** Water for People / Water for Prosperity • **Policy, Innovation & Implementation:** Water for Prosperity and Investments for Water • **Basin Governance & Cooperation:** Water for Cooperation / Water in Multilateral processes **Report Back:** Presentation of Key insights from each thematic group Discussion and Q & A **Session Synthesis**: Key messages for recommended actions and opportunities. [90 minutes]
13:00–14:00	Lunch break
14:00–15:15	**Session 7**: Panel Discussion: Pathways to a Joint Basin Response under Climate Stress Session Chair: **Christina Leb,** World Bank Session Moderator**: Arun Shrestha**, ICIMOD Rapporteur: **Bingbing Feng,** ICIMOD This session will explore how HKH countries can move from shared science to coordinated basin-level action under climate stress. It will focus on practical cooperation during crises such as floods, droughts, and glacial hazards The discussion aims to identify actionable pathways linking basin cooperation to SDG 6, 11 and 13. Insights will feed into the HKH River Outcome Brief and preparations for the 2026 UN Water Conference. Panellists: • **Aneel Salman,** Chair – Economic Security, IPRI, Pakistan • **Medha Bisht,** Associate Professor, South Asian University, India • **Ni Guangheng,** Professor, Tsinghua University, China • **Mohammad Abu Sayed,** Director, Joint River Commission, Bangladesh • **Purna B. Chhetri,** Professor, Royal Thimphu College, Bhutan • **Jaco Du Toit,** UNESCO Representative to Nepal **Session Synthesis:** Highlight 3–4 key cooperation pathways on trust-building, data sharing, joint response, and sustained science–policy engagement. [75 minutes]
15:15	Working Tea Break
15:15–16:45	**Session 8:** From Regional Evidence to Global Platforms Rapporteur: **Chimi Seldon,** ICIMOD **a: Drafting the HKH Rivers Outcome Brief (45 minute)** Breakout work to refine key HKH messages and recommendations for APFSD, VNRs, HLPF, and the UN Water Conference 2026. **b: Plenary on HKH Rivers Outcome Brief (45 minute)** Presentation and high-level reflections on the draft HKH Rivers Outcome Brief and its pathway into global processes. [90 minutes]
16:45–17:15	Vote of thanks

Workshop participants group photo

Participants of the workshop 'Advancing SDG 2030 Agenda through science and cooperation' held December 4-5, Kathmandu, Nepal. | Photo: Rajendra Shaya/ICIMOD

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