ADB

RESILIENCE LEARNING MONTH

Introduction to the HKH DRR Hub and its role to promote MHRA and MHEWs in HKH

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EVOLUTION OF THE HUB

2017 — Leveraging Collaboration for DRR in KBI

2018 — Focus on Climate Change Adaptation and DRR in Koshi Basin

2019 — Koshi DRR Knowledge Hub Country Consultation: Building Resilient KBI

2020 — Focus on the Impact of Transboundary Working Groups and Knowledge Creation

2021 — Standard methodology for identification and prioritization of PDGLs and management of transboundary risks in a multi-hazard environment

2022 — Revisit formulation of TbWGs and Koshi-Country Chapters

2023 — Discussion on evolving from KDKH to HDKH

2024 — Launch of the HKH DRR Hub

HKH DRR HUB OBJECTIVES

Promote science and evidence-based collaboration, understanding, and decision-making across the HKH region to climate-induced disasters

1. Promote science and evidence-based collaboration, understanding, and decision-making across the HKH region to climate-induced disasters
2. Strengthen the science-policy–practice interface by developing and showcasing solution-oriented research and practices
3. Synthesize and provide recommendations for policy advocacy that takes into consideration transboundary actions
4. Facilitate dialogue and trust building among different stakeholders such as policy/decision makers, implementers, media outlets, and private-sector organisations.

HUB PRINCIPLES

HKH DRR Hub proposes the following key principles which define its features

01

Transboundary Collaboration

Recognizing that disaster risks transcend national borders, the Hub promotes cooperation and knowledge sharing among countries in the HKH region

02

Diversity and Inclusivity

The Hub values the diverse perspectives and experiences of all stakeholders and strives to create an inclusive environment where everyone feels welcome and respected

03

Mutual Benefit

The Hub aims to generate solutions that benefit all involved, fostering a sense of shared ownership and responsibility for disaster risk reduction in the HKH.

04

Co-creation

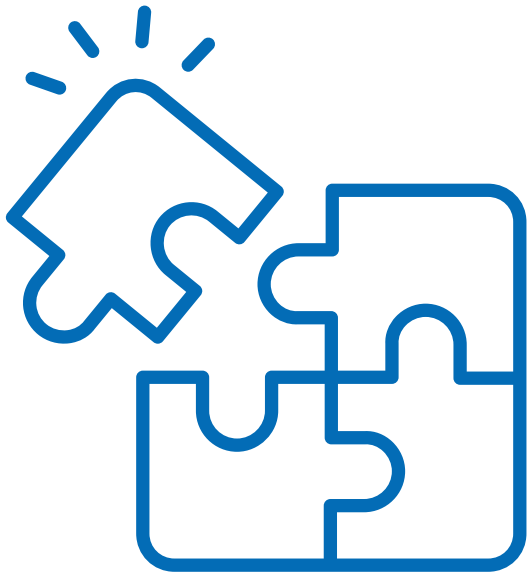
The Hub aims to actively engage with members and stakeholders to co-develop and implement

05

Neutrality

The Hub shall maintain a neutral stance, providing a platform for open dialogue and collaboration with an apolitical stance.

GUIDING FACTORS



1 OUTCOME

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

1 GOAL

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

4 PRIORITIES

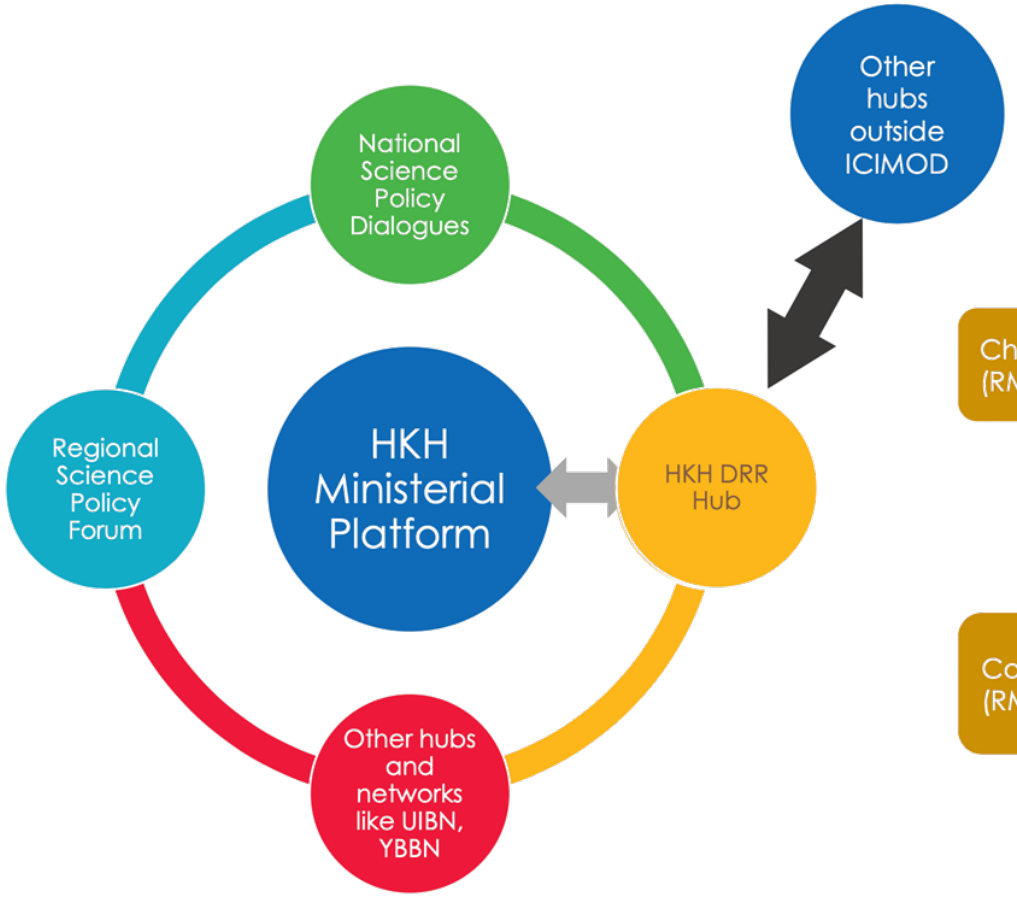
- Understanding disaster risk
- Strengthening disaster risk governance to manage disaster risk
- Investing in disaster risk reduction for resilience
- Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction

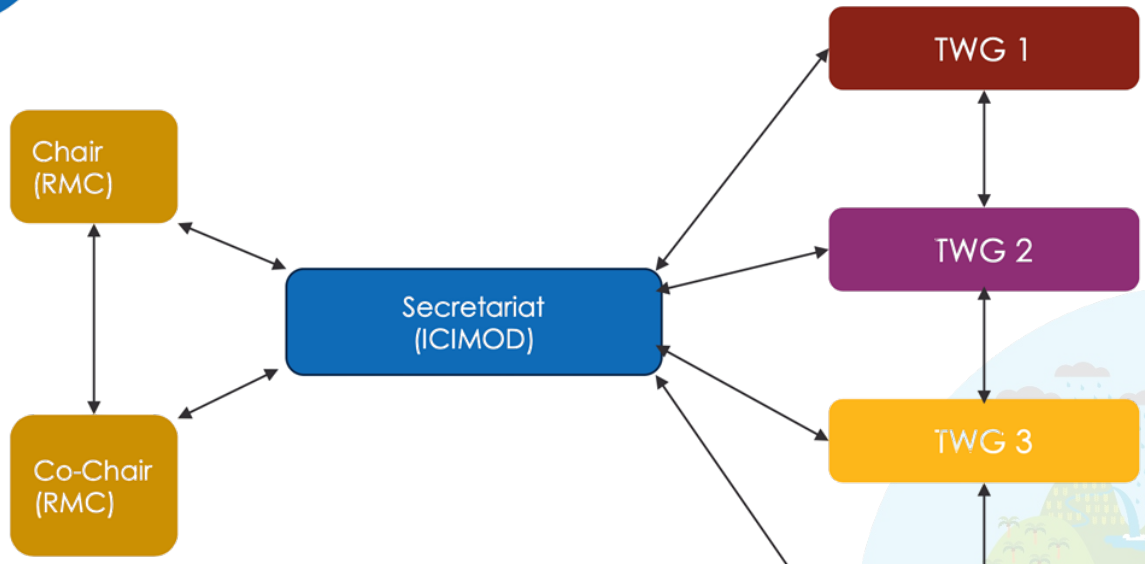
7 TARGETS

- ↓ DISASTER MORTALIY BY 2030
- ↓ NUMBER OF AFFECTED PEOPLE BY 2030
- ↓ ECONOMIC LOSS BY 2030
- ↓ INFRASTRUCTURE DAMAGE BY 2030
- ↑ DRR NATIONAL/LOCAL STRATEGIES BY 2020
- ↑ INTERNATIONAL COOPERATION BY 2030
- ↑ EWS AND DR INFORMATION BY 2030

Pathways to change	1. Synthesize science and evidence	2. Collaborative actions	3. Regional engagement
	Synthesise science and evidence to inform policies and plans	Envision joint projects and practices based on the science and evidence developed	Member countries cooperate with each other on mutually beneficial areas and practice knowledge sharing.

GOVERNANCE STRUCTURE





MODALITY

Annual Platform

The Hub will convene annually, bringing together members from the Regional Member Countries (RMCs) of ICIMOD

Rotating Leadership

- Chair and Co-chair selected alphabetically from member countries.
- One-year term for leadership roles.
- Co-chair becomes Chair the following year.

Co-hosting

The HKH DRR Hub will be co-hosted by the Chairing country and ICIMOD. ICIMOD will provide the necessary resources for the Hub's operation.

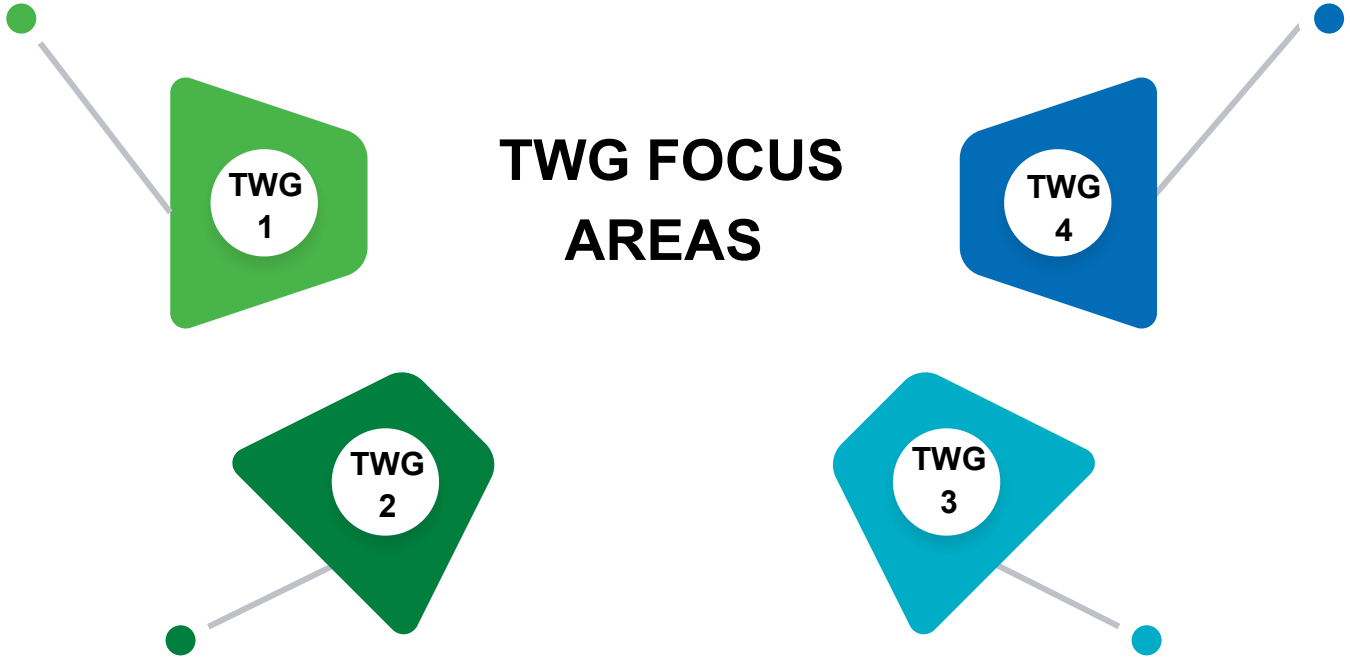
Thematic Focus

SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION 2015-2030

Four Technical Working Groups (TWGs) will be established, aligning with the four priorities of the Sendai Framework for Disaster Risk Reduction (SFDRR):

THEMATIC WORKING GROUPS

TWG FOCUS AREAS



HKH Risk Understanding

•Risk Assessment: Understand latest developments in multi-hazard risk assessments, vulnerability mapping, and data analysis.
•Knowledge Generation: Promote need-based research on HKH-specific disaster risks, including climate change impacts.
•Capacity Building: What kind of trainings and resources on risk assessment methodologies is required for HKH countries

Strengthening Risk Governance

•Policy Analysis: Understand the need to review and analyze existing DRR policies and frameworks in the HKH for further enhancement to reduce the risk of climate -induced disasters
•Coordination: Facilitate collaboration and information sharing among stakeholders.
•Advocacy: Advise on ways to integrate DRR into development planning at all levels.
•Community Empowerment: Support in providing guidance for community-driven disaster risk management.

Investing in DRR for Resilience

•Resource Mobilization: Identify and advocate for funding opportunities for DRR initiatives in the HKH.
•Investment Strategies: Understanding of the financing gap and ensure that sufficient resources are directed to appropriate sectors for effective investment in HKH for DRR.
•Technology Transfer: Promote the use of innovative technologies for disaster resilience learning from member countries and beyond.
•Economic Analysis: Assess the economic benefits

Enhancing Disaster Preparedness

•Resource Mobilization: Identify and advocate for funding opportunities for DRR initiatives in the HKH.
•Investment Strategies: Understanding of the financing gap and ensure that sufficient resources are directed to appropriate sectors for effective investment in HKH for DRR.
•Technology Transfer: Promote the use of innovative technologies for disaster resilience learning from member countries and beyond.
•Economic Analysis: Assess the economic benefits of DRR solutions in HKH for enhanced advocacy for DRR.

ICIMOD

Australian Aid

Swiss Agency for Development and Cooperation SDC

HKH DRR HUB

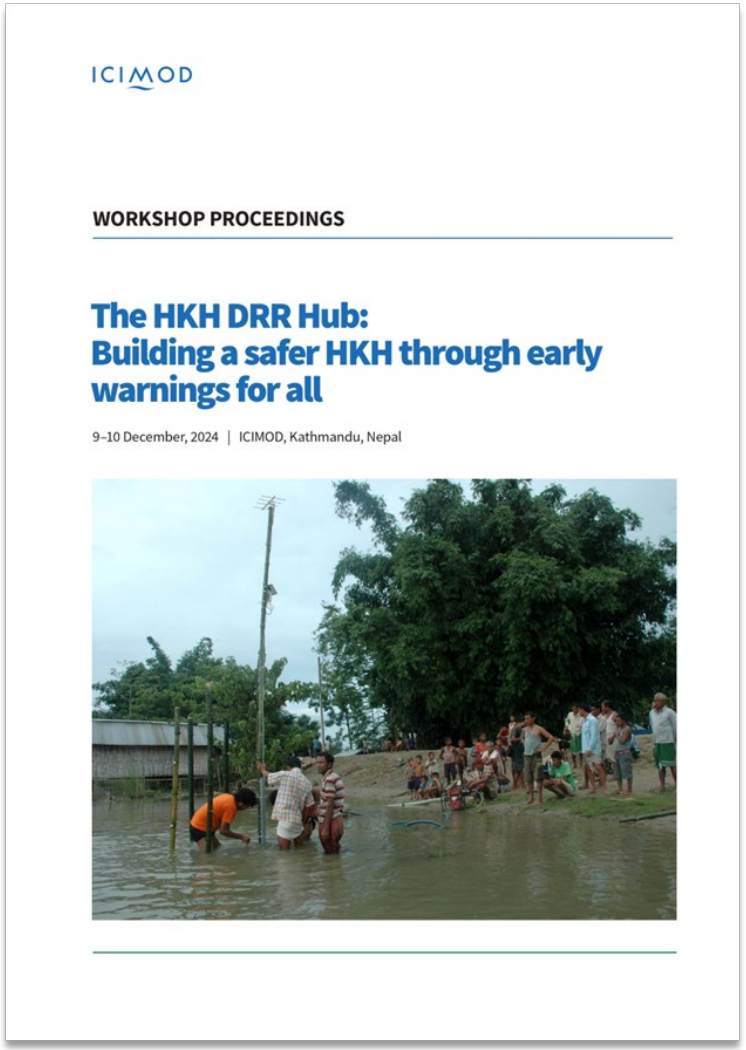
Building a safer HKH through Early Warnings for All

9–10 December 2024 | ICIMOD, Nepal

HKH DRR HUB 2024 OUTCOME: ROADMAP

Increase understanding of disaster risk through activities including collecting comprehensive disaster risk data, promoting the strengthening of MHEWS and developing open-source dashboard for data sharing

Continue holding the HKH DRR Hub to promote knowledge exchange, identify local priorities through national level workshops where local communities, youth, women and people with disability are represented.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WORKSHOP PROCEEDINGS

The HKH DRR Hub:
Building a safer HKH through early warnings for all

9–10 December, 2024 | ICIMOD, Kathmandu, Nepal

Assess financing gaps and improve understanding of how national and local governments can allocated available resources for better DRR spending. Also engage with the private sector to promote incentives to scale up investment.

Enhance the ability to analyze data and interpret risks, while raising awareness about emerging dynamic risks and appropriate responses through MH-EWS and early action. Develop training modules including those that are gender responsive.

BARHKH: Key Outputs

Output 1
Enhanced Climate and Disaster Risk Assessment

Strengthened risk assessments, data, maps, and watershed prioritisation.

Support by ICIMOD

Output 2 **Comprehensive Multi-Hazard Regional Early Warning Approach**

Integrated regional multi-hazard early warning framework

Supported by ICIMOD

Output 3
Developed Climate Risk Management and Finance Services

Climate risk management and finance solutions

Supported by ICIMOD

Output 4
Enhanced Awareness Raising and Knowledge Exchange

Regional awareness and knowledge sharing

Led by ICIMOD

Output 5
Media training to enhance adaptation and resilience in HKH

Informed outreach

Supported by ICIMOD

HKH DRR HUB 2025

Accelerating Inclusive Resilience and Risk-Informed Investment in the Hindu Kush Himalaya

18-19 December 2025 | Bangkok, Thailand

HKH DRR HUB 2025 OUTCOME: BANGKOK DECLARATION

From risk data to action

Institutionalise multi-hazard risk assessments for anticipatory action and resilient investment

01

Harmonised early action

Align impact-based thresholds, SOPs, and inclusive last-mile delivery under EW4All

02

Loss & Damage readiness

Build national pipelines for timely, gender-responsive access to finance

03

GEDSI at the core

Use sex-, age-, and disability-disaggregated data to guide risk governance and financing

04

Risk-informed finance

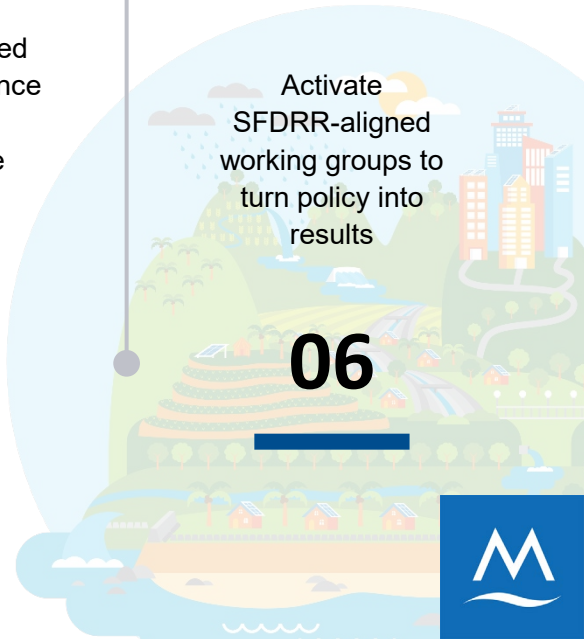
Mobilise blended and private finance for high-risk infrastructure

05

HKH DRR Hub in action

Activate SFDRR-aligned working groups to turn policy into results

06



MULTI-HAZARD INTERACTIONS IN THE MOUNTAINS

01

Cascading

Key characteristics:
• Short time lag (hours-days)
• Chain reaction sequence
• Impacts propagate downstream

examples:

•Melamchi 2021 — Extreme rainfall (rain on snow) → GLOF → debris flow → landslide river blockage → landslide dam break → flash flood → intake damage

•Sikkim GLOF 2023 – Teesta III Dam Failure Permafrost-linked moraine collapse → ~20m tsunami wave in South Lhonak Lake → Moraine dam breach → GLOF → debris flow → flood till Bangladesh
•1994 Lugge Tsho GLOF in Lunna region Ice/rock avalanche → fell into Lugge Tsho (glacial lake) → created displacement wave → overtopped and breached moraine dam → Glacial Lake Outburst Flood (GLOF)

02

Compounding

Key characteristics:
• Concurrent timing
• Scattered spatial impacts
• Overwhelms response capacity

•2024 September Rainfall — Multiple floods & landslides across river basins during same rainfall event
•Himachal Pradesh Compound Floods and landslides in a catchment due to extreme rainfall.
•Cyclone Aila (originated Bay of Bengal) made landfall → carried extreme rainfall northward into Bhutan → simultaneously triggered: (a) flash floods across river basins AND (b) landslides and avalanches in steep terrain (notably Laya)

03

Amplifying

Key characteristics:
• Longer time lag (weeks-years)
• Reduced recovery capacity
• Window for DRR intervention

•2015 Gorkha earthquake → weakened slopes → increased landslide susceptibility during subsequent monsoons
•Sikkim Repeat Landslide-Flood compound Change-condition (2023 GLOF pre-weakened terrain); Triggering (rainfall→ landslides→ river rise→ dam/infrastructure damage)
•Drought increasing rate of forest fire spread in mountains

HKH MHRA FRAMEWORK DEVELOPMENT

2021

Foundation

- Identified need for an HKH-wide MHRA framework
- Developed MHRA Framework v1 and presented at ICIMOD

Testing & Innovation

2024

- Developed 4 multi-hazard case scenarios (cyclones, drought–fire, landslides, GLOFs)
- Conducted MHRA multi-hazard modelling hackathon
- Advanced MHRA–MHEWS integration through HKH DRR Hub 2024
- Applied MHRA in community case scenarios
- Developed methodologies for community and infrastructure risk assessment
- Integrated GEDSI and climate projections
- Field-tested
- Initiated regional TWG on risk assessment

2025

Operationalisation

- Operational MHRA (interaction) rollout in Bhutan and Nepal
- Supported national MHRA policies and hydropower guidelines
- Launching planned MHRA operational framework for infrastructure
- Focus on MHEWS

Scaling & Policy Uptake

Thank you !

FOR MOUNTAINS AND PEOPLE