

# APN and the LAKI HKH Initiative (Phase II): Leveraging global change research to address adaptation knowledge gaps in the Hindu Kush Himalayan region

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## Introduction

### The Lima Adaptation Knowledge Initiative (LAKI, UNFCCC)

Launched at the UNFCCC 41st session of the Subsidiary Body for Scientific and Technological Advice (SBSTA41, December 2014) in Lima, Peru, the Lima Adaptation Knowledge Initiative (LAKI) is an action pledge seeking to bridge knowledge gaps and barriers that hinder climate change adaptation efforts (UNFCCC, 2024a). It is jointly implemented by the UNFCCC Secretariat and the Nairobi Work Programme (NWP), and the UN Environment Programme (UNEP) through the Global Adaptation Network (GAN). Presently, LAKI is addressing knowledge gaps in seven subregions: the Andean subregion, West Asia, Southern Africa, the Hindu Kush Himalaya, the Indian Ocean Islands, North Africa, and the Pacific Small Island Developing States.

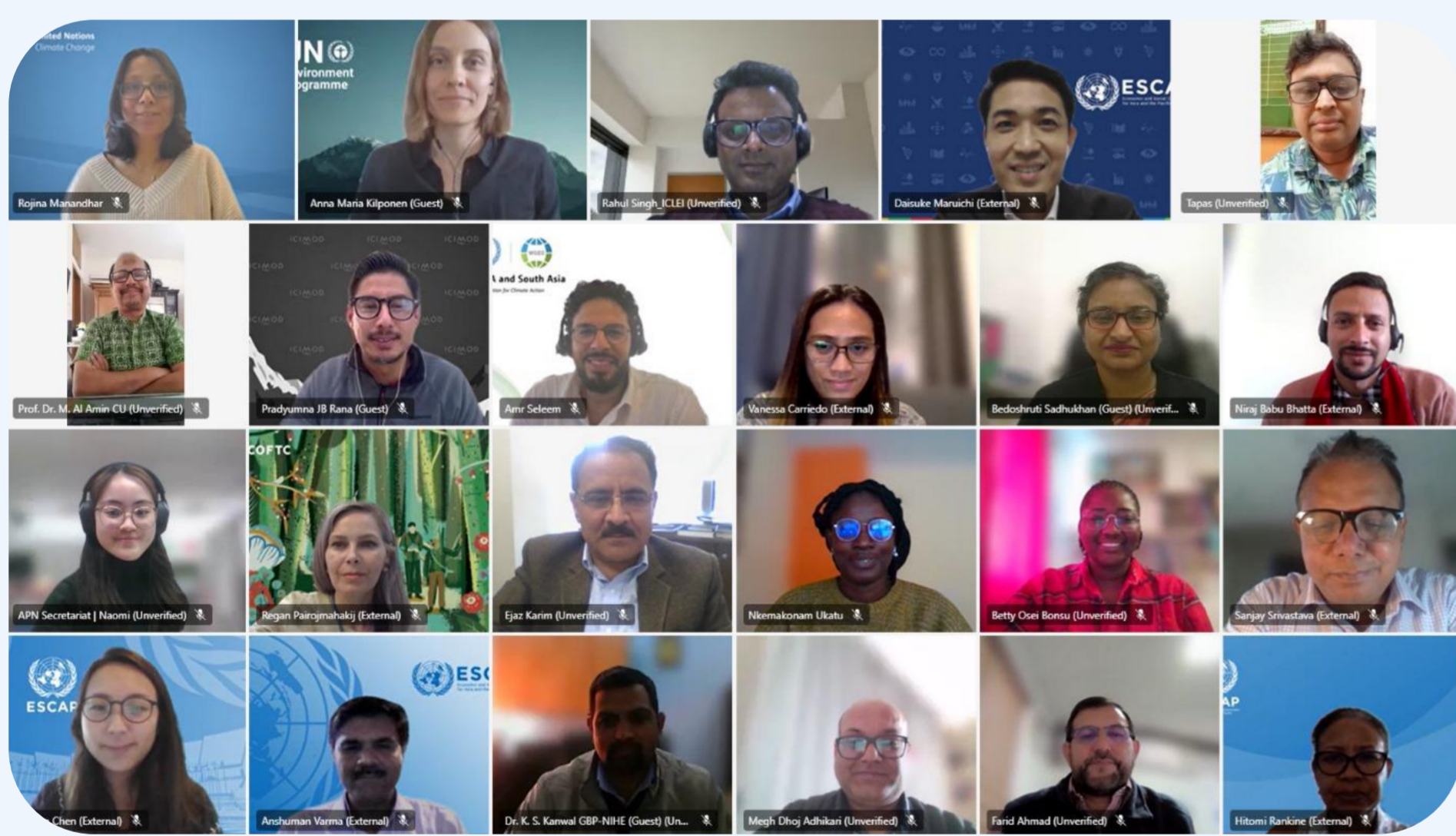
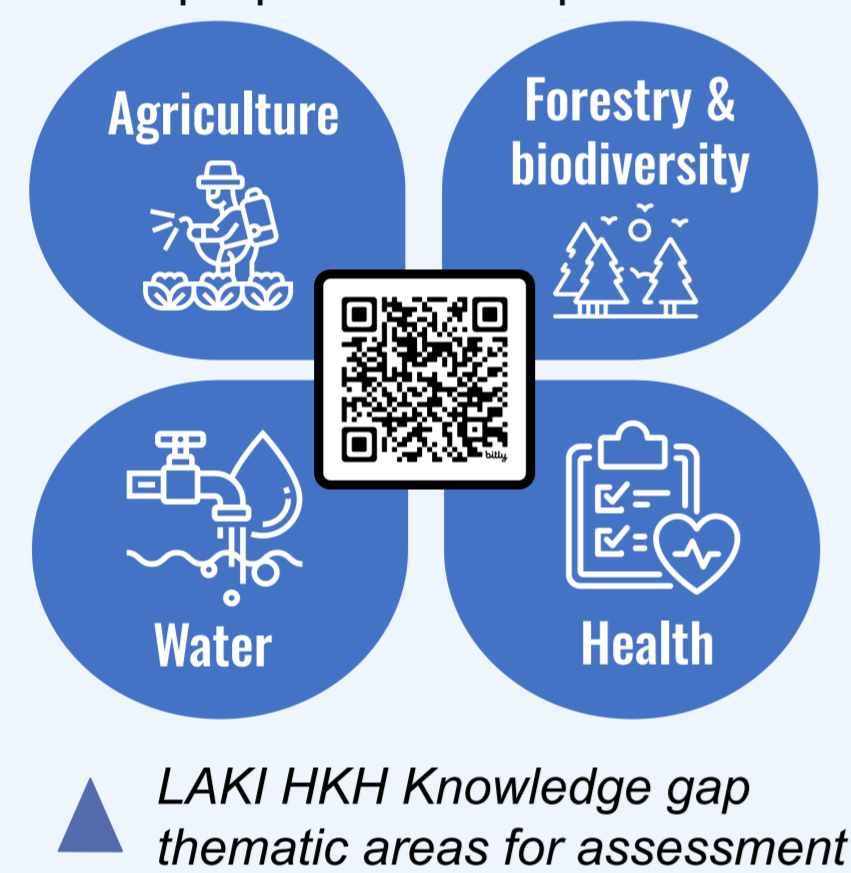
### LAKI in the Hindu Kush Himalayan subregion

In partnership with the International Centre for Integrated Mountain Development (ICIMOD) and the UNEP Asia-Pacific Adaptation Network (APAN), the LAKI HKH initiative was launched at its priority-setting workshop in Colombo, Sri Lanka (October 2016) (UNFCCC, 2024b). Sixty-four adaptation knowledge gaps were identified and categorised into thematic areas by a twelve-member multi-stakeholder group, of which were refined and prioritised to sixteen priority knowledge gaps (PKGs) (ICIMOD, 2016). From 2023, the LAKI HKH is in its second phase to address the critical gaps in adaptation planning and implementation in the HKH region, with the aim to design and implement collaborative actions to close the sixteen PKGs in the subregion.

### Engagements between APN and LAKI

The APN Secretariat has been a knowledge partner with the UNFCCC NWP since 2015, with case studies on climate adaptation submitted to its Adaptation Knowledge Portal. For the current LAKI HKH initiative, the APN Secretariat has been involved since the commencement of its second phase in August 2023, after participating in its Pre-Forum Stakeholders Consultation at the 8th Asia-Pacific Climate Change Forum in Incheon, Republic of Korea.

In 2024, the APN Secretariat has been engaged with the LAKI HKH initiative as a knowledge partner, following one-to-one discussions with the LAKI HKH implementing team (UNFCCC, UNEP and ICIMOD) inviting the contribution of applicable case studies to assist in closing the regional PKGs. Representatives from the APN Secretariat also participated in a two-day LAKI HKH Technical Expert Meeting in March 2024 amongst other regional knowledge partners, with the objective to discuss the outcomes of its stocktaking exercise, forge networks amongst knowledge partners to co-design action proposals to close the PKGs, and develop the full action proposals for implementation in the short-term (APN, 2024).



▲ Participants of the LAKI HKH Stakeholders Consultation at the 8th Asia-Pacific Climate Change Adaptation Forum, in Incheon, Republic of Korea, including the late Prof. Saleemul Huq (August 2023)

▲ Knowledge partners gather virtually at the LAKI HKH Phase II Second Technical Experts Meeting, convened by UNEP, UNFCCC and ICIMOD (March 2024)

## Methodology

### Stocktaking exercise of existing initiatives and case studies addressing knowledge gaps in the Hindu Kush Himalaya

The stocktaking exercise in the LAKI HKH Phase II was first introduced through a one-to-one engagement with the LAKI implementing team on virtual channels. Utilising a prescribed template of the LAKI HKH knowledge gaps, the stocktaking exercise sought to retrieve all relevant initiatives and case studies addressing the priority knowledge gaps in the HKH region (as relevant to the organisation).

### Regional scope of stocktaking assessment

The countries covered by the LAKI HKH subregion include: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, and Nepal (ICIMOD, 2016). The entire territories of Bhutan and Nepal are considered in scope, while the remaining countries are only partially in scope, as aligned with the Hindu Kush Himalayan mountain ranges (ICIMOD, 2024). The APN Secretariat is available to provide input to all indicated countries, except Afghanistan as a country outside of APN's designation of the Asia-Pacific region and its 22 member countries.

### Assessment of relevant initiatives and case studies

Due to bandwidth constraints, APN Secretariat conducted a manual filtering of projects involving Bhutan and Nepal, as countries with the full territory in scope of the HKH region. All project objectives and outputs were extracted and assessed against the LAKI HKH knowledge gaps and the stocktaking exercise rubric.

## Reference/Footnotes

APN, 2024. APN participates in the Lima Adaptation Knowledge Initiative (LAKI) Phase II 2nd Technical Expert Meeting for the Hindu Kush Himalaya region. <https://www.apn-gcr.org/news/apn-participates-in-the-lima-adaptation-knowledge-initiative-laki-phase-ii-2nd-technical-expert-meeting-for-the-hindu-kush-himalaya-region/>

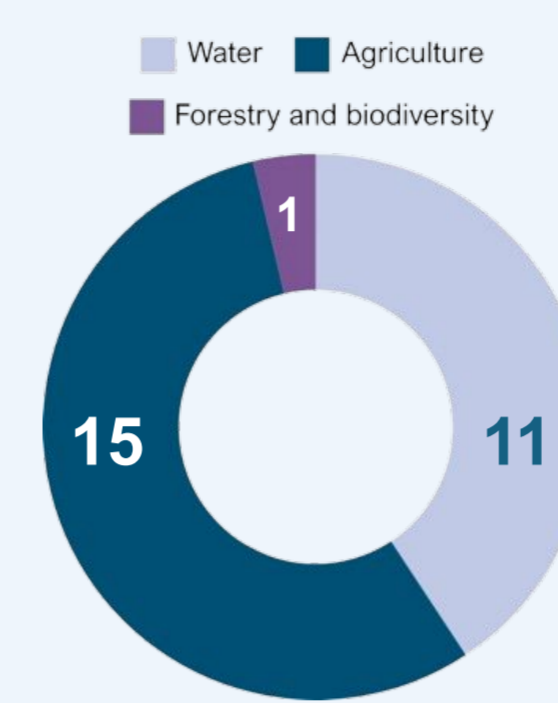
ICIMOD, 2016. Hindu Kush Himalayan Subregional Profile. [http://www4.unfccc.int/sites/NWP/Documents/LAKI\\_e-pub\\_2018\\_Hindu%20Kush%20Himalaya.pdf](http://www4.unfccc.int/sites/NWP/Documents/LAKI_e-pub_2018_Hindu%20Kush%20Himalaya.pdf)

ICIMOD, 2024. The Hindu Kush Himalaya. <https://www.icimod.org/who-we-are/the-hindu-kush-himalaya/>

UNFCCC, 2024a. The Lima Adaptation Knowledge Initiative. <https://unfccc.int/topics/adaptation-and-resilience/workstreams/nairobi-work-programme-nwp/the-lima-adaptation-knowledge-initiative>

UNFCCC, 2024b. LAKI in the Hindu Kush Himalayan Region. [https://www4.unfccc.int/sites/nwpstaging/Pages/LAKI\\_HK\\_H.aspx](https://www4.unfccc.int/sites/nwpstaging/Pages/LAKI_HK_H.aspx)

## Preliminary Results



24 APN projects addressing the LAKI HKH priority knowledge gaps (PKGs) in Bhutan and Nepal since 2001

85 institutions engaged in the 24 identified projects



### Overview of assessment results for the LAKI HKH in Bhutan and Nepal

The APN Secretariat contributed 27 case studies to nine LAKI HKH PKGs in the thematic areas of water, agriculture, and forestry and biodiversity. APN projects predominantly contributed to PKGs in the areas of knowledge generation addressing local climate and agriculture (PKG 4, seven submissions), traditional knowledge and indigenous knowledge (PKG 6, six submissions), and awareness-raising and early warning systems for multiple hazards (e.g. drought, landslides, glacier lake outburst floods) (PKG 3, four submissions).

Overwhelmingly, the APN case studies were cross-cutting across the PKGs and transdisciplinary in nature across the given thematic areas. Many projects indicated the relevance of scaling-up the target research and activities, with the aim to further replicate adaptation assessments, training, or knowledge generation to new stakeholders and spatial scales in the Hindu Kush Himalaya region.

### LAKI Highlighted Project: Integrating geospatial technologies in climate-smart agriculture (CSA) planning and management in South Asia

Focusing on Bhutan and Nepal, the project led by Mid-West University (Nepal) provided geospatial technology training and assessed local applications for planning and managing climate-smart agriculture. The initiative included six training programs, providing both theoretical knowledge and hands-on field experience to 107 trainees in Nepal and 43 trainees in Bhutan. Using spatial data from these field visits, a web platform was developed to enhance decision-making processes in CSA. Additionally, a field monitoring station was established in Nepal to strengthen the capacity of local stakeholders in agricultural extension services and research institutions, promoting the adoption of best practices in climate-smart agriculture. Following its conclusion, the project emphasised the existing gap in understanding CSA applications in South Asian countries and specifically Nepal and Bhutan; more collaborative research is required to develop small-scale and locally-led actions.

**PKG Agriculture** Inadequate information and knowledge on adaptation options and technologies suitable to address context-specific climate extremes, impacts and risks for agriculture and the net effect of climate change at the local level

**PROGRAMME** Scientific Capacity Development  
**PROJECT LEADER** Dr Sudeep Thakuri, Mid-West University **GRANT DOI** 10.30852/p.17443

### Featured Project: Development of an adaptation communication framework for mainstreaming indigenous and local knowledge (ILK) for the HKH region

Implemented in Nepal, Bhutan, India, and Pakistan, this project contributed largely to the documentation of ILK systems in the HKH region to enhance the regional capacity of climate adaptation communication. Fifteen training workshops were initiated to over 800 participants, mainstreaming ILK in climate change adaptation education. Nine community radio programs were delivered in India, Nepal, and Bangladesh to an estimated audience of 100,000-1 million on utilising ILK to combat local climate change adaptation, and ten peer-reviewed publications were prepared. To scale up activities, this project directly supported the governments of Nepal and Pakistan to implement the Green Climate Fund project seeking to build community resilience through application of traditional and local knowledge systems.

**PKG Agriculture** Limited access to traditional knowledge and indigenous knowledge on agricultural adaptation

**PROGRAMME** Scientific Capacity Development  
**PROJECT LEADER** Dr Osamu Mizuno, Institute for Global Environmental Strategies **GRANT DOI** 10.30852/p.13085

### Featured Project: Inventory of glaciers and glacial lakes and the identification of potential glacial lake outburst floods (GLOFs) affected by global warming in the mountains of India, Pakistan, and China/Tibet Autonomous Region

To address the evolving hazard susceptibility of glaciers and glacial lake outburst floods (GLOFs) in the HKH region, the ICIMOD-led project identified and digitally mapped 143 potentially dangerous glacial lakes in Pakistan, India, and the Tibet Autonomous Region. With the aim to assess emerging risks and vulnerabilities, the data was compiled into a digital database, and hydrology professionals received training in remote sensing and GIS to develop monitoring and local early warning systems. The results highlighted the high importance of planning and prioritising disaster mitigation efforts to build the resilience of downstream communities. However, the project noted the need to field-validate hotspot areas around potentially dangerous glacial lakes. Additionally, the project strengthened collaboration between ICIMOD and other regional stakeholders, enhancing regional capacity and cooperation in managing GLOF events and multi-hazard scenarios.

**PKG Water** Lack of access to awareness-raising products and early warning systems for multiple hazards (e.g. drought, landslide, debris flow, flooding, GLOFs in the Himalayas and downstream communities)

**PROGRAMME** Annual Regional Call for Proposals  
**PROJECT LEADER** Dr J.G. Campbell, ICIMOD **GRANT DOI** 10.30852/p.4212

## Next Steps

As a knowledge partner of the LAKI HKH Phase II initiative, the APN Secretariat has committed to strategic actions regarding repackaging and sharing its existing case studies and project outcomes addressing the LAKI HKH knowledge gaps for new, scaled-up, and tangible actions. The method proposed to achieve the proposed actions are to disseminate the relevant outputs through existing knowledge-sharing platforms, such include the Asia-Pacific Climate Change Adaptation Information Platform (AP-PLAT) Adaptation Database and the NWP Adaptation Knowledge Portal.

Simultaneously, the APN Secretariat will undertake a full stocktake of its project-based initiatives and case studies relevant to the LAKI HKH knowledge gaps, including the HKH countries unassessed in the given HKH-specific territories: Bangladesh, China, India, Myanmar and Pakistan (ICIMOD, 2024). Archival project outputs will also be updated on the APN project pages to facilitate the open-access of knowledge products.

The APN Secretariat remains in communication with the LAKI HKH implementing team on its actions and wider areas of cooperation, and has recently attended the SBSTA60 Expert Dialogue on Mountains and Climate Change discussing the LAKI HKH Phase II progress (June 2024). For more information about APN's work on the LAKI HKH knowledge gaps and actions, please contact Ms Naomi Young ([nyoung@apn-gcr.org](mailto:nyoung@apn-gcr.org)) and Dr Linda Anne Stevenson ([l Stevenson@apn-gcr.org](mailto:l Stevenson@apn-gcr.org)).

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