

ICIMOD

# Annual Report

2021

**Protect  
the pulse.**

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## Published by

### International Centre for Integrated Mountain Development (ICIMOD)

GPO Box 3226, Kathmandu, Nepal

ISSN 1019 1356 | LCCN sn 2020-325704

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**Jitendra Raj Bajracharya:** Pages iv, 2-3, 3, 4, 5, 6-7, 7, 10-11, 11, 12, 14, 15, 16, 19, 22, 24, 24-25, 28, 32, 34-35, 38-39, 40, 42, 44, 46, 56, 60, 62, 74-75, 86-87; **Karen Conniff:** Pages 1, 52-53;

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**Khasadrapchu MSS/UWICER:** Pages 20-21; **Medha Koirala:** Page 26; **Nabin Baral:** Page 27; **Nabina Lamichane:** Page 30-31; **ICIMOD photo archive:** Pages 51, 64-65, 72-73, 77;

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# Annual Report

## 2021

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## A time for resets

Dear friends and well-wishers of ICIMOD,

As I write this note in June 2022, the long shadow of the COVID pandemic seems to be retreating, and the tremendous difficulties we were facing in 2021 seem behind us. Nevertheless, reflecting on the past year, it is important to recall the challenges we faced – continued lockdowns that required us to adapt our annual workplan, and political shifts in Afghanistan and Myanmar that significantly reduced our work in these countries.

Despite the challenges, we were able to fulfil our recurring institutional commitments to both an external quinquennial review (QQR) process and a five-yearly independent gender audit. Although we would have preferred to engage in-person with the external review and audit teams, we appreciated their ability to adapt to the constraints and have listened to their feedback.

A significant finding of the gender audit was that our gender equality and social inclusion (GESI) work has historically been heavily weighted towards gender and less focused on social inclusion. Responding to this feedback, we have elevated our GESI work both as an explicit core value honouring diversity and as a key cross-cutting element of all our work in the new strategy, which will take effect from 2023 and extend through 2030.

This QQR, the sixth in our close to four-decade history, concluded:

“Overall, ICIMOD is a well-functioning organisation with core strength, coherence, and stability across its different functional areas.”

However, it also recommended some “resets” in our strategy and structure. In responding to this call, we have been tremendously fortunate in having our new Deputy Director General, Izabella Koziell, join us in July 2021. Leading the process, she mapped out broad consultations to develop both a new strategy and our new Medium-Term Action Plan (MTAP V). While we will detail these processes in next year’s annual report, I want to mention here

that our draft strategy was unanimously endorsed by our Board of Governors in its Extraordinary Meeting in April 2022. This endorsement has been a strong affirmation that our highly consultative process has worked well to build stronger engagement across our Regional Member Countries (RMCs).

As part of our ongoing work in this MTAP period, we continue to support our RMCs in their obligations under the HKH Call to Action. To this end, we facilitated the formation of a High-Level Task Force, helping to organise two meetings and draft clear terms of reference for its work monitoring the call to action and building the foundations for an institutional mechanism for regional cooperation.

On the global stage, we supported our RMCs’ engagements at COP26 in Glasgow while hosting and participating in [a range of events](#) that together comprised the [#HKH2Glasgow](#) campaign with its [three ICIMOD asks](#): Recognizing the HKH as the “pulse of the planet” – a region most vulnerable to climate change; promoting the “mountains of opportunity” investment framework for the region; and leveraging the “power of 8” which is the coordinated strength of our eight RMCs to address transboundary risks and leverage opportunities to accelerate ambitious climate action for the HKH.

2021 was also an important year for flagship publications. In an exquisitely captured book on [primates in the Far Eastern Himalayan landscape](#), we collate information about 16 primate species from the Far Eastern Himalaya, their conservation status, their place in the ecosystems and folklore, the threats to their survival, and ongoing conservation efforts. The book is the first of its kind for the landscape. In another publication, [Earth observation science and applications for risk reduction and enhanced](#)

[resilience in Hindu Kush Himalaya region: A decade of experience from SERVIR](#), we draw from a decade’s worth of experience gleaned over the course of implementing the SERVIR-HKH Initiative to build capacity for using Earth observation (EO) and geospatial technology for effective decision making in the HKH. From our SANDEE network, we published [Climate change and community resilience: Insights from South Asia](#), which documents the myriad ways community-based adaptation and resilience programmes are being implemented in South Asian countries, which have been dealing with climate change impacts for decades and can offer valuable learning opportunities for other countries confronting the wrath of climate-induced natural disasters.

The rest of this report will detail stories of achievement from our initiatives and programmes, but here I want to mention an invigoration project that is taking place at the ICIMOD Knowledge Park in Kathmandu. We have started our journey towards building an HKH eco-village model within the park – a project that we hope will provide inspiration for eco-entrepreneurs in the region – through broad-based discussions on developing buildings representing traditional architecture from our eight RMCs, which would run on renewable energy and use harvested rainwater, providing a living example of tourism that is place-based, eco-harmonious, sustainable, comfortable, and reflective of the richness of our mountains’ cultural and architectural traditions.

We continue with a “reset” attitude both in our work at the Knowledge Park and all of our work through 2022, which is the last year of our MTAP IV period.

I hope that the remainder of 2022 will continue to point us all towards renewed health and well-being – for our families, our mountain communities, and our planet.



STRATEGIC RESULT 1

## **Mountain innovations and community practices**

Promoting and supporting  
innovative approaches to address  
change and build resilience



## Knowledge sharing for climate-smart livelihoods

Fostering green livelihood approaches in Yunnan, southwest China

Our engagement in southwest China – part of the Far Eastern Himalayan Landscape – has included the co-implementation of a GEF Small Grants Programme-funded climate-smart livelihoods project with the UNDP and the Global Environmental Institute (China).

In 2021, the second and final year of the project, we organised knowledge exchange visits and consultations with community members – predominantly indigenous Lisu and Nu people living in the remote Gaoligong mountains – in Yunnan, the project area.

Our events provided a platform to share approaches to green livelihoods – sustainable agriculture, natural resource management, community-based conservation, nature-friendly products, tea plantation management, pest control, eco-tourism design and development, and natural hazard risk management – and where beneficiaries, experts, and government representatives came together to discuss novel ecological development models for rural revitalisation.



Livelihood diversification efforts in the mountains of Yunnan, China, have featured community participation as a key step towards nature-friendly rural revitalisation



## Springs of hope

### Spring revival work in Bhutan, India, and Nepal

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Community engagement, proven results in the field, and policy dialogues with government bodies in Bhutan, India, and Nepal are helping put the sustainability of spring sources at the centre of planning, policy, and practice.

Recently, our spring recharge interventions helped revive two critical springs in Nepal's Kavre district. These successful demonstrations led the municipality to allocate budget to revive two additional springs. We also conducted policy dialogues, stressing the need to move policies from springs protection to conservation and management at national and sub-national levels.

We are also working with the government in Bhutan, providing training and support in piloting and scaling springshed management. After two years of intervention, the revival of a previously dry spring has been reported in Paro district.

In India, we continue to lend support at state and district levels. Community resource persons we trained monitor several critical springs we have identified. In Manipur, with the Directorate of Environment and Climate Change, we organised a capacity-building training using our [six-step methodology](#), which, along with community and government support, continues to be the cornerstone of our springshed revival success story.

Our recharge interventions have helped revive critical springs. Community and government support will further enhance the sustainability and management of springs and springsheds across the region.



## Improving livelihoods and conservation through agroforestry

Demonstrating the power of public-private-community partnerships

We are leveraging a public-private-community partnership working with the private sector company Dabur Nepal Pvt. Ltd, the Taalkolla

community forest user group (CFUG) and the Gwallek-Kedar women's cooperative through an agroforestry project in Baitadi district, Nepal on *timmur* or Nepalese pepper (*Zanthoxylum armatum*). This hardy plant grows in fertile, barren, and degraded areas and is in high commercial demand in Nepal, India, and Europe.

The Regional Forest Directorate of Sudurpashchim province has provided overall direction and advice for project implementation. Both the Baitadi Divisional Forest Office and Dabur Nepal provided timmur saplings for plantation and Dabur continues to provide technical support for in situ production of saplings. The Taalkolla CFUG planted 2,500 timmur saplings in 10 hectares of land, will continue to provide land and labour resources, and will benefit from the sale of timmur in the

long term. Also benefiting from the sale of timmur are 350 members of the Gwallek-Kedar Women's Cooperative, who were provided two saplings each to plant in their home gardens.

We plan on widening this agroforestry project in the Kailash Sacred Landscape and beyond as well as encourage more public-private-community partnerships.



The agroforestry project leverages public-private-community partnership to support conservation and improve the livelihoods of local communities

# Disasters don't wait, and neither should preparedness

## Working with partners to embed CBFEWS across levels and scales in Pakistan

Community-Based Flood Early Warning Systems (CBFEWS) function best when stakeholders – community caretakers, nodal authorities, trainers, and most importantly the community itself – form a strong community-led communication network. Then ownership builds and preparedness grows. Communities and authorities in Pakistan have shown us just that.

In November 2021, we helped CBFEWS master trainers – who underwent our training programmes in 2017 and 2018 – train community caretakers of five pilot sites in Gilgit-Baltistan to interpret, verify, and relay warning to downstream communities and nodal authorities. The training, held in Islamabad, also engaged stakeholders from Khyber Pakhtunkhwa and Azad Jammu and Kashmir to orient them about this innovative approach for potential uptake. The caretakers also learned how to identify suitable locations for installation and about the mechanics behind the technology.

The master trainers engage with our partners Gilgit Baltistan Disaster Management Authority, Aga Khan Agency for Habitat (AKAH), WWF-Pakistan, and Buraq Integrated Solutions (BIS) to ensure timely repair, maintenance, sustainable operation, and post-disaster relief work. This percolates into ownership and knowledge among the community, which lends sustainability to the use of the system.

Based on the success of our CBFEWS pilots in Gilgit-Baltistan, the National Disaster Risk Management Fund (NDRMF) has supported AKAH and our private sector partner BIS to install CBFEWS at five sites in Chitral and Gilgit-Baltistan. We have customised the system for system efficiency and as per site requirements. We also completed technology transfer on manufacturing from Nepal to a local manufacturer, BIS. This has made the equipment economically accessible and sustainable for scaling purposes.

In the Damas and Shigar sites, key local stakeholders have agreed to share responsibility with us, WWF-Pakistan, BIS, and the AKAH for the repair of non-functional CBFEWS sites. Community representatives have committed to ensuring timely monitoring of the technology and regular communication with partners.

Along with our partners, we helped install CBFEWS at five sites in Chitral and Gilgit-Baltistan, completed technology transfer to a local manufacturer, and trained community caretakers from five sites in Gilgit-Baltistan





Tourism continues to be a blind spot in terms of the multilateral and bilateral climate finance required for green transition and meeting net zero targets

## Financing green transition

### Bridging the investment gap for green recovery of small tourism businesses in the HKH

The shocks of climate and the pandemic have demonstrated the vulnerability of the tourism economy in the HKH. As we scramble to recover, there is a growing consensus that building resilience to climate and other shocks should be part of the green recovery, especially for small

businesses – or small and medium size enterprises (SMEs) – worst hit by these crises.

However, tourism continues to be a blind spot in terms of the multilateral and bilateral climate finance required for green transition and meeting net zero targets. In Nepal, the government’s [tourism green growth strategy is part of its nationally determined contributions](#) (NDCs), highlighting an urgent need to mobilise both public and private finance to meet these targets.

To bridge this investment gap, an entrepreneur-led sustainable business incubation service centre – the Tourovation (Tourism + Innovation) Hub was launched in Nepal. In 2021, the Hub helped tourism entrepreneurs find innovative ways to integrate renewable energy and energy efficient

solutions into their operations and secure finance to accelerate transition to low carbon tourism enterprise. The curated and bankable business plans – with clear environmental and social benefits, and profitability – provided a strong business case and confidence for banks to finance. Since there are no dedicated funding bodies and mechanisms investing in greening tourism SMEs, we used an innovative approach to channel funds from financial intermediaries for these tourism SME-specific business plans. Innovative investment through deployment of finances specific to tourism SMEs can help bridge the investment gap for green recovery.

Based on these business plans, two SMEs – [Himalayan Companion Treks and Expeditions](#), and [Sanskriti Farm and Research Centre](#) – were



able to raise a total of NPR 3.3 million from major commercial banks, bridging the investment gap for their green recovery. This is a template that can be replicated in other HKH countries to help in the green recovery of tourism SMEs.

# Transboundary tourism across the Kangchenjunga landscape

## Strengthening a shared KL identity

Homestays are a unique community-based tourism product spread across the Kangchenjunga Landscape (KL) which have improved livelihoods, fostered economic development, and strengthened socio-ecological resilience at the transboundary level. Our work in 2021, focused on regional and cross-border dialogues and interactions to share community-based homestay management experiences across the three KL countries – Bhutan, India, and Nepal.

Cross-border exchanges have shown the receptiveness of communities and governments

to transboundary learning. Our district-level pilot intervention in Haa, Bhutan, which implements lessons learnt from Nepal, influenced the development of the tourism action plan in neighbouring Chhuka (also in Bhutan). The Chhuka Tourism Action Plan has, in turn, influenced the development of the Maipokhari Tourism Destination Plan in Nepal.

Amongst our partners, Community Homestay Network, Nepal supports homestay operators with bookings and guest distribution, a service that has proven extremely valuable for homestay operators. The extension of similar services at the landscape level will further our efforts to develop the KL into a transboundary destination.

Over the years, our pilots and scaling interventions have benefitted 107 homestays (70 in Bhutan, 18 in India, and 19 in Nepal), creating approximately 214 direct jobs. As extend the scope and scale of homestay development, we are focusing on clustering and packaging niche transboundary KL products – cultural as well as biological – to strengthen a shared KL identity.



Our interventions have benefitted 107 homestays and created 214 direct jobs across Bhutan, India, and Nepal





## Resilient agriculture and entrepreneurship in Bhutan

Building organic model villages and green enterprises across the country

We have been encouraging resilience in Bhutan by supporting the Royal Government of Bhutan's flagship programmes on organic agriculture and startups and cottage and small industries in the 12<sup>th</sup> Five Year Plan.

Since 2019, we have been piloting an organic model village approach in Nobgang village of Haa district, western Bhutan, promoting organic solutions and green enterprises, need-based capacity building and mentorship, and multistakeholder engagement. In collaboration with the National Centre for Organic Agriculture and other partners, we have replicated this approach in Lhuentse and Sarpang districts and have identified two more villages for similar interventions: Jabesa in Paro district and Jadinkha in Thimphu district. We diffuse successful organic solutions and lessons learned from the model villages to other parts of Bhutan by mainstreaming these approaches in the annual plans of our partners.

We also support startups by building resilient entrepreneurial ecosystems. In 2021, we incubated

two batches that enrolled in 2019. We now have 56 startups (out of which 20 are led by women entrepreneurs) which are registered and are providing green jobs to more than 300 people. For soft loans and easy access to green finance, we created linkages between the entrepreneurs and the National CSI Development Bank. In partnership with Antarprerana Pvt. Ltd. in Nepal and the Department of Cottage and Small Industries (DCSI) in Bhutan, we focused on three key areas – business development for entrepreneurs, the DCSI's institutional capacity to run an incubation programme, and the introduction of a mentorship programme – to help startups become resilient through stronger networking and a more conducive environment.

We recruited 15 national and international mentors to strengthen entrepreneurial ecosystems through specialised guidance at each stage of their journey. To make advances in digitalisation, we supported the DCSI to develop a technology database for entrepreneurs to access machinery for process innovation. To promote green businesses, we supported the production of 15 promotional videos for startups. We also helped set up a daycare centre at the DCSI's Startup Center in Thimphu to support women entrepreneurs.

Building on the Startup Center's experience in supporting its first cohort of entrepreneurs, we are now scaling out the same modality of promoting mentorships and green enterprises in Tsirang and Samtse districts. These new startup centres will focus on involving the youth and women in green entrepreneurial ventures.

We diffuse successful organic solutions and lessons learned from model villages to other parts of Bhutan and have incubated 56 startup enterprises providing green jobs





STRATEGIC RESULT 2

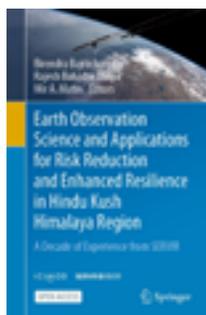
## Knowledge generation and use

Filling knowledge gaps and ensuring communities, government agencies, practitioners, and scientists use new data to drive positive change

# Flagship publications of 2021

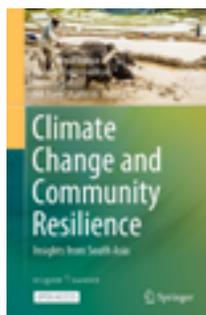
Three books across three initiatives published

In 2021, we published three books based on the work across three different initiatives.



We co-published an open-access book with Springer, [Earth observation science and applications for risk reduction and enhanced resilience in the Hindu Kush Himalaya region: A decade of experience from SERVIR](#), capturing lessons and experiences in utilising Earth

observation science and applications to address environmental challenges in the HKH. This book is a good reference document for those working in remote sensing, geographic information systems, regional and spatial sciences, climate change, and environmental analysis.



Through our SANDEE network, along with East-West University (Bangladesh), Goa University (India), and Oberlin College (USA), we co-edited an open access book, [Climate change and community resilience: Insights from South Asia](#), to bring attention to how

communities are adapting to climate change in the region. Rigorous research is narrated in a storytelling style, making the book accessible

to diverse audiences. The book has over 120,000 downloads since October 2021 and has been adopted as a resource material in some universities.



In 2021, we also published [Primates of the Far Eastern Himalaya](#). This book, which features 16 primate species from the landscape, is

aimed at drawing attention to several endangered and lesser-known species that are of critical conservation concern. It highlights the incredible diversity of primates in the region, key aspects of their ecology, their place in folklore and creation stories, and ongoing conservation efforts.

Drawing on the breadth and depth of our experience and engagement in the region, our flagship publications are enduring resources and references focusing on Earth observation, community resilience, and species mapping





## Climate data for all

### Helping our partners make datasets public

As a one-stop data portal for the HKH region, our [Regional Database System](#) (RDS) portal hosts a variety of datasets such as land cover, meteorological, and biodiversity data from the region. To further aid data availability and discoverability in a data-scarce region, we extend the platform to our partners to make their public datasets available to a wider audience.

In 2021, Bhutan's [Ugyen Wangchuck Institute for Conservation and Environment Research](#) shared its [weather data](#) for public download from the RDS portal. The dataset, collected under their Himalayan Rhythms Observation and Evaluation System project, consists of daily and monthly temperature and precipitation data for 2015–2020 derived from weather stations installed in 14 schools across Bhutan. The RDS portal also hosts and makes available [sea-level model projections data](#) for tide gauge locations in South Asia developed by the Met Office, under the Asia Regional Resilience to a Changing Climate (ARRCC) programme.

We also rolled out our Climate Data Download Tool, which allows users to clip and download customised sub-sets of global and regional climate model datasets for the HKH region. Based on user-defined parameters such as model run and spatial and temporal extent, the tool clips, processes, and packages these large datasets and makes them available for download. This significantly cuts down on the computing resources and time needed by users to prepare such large datasets for analysis. We have further enhanced the tool with the inclusion of the NASA Global Circulation Models and the new state-of-the-art Coupled Model Intercomparison Projects (CMIP6) models used in the IPCC AR6 report.

We hope to inculcate an open data-sharing culture in the region by creating and fostering an enabling environment to host, process, and disseminate data

## Analysing land use change for improved decision making

Our Regional Land Cover Monitoring System is a first-of-its-kind resource for the region

Recognising the data gaps in land cover and inconsistencies in land cover maps in the HKH region, we launched our [Regional Land Cover Monitoring System](#) (RLCMS), which provides annual land cover mapping and change analysis through generating spatially seamless and temporally consistent annual land cover maps. The system uses broad land use categories recommended by the IPCC, which are suitable for monitoring changes in forest cover and carbon stocks, and urbanisation extent at the regional level.

Our web-based application provides easy access to the harmonised land cover database for the entire HKH region from 2000 to 2018. It provides user-friendly tools to generate maps, charts, and statistics that improve understanding of the change processes and aid informed decision making. The system is being further customised to generate annual land cover data for Afghanistan, Bangladesh, Myanmar, and Nepal.

The RLCMS will improve reporting on forest cover change and support lawmakers in making evidence-based policies to improve related land management practices. Additionally, it will support relevant government departments in making policies, planning, and managing their forestry sector.

Spatially seamless and temporally consistent annual land cover maps for the HKH region support the sustainable management of natural resources, environmental protection, and food security, and provide required information for national and international reporting such as greenhouse gas inventories and environmental-economic accounting

## Tourism planning at the local level

Namkha Rural Municipality endorses a five-year sustainable tourism plan

As Nepal's gateway to Mount Kailash in the Tibet Autonomous Region of China, Namkha Rural Municipality needs sustainable tourism backed by long-term planning to drive socioeconomic development.

Since 2018, we have been working with the Nepal Tourism Board to help the local government of Namkha Rural Municipality promote sustainable tourism at the local, national, and international levels. This has led to the development of a five-year sustainable tourism plan, which was endorsed by the Rural Municipality in September 2021.

This plan, the first of its kind for Namkha, envisages tourism as a medium to bring about inclusive economic development while contributing to the conservation of local natural and cultural heritage and providing tourists with a premium tourism experience.



Planning at the local government level to achieve sustainable tourism outcomes provides a clear direction for investment by all stakeholders, including the public, private, and non-governmental sectors



## Promoting understanding of local air pollution implications

### Radio stories and journalist engagement in Nepal and Pakistan

Since radio has both a large user base and low barrier to access, it is an important platform to build public awareness. From our Atmosphere Programme, our media partnerships in 2021

have evolved into cost-sharing partnerships with umbrella radio networks in Nepal and Pakistan to amplify co-created air pollution messages in the form of science-based reporting.

This year, we worked with 43 environmental journalists – 21 of whom are women – from across Pakistan and Nepal to first help them better understand and then report on air pollution-related issues. Following an interactive session on the many facets of air pollution and its impacts on the environment and society between our scientists and the journalists, 16 journalists developed 10 radio stories and five public service announcements in local languages, which were further dubbed into local dialects and widely broadcast. In both countries, the stories contextualised a particular air pollution issue in one specific locality.

As an evaluation mechanism to further refine these activities, in Nepal we conducted a ‘narrowcasting’ session with 15 women from a mothers’ group. This narrowcasting allowed us to take before and after measurements of the participants’ awareness and knowledge. After listening to the radio messages, every one of the participants said they clearly understood the content of the audio story and learned new information, with some also making incisive suggestions to make the message even more informative.

Assisting journalists in understanding the science of air pollution has allowed us to leverage mass media to strengthen public understanding of the various dimensions of this alarming problem



STRATEGIC RESULT 3

## **Gender and social inclusion**

Ensuring that transformative change benefits the most marginalised people



The Renewable Energy Solutions in Agriculture (RESA) Incubation Programme introduces renewable energy solutions in the agriculture value chain for both efficiency and environmental and social sustainability, ultimately building business resilience

## Breaking the bias

### Gender, entrepreneurship, and energy

As part of our efforts to promote investment, entrepreneurship, and innovation, the Renewable Energy and Energy Efficiency Capability for the Hindu Kush Himalaya (REEECH) Initiative has set up a Renewable Energy Solution in Agriculture (RESA) incubation programme. During its incubation phase, where eight businesses were

selected for incubation, we involved women of diverse backgrounds in non-conventional roles in all enterprises to break numerous biases. Across all enterprises, women are either leading the business, driving technology in agriculture, or bringing innovation to their business.

#### **BIAS: ENTREPRENEURSHIP IS ONLY FOR THE YOUTH, AFFLUENT, AND EDUCATED**

Through capacity building, the single women of Chhahari Krishi Samuha – aged 60 and above – now negotiate with the bank for funds to scale their business, backed up by a strong investment plan.

#### **BIAS: INNOVATION AND TECHNOLOGY ARE NOT WOMEN'S FORTE**

Subhawana Subba, team member of a vertical hydroponics farm called Muttha, has a degree in biotech engineering and has designed a hydroponics monitoring system which has incorporated solar panels as a renewable energy source.

#### **BIAS: RENEWABLE ENERGY (SOLAR POWER, WIND POWER, HYDROPOWER) IS TOO TECHNICAL AND NOT MANAGEABLE FOR NON-EXPERTS**

Saugat Griha – a micro enterprise cooperative that produces paper, food, and textile products

– switched to solar dryers operated by women in many villages. They sought support for product diversification, and we sought to break the bias at each node of the value chain – from input supply to consumer – by bringing more women in the forefront of agricultural businesses incorporating renewable energy.



## Bridging the STEM gender gap in the HKH

Customised trainings for women in Earth observation and geospatial information technology

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Women researchers and technologists in the Earth observation (EO) and geospatial information technology (GIT) sector are close to nearly non-existent in the HKH. In 2021, we organised five country-focused [Empowering women in GIT](#) (WoGIT) trainings, which equipped 235 women from 166 diverse institutions in Nepal, Pakistan, Afghanistan, Bhutan, and Bangladesh, with basic knowledge and skills in EO and GIT. We further customized training materials to cater to participants' subject knowledge and needs, and country-specific needs and challenges. Through the virtual training mode, we were able to reach out to more women from remote areas.

We plan on offering this training in 2022 as well and will refine and update training materials to sustain women's interest in EO and GIT. We also plan to offer advanced trainings to the WoGIT alumni.

Promoting women leaders and role models in EO and GIT will not only make STEM more diverse and inclusive, but it will also expand the possibilities of these fields and help bring positive social change

# State of Gender Equality and Climate Change in Nepal

ICIMOD–UN report highlights areas for gender-responsive climate action

We collaborated with UN Women and the UN Environment Programme (UNEP) to co-produce [State of Gender Equality and Climate Change in Nepal](#), a report highlighting areas where gender-responsive climate action is needed for Nepal to meet global commitments.

The Government of Nepal has made much progress in integrating gender into climate change policies and recognised the need to integrate gender equality and social inclusion into adaptation and mitigation programmes. However, major limitations remain, such as the lack of an intersectional approach and of functional linkages between the federal, provincial, and local levels.

Such gaps prevent policies from adequately addressing gendered vulnerabilities and fully utilising the knowledge, skills, and capacities of all marginalised groups for climate change mitigation and adaptation. To help fill these gaps, our report provides information on the status of gender mainstreaming and identifies good practices across the forestry, agriculture, energy, and water sectors. We also present recommendations on planning out further policy work, capacity building, coordination, and research.



The report provides information on the status of gender mainstreaming and identifies good practices across the forestry, agriculture, energy, and water sectors



## Indigenous voices

### Ensuring indigenous local knowledge in adaptation and resilience building

To help reinforce the importance of indigenous local knowledge (ILK) in adaptation and resilience building, we are supporting efforts by indigenous scholars and organisations within and beyond the HKH through the Himalayan University Consortium's (HUC) Thematic Working Groups.

Women indigenous scholars from HUC member universities are leading studies that bring indigenous voices to the fore of research. Two women scholars from the Royal University of Bhutan have co-led a field study on perceptions of cryosphere-related disasters and risks in Bhutan. From Sikkim University, India, a woman scholar from the indigenous Lepcha ethnic group has won a residential fellowship at the Harvard-Yenching Institute to study local, indigenous perceptions of the relationship between human and other-than-human beings.

At COP26, we helped highlight innovative methods in communicating indigenous knowledge

for climate action at the local level through a session at the [Third Capacity Building Hub](#). The HUC collaborated with the an Institute for Global Environmental Strategies (IGES) and the Organización Nacional de Mujeres Indígenas Andinas y Amazónicas del Perú in organizing this session.

Two HUC members – Royal University of Bhutan and Hemvati Nandan Bahugun Garhwal University, India – are also part of IGES-led project promoting ILK for locally-led adaption in the Asia Pacific region. The Asia Pacific regional chapter of the World Association of Community Radio Broadcasters is also part of this ILK amplification project.

Thematic Working Groups of the Himalayan University Consortium promote cross-institution exchange and research partnerships including support to efforts by indigenous scholars and organisations within and beyond the HKH



A range of new and inexpensive agriculture machinery, adapted to local conditions, could potentially enhance labour productivity, reduce drudgery, and transform rural gender relations

## Empowering women farmers through agricultural mechanisation

Our collaboration with the UN Food and Agricultural Organization (FAO) speaks to the increasing feminisation of farming and the drudgery of agricultural production in the mountains

As men migrate to seek alternative livelihoods, women have been compelled to take on tasks formerly done by men, such as land preparation, harvest, post-harvest operations and marketing of produce, adding to their burden of household and off-farm work. This increasing feminisation of mountain agriculture has emerged as a pressing issue in recent decades. A range of new and inexpensive agriculture machinery, adapted to local conditions, could potentially enhance labour productivity, reduce drudgery, and enable women to gain new skills and knowledge that can transform rural gender relations and reduce inequalities.

We are committed to scaling out gender responsive and mountain specific resilient solutions and through our Resilient Mountain Solutions (RMS)

Initiative and with our partners, we actively promote gender and social inclusion approach. In 2021, we organised a series of webinars on 'Women farmers and sustainable mechanisation: Improving lives and livelihoods in the Hindu Kush Himalaya' along with FAO to focus attention on the agricultural mechanisation needs of women farmers in the HKH.

Sustainable agricultural mechanisation in the HKH must be tailored to the diversity of mountain contexts and user needs, especially of women. The webinar series was aimed at generating awareness and action around mechanisation gaps and identifying good practices and solutions for empowering women farmers and promoting women entrepreneurship as mechanisation service

providers. Participants in the Nepal episode called for greater investments in research to understand challenges and gaps. As a follow up to the Bhutan episode of the webinar series, we are exploring the possibility of a small pilot with the Agriculture Mechanization Center and Farm Machinery Corporation Limited in Haa district, Bhutan.



## Gender equality in tourism enterprises

### Champions from the Kangchenjunga Landscape

Tourism is an important priority area for national and local governments across Bhutan, India, and Nepal. Community-based tourism – the homestay in particular – is an entrepreneurial domain in which women of all ages contribute with direct benefits to homestay operators and indirect benefits to farmers, dairy producers, retail and souvenir shop owners and workers, and transport workers

along the supply chain. Four women from locations across Bhutan, India, and Nepal serve as champions of gender equality within this work across the Kangchenjunga Landscape: Phub Wangmo of the Kinley Wangchuk Homestay in Haa, Bhutan; Winona Lepcha of the Yealbong Lee Homestay, in Dzongu, Sikkim, India; Lila Devi Bhattarai of the Maipokhari Deurali Community Homestay in Ilam, Nepal; and Aayusha Prasain of the Community Homestay Network, Nepal.

#### PHUB WANGMO (HAA, BHUTAN)

**Gender equality is about shared social responsibilities and accountability**

Taking equal responsibility for tasks like bed-making, cooking, receiving guests, and hospitality,

Phub and her husband are explicit about the importance of an equal division of labour while running their homestay. Through the exposure many women have received in operating their homestays, the participation of women across Bhutan in local government has also increased.

#### WINONA LEPCHA (SIKKIM, INDIA)

**Gender equality is about addressing barriers of youth, especially women**

Like so many HKH youth, Winona wondered what to do with her newly minted degree after graduation. Leaving aside job opportunities in her field of engineering, she chose to return to her home village and joined her family homestay business. Today, she is the owner of the homestay where she makes all the financial and operational decisions.

But Winona moved not just back home but also out of her comfort zone, taking to the internet to promote her family's homestay business, building a YouTube following of 2.6K. She helped to put her small village of Dzongu in North Sikkim on the map and in the meanwhile inspired thousands of youths with her authentic voice.

#### LILA DEVI BHATTARAI (ILAM, NEPAL)

**Gender equality is about modelling women's leadership both politically and for economic empowerment**

Lila walks the walk when it comes to promoting women's leadership. She proposed that women should move beyond their previously limited roles to take the lead in managing homestays resulting in an all-women Maipokhari Homestay Management Committee in Ilam, Nepal.

She is chairperson of the Committee herself, continuing to lead through example, playing a vital role in securing homestay development funds allocated by the local government, and enjoying recognition in the form of a recent appointment as the Vice Chair of the Homestay Association of Nepal from her province.

#### AAYUSHA PRASAIN (NEPAL)

**Gender equality is about amplifying gender-responsive thinking and approaches for inclusive tourism development**

At the young age of 30, Aayusha is the Chief Executive Officer of the Community Homestay Network (CHN). She focuses on strengthening CHN as an organisation, scaling its impact, bringing local actors into the tourism value chain, and supporting gender equality through choosing partners who adopt gender-responsive thinking and approaches. With deep roots within local communities, Aayusha and her CHN team are promoting responsible and inclusive tourism.

Four women from locations across Bhutan, India, and Nepal serve as champions of gender equality within this work across the Kangchenjunga Landscape



STRATEGIC RESULT 4

## **Building capacity for sustainable mountain development**

Amplifying positive change through improved  
human and institutional capacity



## Dr Andreas Schild Memorial Mountain Prize 2021 awardees helped build resilience during the pandemic

Every year, the ICIMOD Mountain Prize is awarded to an individual, organisation, or private sector entity based in the HKH or beyond for outstanding efforts in enabling sustainable and resilient mountain development in the HKH region to

benefit the environment as well as communities – particularly the poor, the youth, and women. In honour of the late Andreas Schild, the former Director General who played a significant role in shaping ICIMOD into the organisation that it is today, the award was renamed the Dr Andreas Schild Memorial Mountain Prize in 2021. He will always remain in the hearts of those in the HKH whose lives he touched during his long and illustrious career.

The Dr Andreas Schild Memorial Mountain Prize 2021 focused on individuals and organisations whose work contributed to building the resilience of HKH communities during the COVID-19 pandemic. The winners were:

**Mahila Umang Producers Company (MUPC)** for their innovative work supporting women’s self-help

groups during the pandemic in the mountains of Uttarakhand, India. MUPC is a collective of self-help groups and producer-members engaged in promoting sustainable livelihoods through micro enterprises. As a women’s producer collective of 165 self-help groups with a membership of over 2,500 women, MUPC enables small-scale producers to have increased access to markets for their local products. MUPC’s use of crowdfunding to address the crisis brought on by the pandemic not only supported its members but also provided extra support to the government. While the pandemic devastated mountain communities dependent on marginal livelihood options, MUPC ensured that the community built through the producers’ collective remained supported.

**Community Homestay Network (CHN)** for their innovative work within the tourism industry in Nepal. This sustainable and socially responsible tourism development initiative organised through a digital platform provided direct financial support, along with access to new markets, networking opportunities, and skill development trainings, to help tourism entrepreneurs in Nepal who were hit hard by the pandemic. CHN’s focus on diversification of income sources and products and improving access to markets through their ‘Koseli’ programme provided relief and a sustainable means for local communities to continue to support themselves as the tourism industry rebounds from the shocks of the pandemic.

### THERE WERE ALSO TWO HONOURABLE MENTIONS

**Gurunjur Welfare Organization** of Ghizer District, Gilgit-Baltistan, Pakistan, a youth-led NGO that conducted COVID-19 awareness and relief activities to support Gurunjur village development.

**Samdrup Jongkhar Initiative** of Dewathang, Bhutan, which focused on urban farming and support to small-scale producers during the pandemic.

### THIS YEAR’S AWARDEES

**Mahila Umang Producers Company** for their stellar work supporting women’s self-help groups during the pandemic in the mountains of Uttarakhand, India.

**Community Homestay Network** for their innovative work within the tourism industry in Nepal.



## Freshwater ecosystem assessment handbook

An important guide for the conservation and sustainable management of freshwater ecosystems in Nepal

We are working with the Forest Research and Training Centre, Government of Nepal, on a freshwater ecosystem assessment handbook with a view to ensure that the social, environmental, and cultural impacts of hydropower projects are taken into consideration during planning. The handbook is an implementation guide supplementary to the Hydropower Environmental Impact Assessment (EIA) Manual 2018. Its preparation has involved a rigorous process, including a series of consultations with multiple stakeholders with an aim to build capacity in conducting freshwater ecosystem assessments as a part of the EIA process.

An important milestone for the freshwater management sector in Nepal, the handbook is a guiding document for detailed assessment and monitoring using standard tools and methods for the conservation and sustainable management of freshwater ecosystems in Nepal. It may also be used to build national capacity on freshwater ecosystem assessment.

The handbook – being produced by the Forest Research and Training Centre, Ministry of Forests and Environment, with ICIMOD support – will build capacity in conducting freshwater ecosystem assessments as a part of the EIA process in Nepal

# Protecting humans and wildlife

## Building technical capacities of our partners in Bhutan

To strengthen efforts at mitigating human-wildlife conflict (HWC) in the Kangchenjunga Landscape (KL), we have trained staff from partner agencies in Bhutan on designing biological corridors and on mapping HWC hotspots.

Our research on identifying HWC hotspots in the KL informed the training material for forestry field staff on mapping hotspots and implementing conflict-mitigation strategies. Following the training, a national-level HWC hotspot mapping exercise was conducted, which identified and prioritised sites for conflict-management interventions across Bhutan. A hotspot was identified in Bunagu, a village in Chukha District, where forest officials installed an electric fence, protecting more than 75 acres of crop land and benefitting 23 households.

The second training introduced forest officials from protected areas and divisional forest offices to the application of geospatial modelling tools to explore, assess, and evaluate corridor design. Following the training, biological corridors between Bumdeling Wildlife Sanctuary and Sakteng Wildlife Sanctuary in eastern Bhutan were designed. The proposed corridor is currently pending approval at the ministry level.



By enhancing partners' institutional capacities, we are facilitating scaling of forest corridor management activities and human-wildlife conflict hotspot mapping in Bhutan



## Participatory watershed management in eastern Nepal

Action research identifies critical community issues and solutions

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Based on long-term commitments through a joint action research project we undertook with the Dhankuta Municipality in eastern Nepal, the municipality recognized the need for planned investment in watershed management to sustain ecosystem services and to improve the well-being of people living in the watershed. In response, we together developed a [watershed management plan](#) in partnership with the Department of Forests and Soil Conservation and the Soil Conservation and Watershed Management Office in Dhankuta.

As the Nibuwa-Tankhuwa Watershed (NTW) encompasses parts of both the Dhankuta Municipality and the Chhatthar Jorpati Rural Municipality, there was a need for common understanding among the municipalities, and agreement on collaborative actions for watershed management. In 2021, we brought together all the stakeholders to share the plan, and to discuss and finalize the activities, budget, and roles of various stakeholders in its implementation. At the end of the workshop, the Dhankuta Municipality and Chhatthar Jorpati Rural Municipality took full ownership of the plan, marking a successful milestone in this shared work.

The Nibuwa-Tankhuwa Watershed Management Plan is a model for balancing conservation and development and ensuring focus on gender and social inclusion within watersheds





## The economics of biodiversity

SANDEE's work has explored the relationship between biodiversity and economics in South Asia

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2021 saw the launch of *The Economics of Biodiversity: The Dasgupta Review*. Commissioned by the UK Government, this independent review provides a global assessment of the economic benefits of biodiversity and the costs of biodiversity loss. It was published ahead of the 15th meeting of the Conference of Parties to the Convention on Biological Diversity.

The Dasgupta Review addresses the exclusion of nature from economic models and argues that gross domestic product (GDP) is no longer fit for purpose in judging the economic progress of nations since it does not account for the depreciation of assets, such as biodiversity loss, and the degradation of natural capital. The report concludes on an optimistic note by stating that “the same ingenuity that led us to make demands on Nature that are so large, so damaging and over such a short period, can be redeployed to bring about transformative change, perhaps even in just as short a time”.

In his preface, Sir Partha Dasgupta lists SANDEE, a research capacity and academic leadership development network that works in South Asia and now in the HKH, as among the prominent institutions that have laid the groundwork for the economics of biodiversity, noting that “...at an

institutional level, the economics of biodiversity has found its greatest expression since the early 1990s in [these] research and teaching networks”. He highlights the role that SANDEE – which he founded along with the late Prof Karl-Göran Mäler in 1999 – has played in organising regular teaching and research workshops and funding the work of young economists in South Asia. As a result, SANDEE alumni have been publishing locally grounded high-quality research that provides the evidence base for informed policy making. Recently, SANDEE launched a multi-country study on the economics of forest restoration programmes that countries in the region have been implementing for decades.

The Dasgupta Review underlines the role of research and teaching networks like SANDEE in addressing the exclusion of nature from economic models



## Capacity building in using open-source software

Using R, a free statistical computing software, to strengthen research in the HKH

Through trainings organised by our Cryosphere, Climate Services, and Himalayan University Consortium initiatives, we have introduced researchers, students, and professionals from national meteorological and hydrological services in Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan to R, a free statistical computing software.

Through our Cryosphere Initiative, we have organised regular data analysis trainings using R since 2019, training 71 participants from across the HKH over the years. Since 2020, through our Climate Services Initiative, we have organised three trainings for research institutes and national meteorological and hydrological services on assessing past and future climate using R and regional climate models. Likewise, the 2021 edition of the HUC Summer School was on bringing meaning to statistical practice in climate science using R.

These events have focussed on imparting programming techniques and data analysis skills to create robust workflows for reproducible scientific research, and participants have gone on to use the software to expand their research and develop new tools.

Data analysis is an integral part of scientific inquiry, and our capacity-building efforts have helped create robust workflows for reproducible scientific research



In Bhutan, the National Center for Hydrology and Meteorology has used R to analyse data for their national inventory of glaciers and glacial lakes. Similarly, in Pakistan, the Water and Power Development Authority has developed a flood forecasting module using the software. Professionals at the Bangladesh Meteorological Department, and Nepal's Department of Hydrology and Meteorology are now able to use R and regional climate projections to assess present and future climate over a defined area of interest.



STRATEGIC RESULT 5

## Engaging policy makers

Enhancing the science-policy interface for evidence-based decision making



## Engaging local-level policymakers in tailoring climate information

Sustainability and relevance ensured through broad-based participation

A rapidly changing climate and frequent extreme weather events are resulting in disturbances in the largely smallholding farming contexts across the region. Since farmers in Nepal rely heavily on scarcely distributed agricultural extension

services, the Government of Nepal strengthened its agriculture advisory services with an Agricultural Management Information System that generates and disseminates knowledge digitally. As these services are only available at the provincial level, we piloted a project to provide localized digital agro-advisory services to smallholding farmers in Nepal's Chitwan district. Working with our partner the Agricultural Knowledge Centre in Chitwan, and in collaboration with local public institutions, we developed a farm-level data-gathering mobile application and an integrated information dashboard linking climate information with local cropping practices.

A project steering committee comprising elected leadership from local bodies, provincial and central government officials, leaders from our partner organisation, and subject matter specialists

oversees the implementation of our pilot. A local technical advisory committee –comprising an entomologist, plant pathologist, horticulturist, agronomist, and water and climate experts from the AKC, Nepal Agricultural Research Council, Agriculture and Forestry University, and the Prime Minister Agriculture Modernisation Project – generates the bi-weekly agro-advisory based on on-ground crop conditions information and climate/ weather information provided by the Department of Hydrology and Meteorology and other climate information platforms. The digital tools developed under this pilot can be easily customized for alignment with agricultural extension services in all our RMCs. The data collected on crop diseases and pests from the pilot can be used to train machine-learning algorithms to track and predict crop diseases and pest outbreaks in the future.

In Chitwan, Nepal, local policymakers serve on a project steering committee to ensure that localized digital agro-advisory services provide relevant and timely information to farmers



## Municipal waste management policies underpin urban climate change adaptation

Policy changes in cities in Bangladesh and Nepal

Our International Development Research Centre research grant-funded, transdisciplinary, multi-institution research project – entitled ‘Cities and Climate Change’ – generated solutions to urban waste management in Bharatpur Metropolitan City, Nepal, and Sylhet City Corporation, Bangladesh.

Our ongoing coordination with stakeholders and city officials has led to policy changes: Bharatpur Metropolitan City introduced a policy to segregate waste at source and manage it properly; Kathmandu Metropolitan City is in the process of introducing the same measure; and our collaboration supported the Government of Nepal to ban single-use plastic bags less than 40 microns thick from production, import, and use starting from 16 July 2021. These policy changes contribute towards increased recycling and composting, while also reducing collection costs and extending the life of landfill sites.

The policy changes brought on by our research and collaboration with the cities will help increase recycling and composting, while also reducing collection costs and extending the life of landfill sites



Transitioning to zig-zag kilns has proven a win-win for kiln owners and the Pakistan government

## Cleaner bricks

Pakistan's brick sector transformation has led to significant reduction in fuel consumption and pollutant emissions

In 2021, the Government of Pakistan recognised the country's Brick Kiln Owners' Association as a formal trade organisation. This major win was made possible by the adoption of clean technologies and systemic changes achieved through efforts we have co-led with our partners since 2017 and with support from national and local governments as well as brick kiln owners in more recent years.

As an informal sector not addressed within most national frameworks, the brick sector was widely criticised for non-cooperation in emissions reduction interventions. In securing their buy-in to combat air pollution and improve working conditions, we have taken forward efforts to ensure the sustainability of Pakistan's clean brick sector. With government and private sector support, we are now piloting a process known as initial gas firing – which initiates the brick baking process – in select kilns in the country. By substituting some of the biomass fuels used to heat kilns with liquefied petroleum gas, we can significantly reduce fuel consumption and the high levels of pollutants this process releases into the atmosphere. Over time, the biomass and fuelwood savings also add up to become substantial.

These developments were made possible by a major win in 2019, when, recognizing the potential impact of zig-zag kilns in reducing carbon emissions, improving air quality, and ultimately helping achieve the Paris Agreement goal of limiting global temperature to below 1.5 degrees, the Government of Pakistan restricted the construction of conventional kilns and issued directives permitting only zig-zag kilns to operate in the peak winter smog period.

Till date, over 7,000 of the 20,000 or so brick kilns in the country have transitioned into the energy-efficient and environmentally friendly zig-zag technology. Collectively, this has led to annual reduction of ~1.7 million tonnes of carbon dioxide (CO<sub>2</sub>), ~10.7 thousand tonnes of particulate matter (PM), and 2.2 thousand tonnes of black carbon.

Along with these environmental benefits, there is a strong business case for transition, which ensures buy-in not just from government bodies but also from businesses. Where traditional kilns consume ~100 tons of coal per month and produce 70 per cent first-grade bricks, zig-zag kilns consume 70 tons but produce 90–95 percent first-grade bricks.

Moving forward, we will continue to engage with partners in Pakistan to transfer best practices for a cleaner, more sustainable brick industry.



## Knowledge exchange pay-offs with REDD+

Supporting the operationalisation of national REDD+ strategies through sub-national action plans

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In 2017, we published a manual – [Developing Sub-National REDD+ Action Plans: A Manual for Facilitators](#) – to guide development of sub-national plans that support national REDD+ strategies. The manual has since been used in Nepal, India, Myanmar, Sri Lanka, Mongolia, and Ghana. It was developed for facilitators working with planners and multiple stakeholders in the development of sub-national plans for Reduced Deforestation and Forest Degradation (REDD+) – and is meant to support sub-national REDD+ planning that is essential for operationalising national REDD+ strategies.

The National REDD+ Strategy of India, endorsed in 2018, also directed states to develop action plans to implement the National REDD+ Strategy. This led to widespread adoption of our manual and our colleagues were invited as experts to various states in India to train forestry sector officials in developing sub-national plans. The manual has so far been used for developing SRAPs in five states in India (Mizoram, Uttarakhand, Himachal Pradesh, Sikkim, Chhattisgarh) and work is ongoing in five other states, in collaboration with the Indian Council of Forestry Research and Education, state forest departments, and other stakeholders.

Exchange and cross-learning from pilot sub-national REDD+ Action Plan (SRAP) experiences in Vietnam and Nepal during 2014-2016 led to development of a manual that is guiding the preparation of sub-national REDD+ action plans in the region and beyond



## Navigating the national drought emergency in Afghanistan

Drought outlooks allow pastoralists to adapt and policy makers to prepare contingency plans

Pastoral communities in the western Himalaya drylands are extremely vulnerable to recurrent

droughts. Through our SERVIR-HKH Initiative we provided critical support to line departments at [Afghanistan's Ministry of Agriculture, Irrigation and Livestock \(MAIL\)](#) in evaluating the severity of the 2021 drought. Ahead of the grazing season, we used satellite and modelled data, our [National Agricultural Drought Watch – Afghanistan](#), and the National Rangelands Monitoring System to assess the potential impact of droughts on Afghanistan's pastoral sector, and alerted government officials of the onset.

Working in tandem with the General Directorate of Livestock and Animal Health at MAIL and other partners, we conducted a comprehensive situational analysis of the upcoming disaster, identified at-risk

provinces and districts, and prepared a drought-risk response plan for livestock and pastoral communities. The presidential office used the joint MAIL-ICIMOD report to officially declare a national drought emergency across the country.

Through this intervention, Afghan government officials experienced first-hand the value of climate risk preparedness tools and Earth observation-derived information as they were able to map drought vulnerability across Afghanistan's districts and develop contingency plans as part of their livestock feed assistance plans to pastoral communities.

We assessed the potential impact of droughts on Afghanistan's pastoral sector before the start of the grazing season and were able to alert officials on the potential of devastating drought impacts



STRATEGIC RESULT 6

## Facilitating regional cooperation

Bringing countries together to address shared challenges as a platform for knowledge exchange and collaboration



## Harnessing partnerships to address food insecurity

Scaling and scientific monitoring for seed resilience shows promising outcomes

Fodder shortage in the winter is a major concern for farmers and households in the Hindu Kush Karakoram Pamir Landscape (HKPL), shared by Afghanistan, China, Pakistan, and Tajikistan.

We are working with the Aga Khan Rural Support Programme in Pakistan and Lanzhou University in China to improve fodder production in the region. Through a pilot conducted in Gilgit-Baltistan and Chitral, Pakistan, we tested four varieties each of oat and alfalfa at 30 sites. Based on the results, we are scaling one variety each – Monida (oat) and Gibraltar (alfalfa) – for greater production. Close to 300 households have benefitted so far, and with the right investment, these efforts can be scaled across anywhere between 5,000 and 10,000 households.

Furthermore, our partners Aga Khan Foundation (AKF) Afghanistan and AKF Tajikistan are working to scale fodder production in both countries. In the future, a well-designed and implemented scaling strategy, coupled with scientific monitoring

for the resilience of seeds, will significantly improve food and nutrition security outcomes for the region.



With a focus on co-scaling pilots and co-creating knowledge, we are working with our partners to address fodder shortage and improve food and nutrition security in the HKPL



Over two decades, SANDEE has built a vibrant network of regional and international researchers working on the economics of natural resource use and environmental change

## From strength to strength

A robust network of environmental economists in South Asia and the HKH

Supported by the International Development Research Centre, the Government of Sweden and our core donors, our South Asian Network for Development and Environmental Economics (SANDEE) network has grown to more than 300 research associates and over 300 environmental and development economists, including a rich network of SANDEE alumni (1,500+).

SANDEE utilises its network of regional and international talent to help address research problems in the region. Over the last 20+ years, the network has had a significant impact on research, training, and putting research to use in the region.



### SUPPORTING INNOVATIVE RESEARCH

**250+** research grants

**300+** leading experts in the network

### BUILDING EXPERTISE IN THE REGION

**1,500+** trainees

**50+** courses conducted

**43+** research and training workshops

### PUTTING RESEARCH TO USE

**125+** working papers

**100+** policy briefs

**300+** peer-reviewed journal articles and book chapters

**3+** edited volumes



The 2020 Ministerial Declaration on the HKH Call to Action agreed to form a task force with high-level representation from the eight HKH countries to assess the feasibility of establishing a regional institution mechanism

# HKH High-Level Task Force formed and activities begun

The HKH Call to Action provides a mechanism for increased regional cooperation

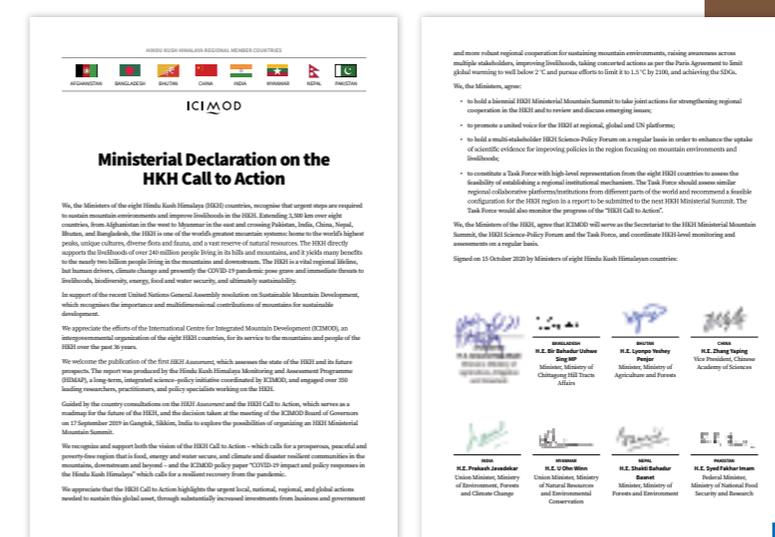
Our work forging increased regional cooperation has been guided by the [Ministerial Declaration on the HKH Call to Action](#) since its endorsement in 2020. In the landmark Ministerial Mountain Summit, ministers from all eight of our RMCs agreed to form a High-Level Task Force, which

met twice in 2021. The first meeting was held in February 2021 and aimed to provide (a) an orientation and context to the Task Force members about the HKH Assessment, Call to Action, and the Ministerial Declaration, and (b) discuss the role, plan of work, and key actions of the Task Force in 2021.

The second meeting, held in April 2021, aimed to monitor the progress on the [HKH Call to Action](#) and to discuss on holding regular ministerial summit and science-policy forums. Discussions also touched upon terms of reference of the Task Force for strategic guidelines delivering on national, regional, and global action.

The HKH High-Level Task Force is mandated to assess similar regional collaborative platforms and mechanisms from different parts of the world and

recommend a feasible configuration for the HKH region in a report to be submitted to the next HKH Ministerial Mountain Summit in 2022.





## Building a member-led consortium

Strengthening thematic working groups as a modality for network sustainability

The thematic working groups (TWGs) of the Himalayan University Consortium have proven to deepen network sustainability. These working groups were initially set up through institutional grants but have over the years transformed into member-led, self-operating, and resource-sharing groups.

There are eight thematic working groups: Mountain Agriculture, Energy, Disaster Risk Reduction and Resilience, Mountain Tourism and Cultural Heritage, Water, Trans-Himalayan Environmental Studies, Cryosphere and Society, and My Climate Risk.

In 2021, under the Cryosphere and Society working group, HUC built collaborations with the Royal University of Bhutan, Karakorum International University, Kashmir University, and the University of Bristol. The working groups emphasise partnership, inter- and trans-disciplinarity, capacity building, curriculum uptake, in-house synergies, and sustainability.

The success of this approach is reflected in the number of universities employing mountain-

focused, HKH-specific curricula; in the numbers of regional collaborations using their own resources; the number GESI-embedded trainings by members; and the numbers of HUC fellows undertaking effective sustainable mountain development work.



Thematic working groups, initially set up through institutional grants, have transformed into member-led, self-operating, and resource-sharing groups



## Leveraging collective power through networks and platforms

KDKH and IKPP collate knowledge on transboundary disaster risks and climate issues

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Climate change impacts call for transboundary cooperation, collaboration, and knowledge exchange. As a knowledge network, the Koshi Disaster Risk Reduction Knowledge Hub (KDKH) brought together various stakeholders from across the Koshi River basin in its annual dialogue on managing transboundary risks in a multi-hazard environment. [The National Disaster Risk Reduction and Management Authority, Nepal](#), [Bihar State Disaster Management Authority, India](#), and [Institute of Mountain Hazards and Environment, China](#) jointly organised this dialogue. KDKH's collaboration was further enhanced when its Transboundary Working Group on Landslide and Sedimentation published a [policy brief](#) emphasising the need of sediment management in the Koshi River basin.

To consolidate dispersed knowledge across the Indus River basin, we launched the [Indus Knowledge Partnership Platform](#) so knowledge on the basin is accessible to a wide range of audience in a common digital platform. IKPP has over 300 publications and a range of downloadable datasets on water resource management, hazards and risks, cryosphere, and climate related to the basin. The platform also has seven experts who provide knowledge and support to young professionals and students.

Our Koshi Disaster Risk Reduction Knowledge Hub is a knowledge network that fosters transboundary collaboration by bringing together various stakeholders who otherwise may not have access to one another in a common platform to discuss multi-hazard risks and possible solutions.

Our Indus Knowledge Partnership Platform is a digital platform that plays a crucial role in bridging knowledge gaps and contributing to an enhanced understanding of climate change impacts across the basin.



STRATEGIC RESULT 7

## **Regional and global outreach**

Drawing global attention to the HKH to place mountains on regional and international agendas



## Immense outstanding universal value within the HKH

Leveraging the World Heritage Convention for conservation and recognition

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Visionary leaders in 1972 established the World Heritage Convention through a General Conference of UNESCO where parties to the convention agreed

that certain places on Earth are of outstanding universal value and should therefore form part of the common heritage of humankind. Fifty years later, we are still leveraging this unique and powerful global mechanism for conservation in the HKH. The [International Union for Conservation of Nature](#) (IUCN) is a technical advisor to the World Heritage Committee on natural world heritage and with IUCN and our partner [Wild Heritage](#), we researched and wrote a [report](#) that brings a focus to the HKH, supporting identification of potentials for new natural World Heritage sites in the region and for extending already-listed World Heritage sites to adjacent areas that belong together ecologically.

The HKH stands out globally for its exceptional natural values and diversity. Today, 17 World

Heritage sites are listed in the region, including 10 for their natural values. Natural World Heritage sites are globally recognised for their 'Outstanding Universal Value', such as the scale of natural habitats, intactness of ecological processes, viability of populations of rare species, as well as exceptional natural beauty. Only a few sites gain this status following a long and rigorous process that does not guarantee inscription. The World Heritage Convention remains under-leveraged in the HKH region. Through this report, we have fostered international cooperation and promoted greater recognition of the region's global significance under the World Heritage Convention.

Visionary leaders in 1972 established the World Heritage Convention through a General Conference of UNESCO where parties to the convention agreed that certain places on Earth are of outstanding universal value and should therefore form part of the common heritage of humankind. Fifty years later, we are still leveraging this unique and powerful global mechanism for conservation in the HKH.



## Mountains in the post-2020 Global Biodiversity Framework

Reflecting on achievements and shortcomings of the past decade and setting the agenda for the next

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In 2021, we worked with the Secretariat of the Convention on Biological Diversity, partners and CBD focal points in the regional member countries to critically assess progress against the [Aichi Biodiversity Targets](#) and highlight mountain biodiversity conservation imperatives for the next decade. A regional consultation – Towards the post-2020 Biodiversity Framework: Retrospective reflection and setting priority actions for the mountains – helped set the stage for this critical review and agenda setting exercise.

Some of the key findings of our review work have been captured in the technical report on [CBD implementation in the Hindu Kush Himalaya: A retrospective analysis of progress towards the Aichi Targets](#) and the [Compendium of best practices on protected areas and other effective area-based conservation measures](#). These hold important lessons for the post-2020 Global Biodiversity Framework (GBF). At the COP15 in Kunming, China (Part I), we participated in the discussion on post-2020 GBF and used the CBD virtual display platform to highlight HKH biodiversity.

We also contributed to key processes that are shaping the global biodiversity agenda for the next decade. We participated in the third meeting of

the ‘Open-ended working group on the post-2020 GBF’ where we also posted a formal statement highlighting the need to recognise mountains prominently in the draft framework. We also participated and contributed to the 24th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice.

At the national level, we provided technical support for preparing Nepal’s position paper on the implementation of the Strategic Plan for Biodiversity (2011-2020) and helped Nepal’s National Indigenous Women’s Forum (NIWF) in their preparation for CBD COP15.

Over the past year, we worked with our regional member countries to critically assess progress against the Aichi Biodiversity Targets and highlight mountain biodiversity conservation imperatives for the next decade



The HKH region received good attention in the WGI report, including understanding of the current state of the climate, how it is changing, the role of human influence, and the state of knowledge about possible climate futures

## Mountains in the global climate agenda

Our contribution to global assessments ensures that HKH mountain perspectives, knowledge, and concerns are included in global reports

2021 was an important year for ambitious climate and conservation action. The UN Climate

Change Conference at Glasgow (COP26), the UN Biodiversity Conference at Kunming (COP15), and Intergovernmental Panel on Climate Change (IPCC) report drafting process provided us opportunities to profile the region and underscore the need for urgent climate action and resilient mountain development.

Our staff continued to act as authors and reviewers of global assessments such as the IPCC and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), ensuring that HKH mountain perspectives, knowledge, and voices are included in global reports. SANDEE alumni have also been contributing as experts for the IPCC assessments and the literature generated by network members

have been used for the assessment. We co-led authoring of the final government draft of the [cross-chapter paper on mountains](#) which was submitted as a contribution from IPCC's Working Group II to the Assessment Report 6 and made available for government review in November 2021.

In the IPCC AR6 Working Group 1 report published in 2021, our staff contributed as lead author for the chapter on [Short-lived Climate Forcers](#), assessing their impacts on climate and air quality. Our staff also contributed to the [Technical Summary](#) and the [Summary for Policymakers](#) documents of the IPCC AR6 WG1. The HKH region received good attention in the WGI report, including understanding of the current state of the climate, how it is changing, the role of human influence, and the state of knowledge about possible climate futures.

Beyond these significant global events and efforts, our DG represents us in the Association of International Research and Development Centers for Agriculture, as co-Editor-in-Chief of the *Mountain Research and Development* journal, on the Steering Committee of the Climate and Clean Air Coalition; and colleagues act as Focal Persons for the International Union for Conservation of Nature, United Nations Environment Programme, and the Global Biodiversity Information Facility.



## Promoting ambitious climate action for the HKH

Leveraging the COP meetings to amplify HKH voices

Delegates from the eight HKH countries, including UNFCCC national focal points and HKH High-Level Task Force members – along with representatives from the COP26 Presidency – met on 15 July 2021 to raise a unified voice for the HKH in the run up to

the 26th Conference of Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC). The consultative meeting also launched the HKH2Glasgow campaign.

Under the title #HKH2Glasgow Road to COP26, the campaign worked on amplifying mountain voices to promote ambitious climate action for the HKH at COP26 and scale up investment in mountain-specific priorities. It generated interest around three key messages:

### PULSE OF THE PLANET

Recognise the HKH as the pulse of the planet – a region that is most vulnerable to the impacts of climate change

### MOUNTAINS OF OPPORTUNITY

Invest in mountain-specific climate priorities to enhance the resilience of mountain communities

### POWER OF 8

Harness the strength of the 8 HKH countries to enhance regional and international cooperation for climate action

Supported by an [analysis of mountain-specific priorities](#) reflected in the HKH country climate action plans and COVID-19 recovery measures, the HKH2Glasgow campaign developed its core messages with inputs from the eight countries, and also worked closely with the COP26 Presidency since December 2020 to amplify the messages.

As a part of this campaign, we participated in several key meetings during COP26 and organised events at the Cryosphere Pavilion as a part of the HKH Focus Day on 9 November 2021, along with several other events in collaboration with partners.

During [HKH focus day](#), we introduced the [Mountains of Opportunity investment framework](#) to scale up investment in mountain-specific climate priorities. This framework will enable investment partners – including HKH governments, mountain communities, financial institutions, private sector actors, and development partners – to identify, align, and scale up investment in mountain-specific climate priorities in the near to medium term. It identifies six investment priorities aligned to climate action and COVID-19 recovery that will contribute to climate-resilient, carbon-neutral mountain societies.

As a result of efforts in the three work packages – evidence, policy engagement, and strategic communication and engagement – the Mountains of Opportunity investment framework received endorsement from Rt. Hon'ble Sher Bahadur

Deuba, Prime Minister, Government of Nepal, and strong support from the high-level representatives from our RMCs.

Aligning COVID-19 recovery packages with climate action presents a huge opportunity to scale up investment in green, resilient, and inclusive development in the HKH. Delivering ambitious climate action in the region will require increased financial flows that are aligned with policy instruments and capacity.

To take these efforts further, we continue to develop the Mountains of Opportunity investment framework as a platform to mobilise and scale-up investments for climate action in mountains under the framework of the HKH Call to Action, with outreach at national, regional, and global scale.

The investment framework shall be launched at COP 27 and will entail:

- Identifying target-bound investment opportunities for climate action in the HKH
- Establishing an investors' alliance
- Developing the management framework

The Mountains of Opportunity investment framework received endorsement from Rt. Hon'ble Sher Bahadur Deuba, Prime Minister, Government of Nepal, and strong support from high-level representatives from our RMCs

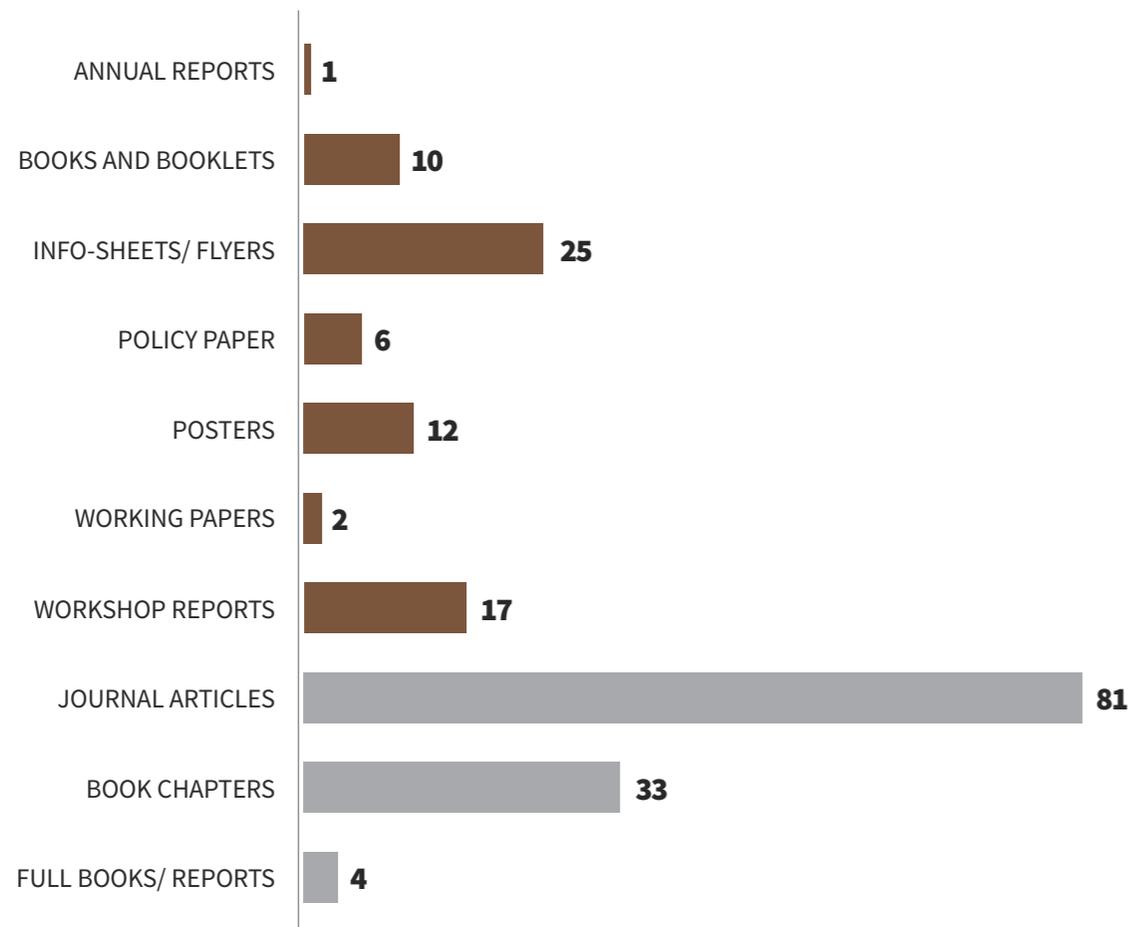
# Annexes

# Publications

2021

ICIMOD disseminates much of the information gathered during programme activities in the form of printed and electronic publications targeted at policy makers, development workers, government

experts and decision makers, students, and the interested public. All ICIMOD publications can be downloaded free of charge from [www.icimod.org/himaldoc](http://www.icimod.org/himaldoc). Hard copies are provided free to institutions actively involved in sustainable development of the Hindu Kush Himalaya. A link to the full collection of publications from 2021 can be found at: [www.icimod.org/ar2021](http://www.icimod.org/ar2021).



■ ICIMOD PUBLICATIONS

■ ICIMOD RESEARCHERS IN EXTERNAL PUBLICATIONS

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**Dr Renate U. Christ**  
Former Secretary of the WMO UNEP Intergovernmental Panel on Climate Change (IPCC), World Meteorological Organization (WMO), Geneva/Switzerland

<sup>1</sup>Mr. Md. Shafiqul Ahmed served from October 2020 till January 2021

<sup>2</sup>Dasho Rinzin Dorji served from November 2016 till August 2021

<sup>3</sup>Dr. Nyi Nyi Kyaw served from August 2010 till September 2021

<sup>4</sup>Dr. Puspa Raj Kadel served from April 2018 till June 2021

<sup>5</sup>Mr. Abdul Ghufuran served from November 2020 till August 2021

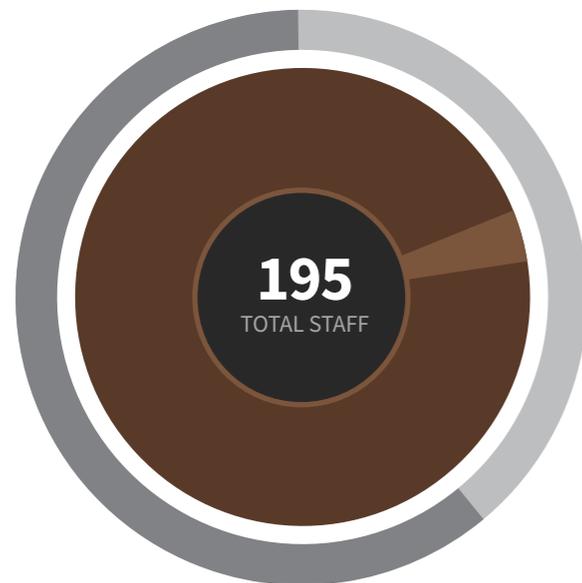
<sup>6</sup>Ms. Lisa Honan served as Chairperson, ICIMOD Support Group from October 2020 to June 2021

# Staff

2021

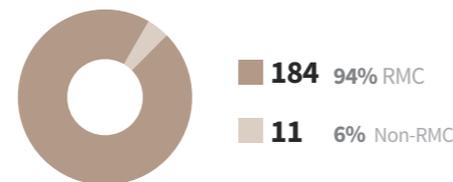
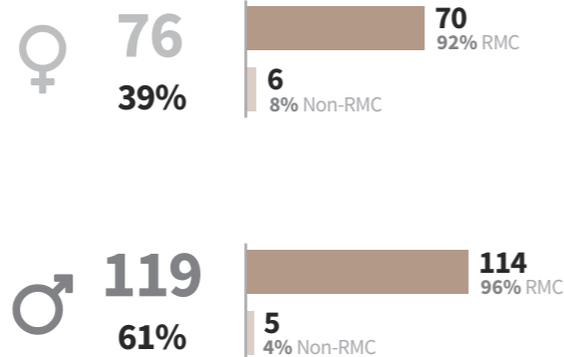
ICIMOD is committed to, celebrates and promotes equal opportunity and diversity in the workplace. We make efforts to ensure that all regional member

countries are adequately represented in the workforce and have a Young ICIMOD Professionals Programme (YIPP) to encourage youth from underrepresented regional member countries and donor countries to apply. The majority of our staff are from the Hindu Kush Himalaya. ICIMOD is also committed to gender and social diversity and encourages qualified women candidates and those from disadvantaged backgrounds to apply.



**7**  
4%  
SHORT TERM  
ASSIGNMENTS

**188**  
96%  
EMPLOYEES



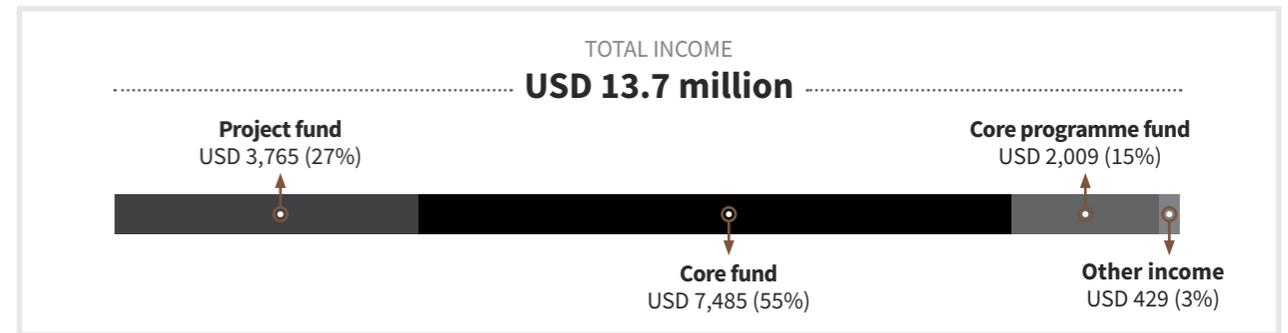
# Financial reports

January–December 2021

The Centre receives funds in the following broad categories: a) core funds from regional and non-regional countries, and b) programme and project funds. From these funds, expenditure is

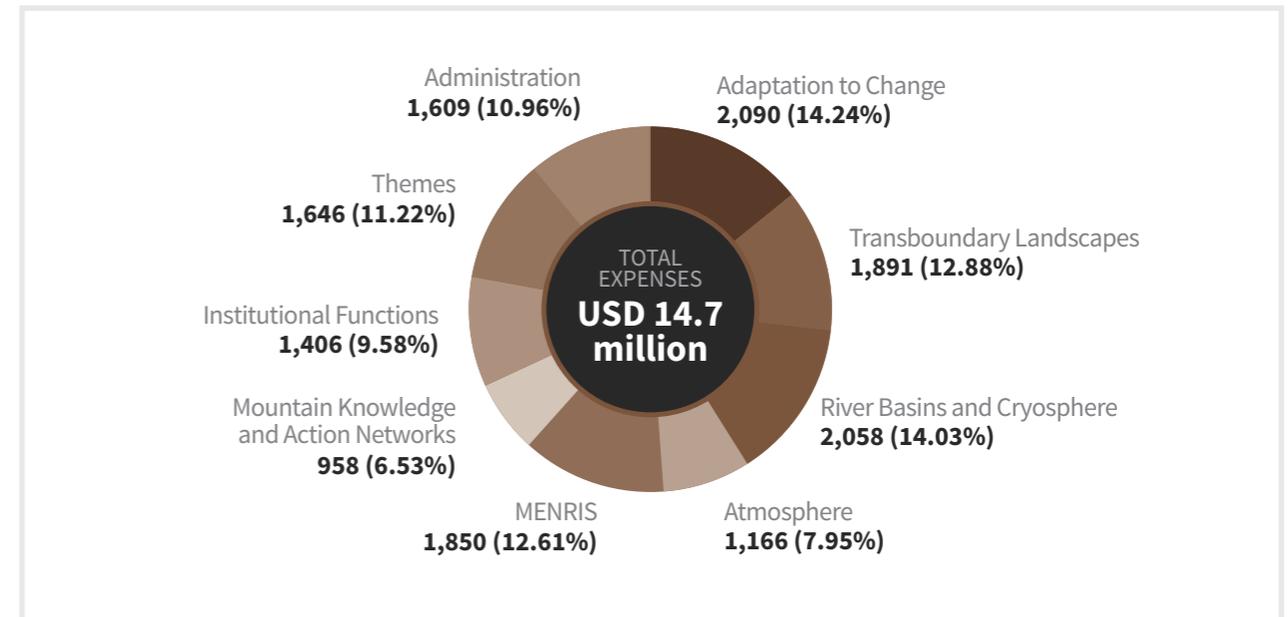
made on the regional programmes and themes, institutional functions and administration. In 2021, the total expenditure made by the Centre was USD 14.7 million. Of this, USD 11.65 million was spent on regional programmes and themes (79.45%), USD 1.45 million on institutional functions (9.58%), and USD 1.60 million on administration (10.97%). A detailed breakdown of the expenditure is presented in the chart below:

## Income by source



Note: Figures in thousands of US dollars

## Expenses by function



Note: Figures in thousands of US dollars

## International Centre for Integrated Mountain Development

### Statement of Assets, Liabilities and Fund Balances as at 31 December 2021

All amounts in United States Dollars

	As at 31 December 2021		As at 31 December 2020	
<b>Fund Balances</b>				
General Reserve		3,557,044		3,556,025
Operational Reserve		9,508,434		10,457,238
Exchange Equalisation Reserve		503,606		503,606
Core Programme Support Fund Balances (net)				
Norwegian Ministry of Foreign Affairs	1,162,740		1,241,582	
Swiss Agency for Development and Cooperation (SDC)	<u>772,888</u>	1,935,628	<u>810,060</u>	2,051,642
Core Support Fund				
Swedish International Development Cooperation Agency, Sweden	631,301	631,301	904,552	904,552
Special Projects Fund Balances				
Amounts to be incurred on projects	915,339		1,329,531	
Amounts to be recovered	<u>(1,360,828)</u>	(445,489)	<u>(1,159,657)</u>	169,874
<b>Total Sources of Funds</b>		<b><u>15,690,524</u></b>		<b><u>17,642,937</u></b>
<b>Assets and Liabilities</b>				
Fixed Assets		3,188,084		3,159,550
Current Assets, Loans and Advances:				
Cash and bank balances		15,260,858		17,011,103
Loans, advances and other current assets		<u>975,616</u>		<u>1,545,409</u>
		16,236,474		18,556,512
Less: Current Liabilities and Provisions		<u>(3,734,034)</u>		<u>(4,073,125)</u>
Net Current Assets		<u>12,502,440</u>		<u>14,483,387</u>
<b>Total Application of Funds</b>		<b><u>15,690,524</u></b>		<b><u>17,642,937</u></b>

## International Centre for Integrated Mountain Development

### Operating Statement for the year ended 31 December 2021

All amounts in United States Dollars

	Year ended 31 December 2021		Year ended 31 December 2020	
<b>INCOME</b>				
<b>Contribution from Donors</b>				
Core Programme Support		2,008,897		2,067,936
Core Support		7,485,659		7,113,533
Special Projects		3,764,658		4,177,346
<b>Other Income</b>		429,623		76,837
	(A)	<b><u>13,688,837</u></b>		<b><u>13,435,652</u></b>
<b>EXPENDITURE</b>				
<b>Programme Expenses</b>				
Core Programme Expenses		2,124,911		2,672,344
Core Expenses		5,626,502		5,691,497
<b>Special Project Expenses</b>		4,380,021		3,362,916
<b>Core Support Expenses</b>				
Directorate Expenses		935,210		779,450
Administrative Support Expenses		1,360,230		1,374,163
Depreciation		249,276		244,298
<b>Foreign Exchange (Gain)/Loss (net)</b>		416,613		(587,268)
	(B)	<b><u>15,092,763</u></b>		<b><u>13,537,400</u></b>
Surplus/(Deficit) of Income over Expenditure	(A-B)	<b>(1,403,926)</b>		<b>(101,748)</b>
Less: Provision for completed project balances		549,506		
Less: Surplus of Special Projects		(615,363)		814,430
Less: Surplus/(Deficit) of Core Programme Support		(116,014)		(604,408)
Add: Opening unspent SIDA balances adjusted against current year deficit in Core Support Fund		273,251		17,635
Net Surplus/(Deficit) of Operational Reserve before appropriation		<b><u>(948,804)</u></b>		<b><u>(294,135)</u></b>
Transfer to General Reserve		-		-
Net Surplus/(Deficit) transferred to Operational Reserve		<b><u>(948,804)</u></b>		<b><u>(294,135)</u></b>

# Partners

## **AFGHANISTAN**

Ministry of Agriculture, Irrigation and Livestock (MAIL)  
– Nodal Agency

National Environmental Protection Agency (NEPA)

Ministry of Energy and Water (MEW)

Ministry of Energy and Water, Water Resources  
Department (WAD)

Ministry of Foreign Affairs (MoFA)

National Water Affairs and Regulations Authority  
(NWARA)

Afghanistan Meteorological Department (AMD)

Afghanistan National Disaster Management Authority  
(ANDMA)

Aga Khan Foundation (AKF)

Eshraq Institute of Higher Education (EIHE)

Kabul Polytechnic University (KPU)

Kabul University (KU)

Kandahar University

Nangarhar University

## **BANGLADESH**

Ministry of Chattogram Hill Tracts Affairs – Nodal agency

Ministry of Environment and Forests (MoEF)

Ministry of Disaster Management and Relief (MoDMR)

Ministry of Water Resources (MoWR)

Bandarban Hill District Council (BHDC)

Bangladesh Agriculture Research Council (BARC)

Bangladesh Centre for Advanced Studies (BCAS)

Bangladesh Forest Department (BFD)

Department of Environment (DOE)

Bangladesh Institute of Development Studies (BIDS)

Bangladesh Meteorological Department (BMD)

Bangladesh University of Engineering and Technology  
(BUET)

Bangladesh Water Development Board (BWDB)

Community Reconstruction Centre (CRC)

Department of Agricultural Extension (DAE)

University of Dhaka

East West University

Flood Forecasting and Warning Centre (FFWC)

Hajee Mohammad Danesh Science and Technology  
University

Institute of Remote Sensing (IRS), Jahangirnagar  
University

Jahangirnagar University (JU)

Krishi Gobeshona Foundation (KGF)

Rajshahi University (RU)

University of Chattogram

## **BHUTAN**

Ministry of Agriculture and Forests (MoAF), Nodal  
Agency

Gross National Happiness Commission (GNHC)

Association of Bhutanese Tour Operators (ABTO)

Bhutan Chamber of Commerce and Industry (BCCI)

Bhutan Education and Technology Academy Park (BETA  
Park)

Centre for Bhutan & GNH Studies (CBS)

Chhukha District Administration

College of Natural Resources (CNR)

College of Science and Technology (CST)

Council for Renewable Natural Resources Research of  
Bhutan

Department of Agriculture, Ministry of Agriculture and  
Forests (DoA, MoAF)

Department of Cottage and Small Industry, Ministry of  
Economic Affairs

Department of Curriculum and Professional  
Development (DCPD), Ministry of Education

Department of livestock

District Administration, Haa

Haa district Administration

Institute for learning Solutions

National Center for Hydrology and Meteorology (NCHM)

National Centre For Organic Agriculture (NCOA)

National Commission for Women and Children (NCWC)

National Environment Commission (NEC)

National Land Commission (NLC)

Nature Conservation Division, DoFPS

Royal Thimphu College

Royal University of Bhutan (RUB)

Sherubtse College

Tourism Council of Bhutan (TCB)

Ugyen Wangchuck Institute for Conservation and  
Environmental Research (UWICER)

## **CHINA**

Chinese Academy of Sciences – Nodal agency

Beijing Piesat Information Technology Co., Ltd. (Beijing  
Piesat)

Changjiang Water Resources Commission (CWRC)

Chengdu Institute of Biology (CIB)

Chinese Committee on ICIMOD

Dali University

Global Environment Institute (GEI)

Gansu Nature Energy Research Institute (GNERI)

Institute for Mountain Hazards and Environment (IMHE)

Institute of Geographic Sciences and Natural Resources  
Research (IGSNRR)

Kunming Institute of Botany (KIB)

Lanzhou University (LZU)

National Centre for Borderlands Ethnic Studies

National Natural Science Foundation of China (NSFC)

National Remote Sensing Center of China (NRSCC)

Northwest University (NWU)

Peking University

Qinghai Normal University (QHNU)

Shokay

Sichuan University (SU)

Sichuan Academy of Agriculture Sciences (SAAS)

Southwest Forestry University (SWFU)

Southwest Minzu University (SWUN)

Third Pole Environment (TPE)

Tibet Academy of Agriculture and Animal Sciences  
(TAAAS)

Treasure of Tibetan Plateau Yak Dairy Company Limited

United Nations Industrial Development Organisation  
- International Solar Energy Centre for Technological  
Promotion and Transfer (UNIDO – ISEC)

Xinjiang Institute of Ecology and Geography (XIEG)

Xinjiang Institute of Ecology and Geography (XIEG)

Yunnan Agricultural University (YAU)

Yunnan Minzu University (YMU)

Yunnan University (YNU)

Wuhan University

## **INDIA**

Ministry of Environment, Forests and Climate Change  
(MoEF&CC) – Nodal Agency

GB Pant National Institute of Himalayan Environment  
(NIHE)

Advanced Center for Water Resources Development and  
Management (ACWADAM)

Alakh Prakash Goyal Shimla University (APGU)

All India Brick and Tile Manufacturers Federation  
(AIBTMF)

Ashoka Trust for Research in Ecology & the Environment  
(ATREE)

Bharatiya Agro Industries Foundation (BAIF)

Bihar State Disaster Management Authority (BSDMA)

Centre For Development Studies (CDS)

Central pollution Control Board (CPCB)

Chaudhary Sarwan Kumar Himachal Pradesh Krishi

Vishvavidyalaya (CSKHPKV)  
 Consumer Unity & Trust Society International (CUTS)  
 Darjeeling Ladenla Road Prerna and  
 Integrated Mountain Initiative (IMI)  
 Department of Animal Husbandry Livestock Fisheries  
 and Veterinary Services, Sikkim  
 DISHA, Kalimpong  
 Dholkar Resort  
 Ekonnnect Knowledge Foundation (Ekonnnect)  
 Forest Environment and Wildlife Management  
 Department, Government of Sikkim  
 Forest Research Institute (FRI)  
 G B Pant University of Agriculture & Technology  
 Global Himalayan Expedition (GHE)  
 Goa University  
 Hemvati Nandan Bahuguna Garhwal University (HNBGU)  
 Himalayan Nature and Adventures Foundation (HNAF)  
 Hindu College, University of Delhi  
 Indian Council of Forestry Research and Education  
 (ICFRE)  
 Indian Cardamom Research Institute (ICRI)  
 Indian Institute of Science, Bangalore (IISc)  
 Indian Institute of Science Education and Research  
 Indian Institute of Technology, Kharagpur (IIT)  
 Indian Institute of Technology, Rokree (IIT)  
 Institute for Financial Management and Research (IFMR)  
 Institute for Social and Economic Change (ISEC)  
 Indian Statistical Institute (ISI)  
 Kashmir University (KU)  
 Khangchendzonga Conservation Committee  
 Jawaharlal Nehru University (JNU)  
 Kumaun University  
 Leadership for Environment and Development (LEAD)  
 Martin Luther Christian University  
 Management Development Institute (MDI)  
 Mizoram University

National Institute of Hydrology-Roorkee (NIH)  
 NITI Ayog  
 People's Science Institute (PSI)  
 Selco Foundation  
 Shri Guru Ram Rai University (SGRRU)  
 Shoolini University of Biotechnology and Management  
 Sciences (SHOOLINI)  
 Sikkim University (SU)  
 Sher-e-Kashmir University of Agricultural Sciences and  
 Technology (SKUAST)  
 South Asian University (SAU)  
 Tata Institute of Social Sciences (TISS)  
 Terraqua UAV Solutions Private Limited  
 TERI School of Advanced Studies (TSAS)  
 TERI University  
 Thermo Fisher Scientific India Pvt Ltd  
 Value Network Ventures Advisory Services P. Ltd. (VNV)  
 Wildlife Institute of India (WII)  
 West Bengal Forest Department, Forest Directorate

## **MYANMAR**

Ministry of Natural Resources and Environmental  
 Conservation (MONREC)– Nodal Agency  
 Forest Department, MoEFC  
 Forest Research Institute, MoNREC  
 Fauna and Flora International (FFI)  
 Innovations for Poverty Action (IPA) – Myanmar  
 Myanmar Environmental and Rehabilitation Network  
 (MERN)  
 Myanmar Institute for International Development (MIID)  
 One Map Myanmar  
 University of Mandalay (UM)  
 Yangon University (YU)  
 Yezin Agricultural University (YAU)

## **NEPAL**

National Planning Commission – Nodal Agency  
 Ministry of Forests and Environment (MoFE)  
 Ministry of Agriculture and Livestock Development  
 (MOALD)  
 Ministry of Home Affairs (MoHA)  
 Ministry of Industry, Commerce and Supplies (MOICS)  
 Ministry of Land Management, Agriculture and  
 Cooperatives (MoLMAC), Government of Karnali  
 Province  
 Department of Environment (DoEnv)  
 Department of Forest (DoF)  
 Department of Forests and Soil Conservation (DoFSC)  
 Department of Hydrology and Meteorology (DHM)  
 Department of Water Induced Disaster Management  
 (DWIDM), Ministry of Irrigation  
 REDD Implementation Center, Ministry of Forest &  
 Environment  
 Antarprerana Pvt Ltd  
 Antenna Foundation Nepal  
 Agriculture and Forestry University (AFU)  
 Agriculture Knowledge Center (AKC)  
 Avni Centre for Sustainability  
 Bharatpur Metropolitan City Office  
 Biogas Sector Partnership – Nepal  
 Cell App Pvt. Ltd.  
 Central Department of Economics, Tribhuvan University  
 Central Department of Environmental Science (CDES),  
 Tribhuvan University  
 Center for Environmental and Agricultural Policy  
 Research Extension and Development (CEAPRED)  
 Center for Labor and Social Studies - Nepal (CLASS)  
 CE Services Pvt. Ltd.  
 Community Development & Advocacy Forum Nepal  
 (CDAFN)  
 Community Homestay Network (CHN)  
 Council for Technical Education and Vocational Training  
 (CTEVT)

Dabur Nepal Pvt. Ltd  
 Department of Geomatic Engineering, Kathmandu  
 University  
 Eco Concern Pvt. Ltd  
 Environmental Camps for Conservation Awareness  
 (ECCA)  
 Far Western University  
 Federation of Community Forestry Users Nepal  
 (FECOFUN)  
 Forum for Rural Welfare and Agricultural Reform for  
 Development (FORWARD-Nepal)  
 Federation of Asian Brick Kiln Associations (FABKA)  
 Federation of Nepal Brick Industries (FNBI)  
 Forum for Rural Welfare and Agricultural Reform for  
 Development (FORWARD-Nepal)  
 Green Governance Nepal Pvt. Ltd.  
 Institute of Crisis Management Studies (Samarpan  
 Academy)  
 Institute of Engineering, Tribhuvan University  
 Institute of Forestry, Tribhuvan University  
 Intrepid Nepal Pvt Ltd  
 Isha Institute Pvt. Ltd  
 Joshi & Bhandary  
 Kathaharu Production Pvt. Ltd.  
 Kathmandu University (KU)  
 Lumbini Development Trust (LDT)  
 Lutheran World Relief (LWR)  
 Maha Laxmi Municipality  
 Matribhumi Urja Pvt. Ltd.  
 Mid-West University  
 MinErgy Pvt. Ltd.  
 Nabil Investment Banking Limited  
 National Trust for Nature Conservation (NTNC)  
 Nepal Agricultural Research Council (NARC)  
 Nepal Communitere  
 National Disaster Risk Reduction and Management  
 Authority (NDRRMA)  
 Nepal Forum of Environmental Journalists (NEFEJ)

Nepal Open University  
 Nepal Rural Self Reliance Campaign (NRUSEC-Nepal)  
 Nepal Water Conservation Foundation (NWCF)  
 NMB Bank Limited (NMB)  
 Oxfam Nepal  
 Pokhara University (PU)  
 Practical Action  
 R and D solutions  
 Red Panda Network  
 REDD Implementation Centre (RIC-Nepal), MoAF  
 Research Centre for Applied Science and Technology (RECAST)  
 RGB Productions Pvt. Ltd  
 Robotics Association of Nepal (RAN)  
 Sabal Nepal  
 Save the Children  
 School of Forestry and Natural Resource Management  
 South Asia Institute of Advanced Studies (SIAS)  
 South Asia Partnership International (SAPI)  
 Sunfarmer Nepal  
 Sustainable Eco Engineering Pvt. Ltd. (SEE)  
 Taalkolla Community Forest User Group, Baitadi  
 TR Upadhya & Co.  
 Tribhuvan University (TU)  
 Water and Energy Commission Secretariat (WECS)  
 World Wide Fund for Nature (WWF)/Nepal

 **PAKISTAN**

Ministry of National Food Security and Research (MFSR)  
 – Nodal Agency  
 Ministry of Climate Change (MoCC)  
 Aga Khan Foundation, Pakistan (AKF)  
 All Pakistan Brick Kiln Owners Association  
 Bacha Khan University, Charsadda  
 Brick Kiln Owners’ Association of Pakistan

COMSATS University Islamabad (CUI), formerly  
 COMSATS Institute of Information Technology (CIIT)  
 Forest, Wildlife and Environment Department, Gilgit-  
 Baltistan  
 Wildlife Department, Khyber Pakhtunkhwa  
 Glacier Monitoring and Research Centre  
 Global Change Impact Studies Centre (GCISC)  
 Institute of Development and Economic Alternatives  
 (IDEAS)  
 Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi  
 Kadam Communications and Consultants  
 Karachi University  
 Karakoram International University (KIU)  
 National Agricultural Research Centre  
 National Centre of Excellence in Geology, University of  
 Peshawar (NCEG)  
 National Energy Efficiency & Conservation  
 Authority (NEECA)  
 Pakistan Institute of Development Economics  
 Pakistan Meteorological Department (PMD)  
 PARC Institute of Advanced Studies in Agriculture (PIASA)  
 SAARC CCI  
 Shaheed Benazir Bhutto University (SBBU)  
 Soni Jawari center for public policy  
 University of Agriculture, Peshawar  
 University of Chitral  
 University of Peshawar (UOP)  
 University of Swat (UOS)  
 Water-Environment Forum (WEF)  
 World Wide Fund for Nature, Pakistan (WWF-Pakistan)

**NON-HKH**

Aga Khan Foundation (AKF), Switzerland  
 Agribusiness Centre (AbC), Sri Lanka  
 Arctic Frontiers, Norway  
 Asian Disaster Preparedness Center (ADPC), Thailand

Asian Institute of Technology (AIT), Thailand  
 Center for International Climate and Environment  
 Research (CICERO), Norway  
 Centre for Development and Environment (CDE),  
 University of Bern, Switzerland  
 Communications Development Inc. (CDI), United States  
 Contrast and Company, United States  
 Department of Foreign Affairs and Trade (DFAT),  
 Australia  
 Department of Geoinformatics (Z\_GIS), Austria  
 Disaster Prevention Research Institute (DPRI), Kyoto  
 University, Japan  
 Edge States Limited, United Kingdom  
 FutureWater, Netherlands  
 Independent Evaluation Unit (IEU); Green Climate Fund  
 (GCF), Korea  
 India China Institute (ICI), United States  
 Institut fur Weltwirtschaft (IfW), Germany  
 International Centre of Excellence in Water Resources  
 Management (ICE WaRM), Australia  
 International Center for Tropical Agriculture (CIAT),  
 Columbia  
 International Institute for Geo-Information Science and  
 Earth Observation (ITC), Netherlands  
 International Institute of Asian Studies (IIAS),  
 Netherlands  
 International Union for Conservation of Nature (IUCN),  
 Sri-Lanka  
 Kandy Consulting Group Pvt .Ltd, Sri-Lanka  
 Molina Center for Strategic Studies in Energy and the  
 Environment (MCE2), United States  
 Mongolia International University (MIU), Mongolia  
 National Aeronautics and Space Administration (NASA),  
 United States  
 National Geographic Society (NGS), United States  
 Norwegian University of Life Sciences (NMBU), Norway  
 Norwegian Water Resources and Energy Directorate  
 (NVE), Norway  
 Partnership Brokers Association (PBA), United Kingdom

Permanent Inter-State Committee for Drought Control in  
 the Sahel (CILSS) , Burkina Faso  
 Regional Community Forestry Training Centre for Asia  
 and the Pacific (RECOFTC), Thailand  
 Regional Integrated Multi-Hazard Early Warning System  
 for Africa and Asia (RIMES), Thailand  
 Reykjavik University, Iceland  
 Room to Read, United States  
 Springer Nature, Netherlands  
 The Norwegian University of Science & Technology  
 (NTNU), Norway  
 The Regional Centre for Mapping of Resources for  
 Development (RCMRD)  
 The University of Arctic (UArctic), Finland  
 United Nations Environment Programme - GRID-Arendal  
 (UNEP/GRID-Arendal), Norway  
 United Nations Environment Programme (UNEP),  
 Thailand  
 University of Arizona (UA), United States  
 University of Central Asia (UCA), Tajikistan  
 University of Colorado (CU), United States  
 University of Leeds, United Kingdom  
 University of Natural Resources and Life Sciences  
 (BOKU), Austria  
 University of the Highlands and Islands (UHI), United  
 Kingdom  
 Value Network Ventures Advisory Services Pte. Ltd.  
 Walker Institute, University of Reading, United Kingdom  
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 World Meteorological Organization (WMO), Switzerland  
 Western Sydney University (WSU), Australia  
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Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), Germany

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Germany

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# About ICIMOD

The International Centre for Integrated Mountain Development (ICIMOD), is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalaya – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.

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**ICIMOD gratefully acknowledges the support of its core donors:** the Governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Sweden, and Switzerland.

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