ICIMOD

Annual Report

2022

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Annual Report

2022

Contents

Our achievements as an institution are measured by the results we deliver. Our seven strategic results provide indicators to guide and measure our progress towards reduced poverty, enhanced resilience, and improved ecosystem services in the Hindu Kush Himalaya. Each chapter in this report corresponds to a strategic result. Together, they tell the story of how we have worked over the past year to lead the global effort to protect the HKH – and the people, resources, and cultures that define it.

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MESSAGE FROM THE DIRECTORS

Moving mountains

Extending 3,500km from Afghanistan in the west to Myanmar in the east, encompassing eight countries housing 10 of the world's highest mountains and the source of 10 major river systems, 240 million people call the Hindu Kush Himalaya or HKH their home. In 2019, ICIMOD published the *Hindu Kush Himalaya Assessment*, the first definitive regional report on the status and future of the region that it is our mandate to protect. The report was crucial in forging a consensus among policymakers both regionally and globally about the climate vulnerability and significance of the people, nature and ecosystems within these mountains. Its findings continue to guide much of our work.

Importantly, in articulating the growing magnitude and complexity of challenges here in the HKH, the study also paved the way for a complete reshaping of ICIMOD itself – the key overarching task to which ICIMOD committed itself in 2022.

With the backing of our regional member countries (RMCs), we embarked on an extensive consultation with governments, donors, partners, and staff to ensure that the institution is fit for purpose for the decades to come. We are grateful to all our partners and supporters for their crucial contributions to the dramatic phase-shift this interrogation of our work and future direction has already unleashed.

Our *Strategy 2030: Moving Mountains*, the fruit of this consultation, made it clear that the escalating effects of climate change, water insecurity, increased disaster risk, biodiversity loss and socio-economic change required transformative action, and that ICIMOD itself needed to overhaul its processes and focus to meet these needs.

Alongside our fifth medium-term action plan (MTAP V, 2023-2026) our Strategy outlines how we will rise to meet the challenges ahead – transforming ourselves institutionally to be agile and responsive, resetting our portfolio and reorienting all our work to focus relentlessly on impact. Both documents were informed by our gender audit and quinquennial review and align with the stated priorities and global commitments of our RMCs.

BEING FIT FOR PURPOSE | OUR NEW STRUCTURE

At the centre of this work has been the shift to a more streamlined structure: organising ourselves into three Strategic Groups (SGs) and six Action Areas (AAs), through which we will deliver our results. This work will be supported by a new resource mobilisation team, a revamped gender, equity and social inclusion unit, a strengthened monitoring and evaluation function, and much more ambitious communications, plus a commitment to build our digital and innovation capacity.

RISKS – CRYOSPHERE, RIVERS, AIR

We are dealing with new and complex risks in our region, including cascading risks. Our work under Strategic Group 1 – Reducing climate and environmental risks – will focus on assessing and managing risks related to water, cryosphere, and air, especially those that are transboundary in nature. We aim to improve understanding and communication of risks, the testing and piloting of solutions, building regionally consistent and informed risk management strategies in varied hazard and vulnerability contexts, and strengthening institutions, policies, and actions for clean air. Our air pollution workstream will focus

on co-developing and scaling cleaner and socially responsive air quality solutions and investments for reduction of air pollutants, while continuing to support RMCs in the uptake of solutions and air quality monitoring and assessments.

ECONOMIES AND ECOSYSTEMS

Our work under Strategic Group 2 – Shaping green and inclusive mountain economies – focuses on understanding the implications of rapid socioeconomic, climate and environmental change on mountain livelihoods and delivering inclusive solutions for marginalised mountain communities. We will promote Nature-based Solutions and incentives for conservation stewardship, and champion indigenous peoples' and local communities' stewardship of nature. Our work on scenarios, anticipatory adaptation, and human settlements will address emerging challenges in the fast-changing climate and socioeconomic contexts of the HKH. Lastly, we will work to support and build the field of green livelihoods and enterprises, nurturing and sustaining inclusive, green, energy-efficient, and circular businesses.

ADVOCACY – GLOBAL AND REGIONAL

The HKH still fails to command anywhere near the attention, or investment, that is commensurate with its significance or fragility. It is crucial we redouble our efforts to raise awareness of the unprecedented and largely irreversible threats the region faces by contributing to global processes, increasing our capacity to respond by building new alliances, and attracting greater resources to the region. Our work under Strategic Group 3 – Enabling regional and global mechanisms for sustainable action – focuses on building regional cooperation and collaboration to address shared challenges, including establishing a new mechanism based on the models of the Alpine and Carpathian conventions and the Arctic Council, and on global advocacy to push for faster progress in mitigation, adaptation and loss and damage, and to attract investment.

FROM OUTCOME TO IMPACT

Rebuilding an institute of ICIMOD's size and complexity has not been without challenge. But this period of intentional interrogation, strategising and change management has left us with greater solidarity, accountability, and purpose than ever – and with an ICIMOD that is genuinely fit for purpose for the challenges ahead.

We are grateful to all our partners, donors and communities who have helped us achieve what we have in this plan period. While we reflected on the positives during the planning process, captured in the stories in this report, we encouraged honest feedback on shortcomings and areas for improvement. Based on this feedback and advice, we have created an MTAP that pushes us to be purposeful and responsive, and yet adaptive and agile, ensuring that we can better respond to and capitalise on emerging opportunities, thus enabling our work to move forward in stages from outcome to impact.

We are thankful to our Board and ISG members, focal ministries, partners, and donors for contributing to this vision for the decade, endorsing our Strategy 2030, and setting us on this path. We look forward to your continued support and guidance.

Pema Gyamtsho
Director General

Izabella Koziell
Deputy Director General

STRATEGIC RESULT 1

Mountain innovations and community practices

Promoting and supporting innovative approaches to address change and build resilience

Resilient solutions

Pathways to green mountain economies

Imagine a Hindu Kush Himalaya with improved human wellbeing and social equity, without environmental risks and ecological scarcities. A place that is socially inclusive, resource efficient and low carbon. This would be the very definition of a green economy, but how do we get there? In December 2022, ICIMOD – in collaboration with the Government of Nepal and the Green Resilient Agriculture Productive Ecosystems (GRAPE) – hosted an international resilient solutions conference and expo to showcase innovative solutions and investment opportunities for a green mountain economy.

Bringing together experts, the public and private sectors, international agencies, academia, community-based organisations, youth, entrepreneurs, financial institutions, and developmental partners, the conference took stock of existing solutions, assessed their scalability, and selected solutions for their scaling potential in the HKH region. The event aimed to facilitate South–South learning, foster innovation, and promote solutions for sustainable transitions. The participants reached a consensus on the topics of green mountain economy, resilience building, innovation, and regional cooperation/partnership.

It was realised that transitioning to a green mountain economy is not just a choice but a pathway for green, resilient, and inclusive development. Engaging with the private sector and facilitating a transition to low-carbon, climate-resilient development is key to meeting the large investment gap and realising the potential of a green mountain economy. There is a need to focus on building green climate-resilient businesses with capacity building, technology improvement and help to leverage climate finance.

'Resilience' was recognised as a shared mission at the global, national and community level, and global financial security as a global concern. Coming out of the conference, green growth, investment in clean energy, norms, regulations, and nature-based solutions in climate action were recognised as pathways to a resilient HKH.

An opportunity to scale local solutions to regional scale is also key, with a focus on 'not just adaptation, but just adaptation for all'. To achieve this, innovative solutions require regular development, policy in place, finance and investment, and supportive institutions for scaling. The region's rich traditional knowledge must be preserved while emphasising regional co-operation and research to introduce Nature-based Solutions and sustainable financing for the future generations.

Transitioning to a green mountain economy is not just a choice but a pathway for green, resilient, and inclusive development.

Launching the Red Panda Trail

Empowering communities, supporting conservation, and spreading tourism income more equitably

On World Tourism Day, ICIMOD, along with the Community Homestay Network and the Red Panda Network, launched the Red Panda Trail in eastern Nepal. This circuit tourism project aims to promote nature-positive tourism development to eastern Nepal. The process involved clustering of nature-based tourism products and services to attract more tourists, increase their length of stay, maximise their spending, all of which are critical for equitable distribution of benefits to host destinations and communities.

Using this strategy, the Red Panda Trail has been curated and packaged to allow tourists to explore and experience the rich flora, fauna, culture, and landscapes of the area. The trail is centred around the endangered red panda and its habitat, making it a unique attraction for nature lovers. As part of such engagement, the benefit-sharing mechanism is aimed at incentivising nature conservation and supporting community development, providing maximum benefit to women, youth, and marginalised communities. This circuit project includes two community homestays involving 19 families, in Maipokhari and Dobato in far-eastern Nepal.

For marketing and business networking, the Red Panda Trail is listed on the Community Homestay Network's business platform. This trail offers a high-value green tourism product for demystifying rural tourism as a low-cost, volume-based tourism business or service.

Well-developed trails like this can bring much attention and visitors to the region, empowering communities and spreading tourism income more equitably. Circuit tourism builds resilient destinations and promotes eco-tourism through community homestays, leading to sustained economic growth and nature-positive tourism development. By supporting initiatives like the Red Panda Trail, we can contribute to nature-positive products and economic diversification in lesser-known areas, leading to a more sustainable future for tourism in Nepal.

Circuit tourism fosters destination resilience and supports eco-tourism initiatives through community homestays, generating sustainable economic growth and promoting nature positive tourism development.

CBFEWS stations set up by ICIMOD in collaboration with local partners and local government agencies in flood-prone rivers along the Nepal–India border

Preparedness beyond borders

Community-based flood early warning systems along the Nepal–India border have encouraged local leadership and fostered avenues for transboundary collaboration

Flood-prone rivers along the Nepal–India border of the Koshi River Basin require monitoring and early warning for effective disaster preparedness.

Community-based flood early warning systems (CBFEWS) – an integrated system of tools and plans managed by and for communities – have proven to be an effective disaster preparedness mechanism, providing real-time warning to reduce flood risks.

CBFEWS management has been taken up by communities in Nepal and now India to ensure timely maintenance and sustainability of flood warning systems. ICIMOD has received a commitment from the Water Resource Department (WRD) in Bihar, a state in East India, that it will work on sustaining and enhancing CBFEWS to enhance the resilience of flood affected communities in the state. This follows our longstanding work with partners in Nepal to scale the system, given its impact and usefulness.

CBFEWS implementation along the Nepal–India border has encouraged local leadership and fostered avenues for transboundary collaboration. The application of the system to a transboundary context along the Ratu, Khando, and Gagan rivers has linked communities in Nepal to those downstream in Bihar, India, helping strengthen upstream–downstream linkages.

While official CBFEWS caretakers act as an important bridge, residents have also formed informal communications channels such as WhatsApp groups to relay timely warning information. Enhanced capacity of stakeholders has been another key achievement. Our implementation partners have trained local stakeholders, including women's groups and schoolteachers, on early warning systems. They have helped select volunteer caretakers and established communication networks for effectively relaying information to vulnerable communities downstream. For us, partners and communities being able to implement the system independently is a huge step towards ensuring its sustainability.

Moving forward, we will work to integrate CBFEWS with Nature-based Solutions for flood risk management to further reduce flood vulnerabilities and enhance the resilience of vulnerable communities. Stronger partnerships with respective governments and other agencies will help scale CBFEWS and safeguard more lives and livelihoods.

Moving forward, we will work to integrate CBFEWS with Nature-based Solutions for flood risk management to further reduce vulnerabilities and enhance the resilience of communities.

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

Supporting policy formulation in Gilgit-Baltistan

The policy inputs have emerged from research and consultations on the growing development and conservation challenges in high altitude areas

Sustainable development is at the forefront of our policy influence efforts. One of our transboundary initiatives, the Hindu Kush Karakoram Pamir Landscape (HKPL) initiative, has been conducting research and stakeholder consultations for the past four years to support policy formulation in Gilgit-Baltistan, Pakistan.

In the high-altitude mountains of Gilgit-Baltistan, including parts of Himalaya, Hindu Kush, and Karakoram, food and nutrition security remains a major challenge due to the growing population, haphazard development, and climate-induced hazards that are impacting agriculture and rangeland productivity. In addition, with the rise of domestic tourism, there is increased pressure on local resources without incentives for the poor and marginalised.

Recognising the severity of these changes and growing challenges, we collaborated with the Soni Jawari Center for Public Policy, Department of Agriculture, Gilgit Baltistan, Aga Khan Rural Support Programme (AKRSP), Lanzhou University, Karakoram International University, and WWF-Pakistan to conduct research and consultations on topics covering land use, land cover change, sustainable rangeland and agriculture, food and nutrition security, sustainable tourism, nexus approach, biodiversity, and protected areas. Together, we contributed to the draft policies on agriculture, food, and nutrition policy in Baltistan, and sustainable rangeland management in Gilgit-Baltistan.

The policies aim to support technically sound and economically viable interventions to promote sustainable agriculture and efficient use of resources. They also aim to support the conservation, restoration, and sustainable use of rangelands in Gilgit-Baltistan to sustain vital ecosystem goods and services for socio-economic prosperity, greater resilience to climate change, and wellbeing of local communities.

Once these policies are approved and implemented, they are expected to have tangible impacts on the sustainability of natural, social, economic, and human resources. Significant investments are expected to flow to communities and ecosystems in the region, contributing to socio-economic and ecological sustainability.

Along with national and regional partners, we contributed to draft policies on agriculture, food, and nutrition policy in Baltistan, and on sustainable rangeland management in Gilgit-Baltistan.

Investing in water security

The local government's formalisation of springshed and watershed management committees ensures sustainability of the management plan

Based on the joint action research conducted in 2015, Dhankuta Municipality in eastern Nepal recognised the need for planned investment in watershed management to sustain ecosystem services and improve the well-being of the people living in the Nibuwa-Tankhuwa Watershed. This small watershed encompasses both Dhankuta and Chhathar Jorpati municipalities and fulfils the water needs of more than 33,000 people. With ICIMOD's assistance, the municipality developed the Nibuwa-Tankhuwa Watershed Management Plan. This plan balances water conservation and development needs and focuses on water security and Nature-based Solutions including springshed management. Prepared in both English and Nepali, the plan is based on research and participatory consultation between the communities and key stakeholders of the watershed from 2018–2020, supported by scientific data and methodologies.

The management plan balances water conservation and development needs and focuses on water security and Nature-based Solutions, including springshed management.

To ensure the long-term sustainability of the plan, it was important that we step away from a leadership role. To mark this important step in local ownership, the stakeholders engaged in a hand-over event in 2021. The local government took ownership of the plan and allocated an annual budget to implement the planned activities. They coordinated with partners to align activities as per the plan and minimise duplication in implementing similar activities. The Watershed Management Committee and Springshed Management Committee were also formalised comprising members from the municipality, wards, and local communities. Community members were trained in springshed management and data collection for spring discharge and rainfall.

In 2022, we organised a campaign to plant 50,000 saplings of 22 native species with the aim of conserving and reviving water sources in the watershed. Two pilot sites – Dhoje Dada in Chhathar and Suke Pokhari in Dhankuta – are regularly monitored and the data is uploaded to the Koshi Basin Information System for wide use. Several planned activities within the watershed will be jointly implemented by the stakeholders, fostering ownership of the plan, and contributing to better conservation and management of water resources.

STRATEGIC RESULT 3

Gender and social inclusion

Ensuring that transformative change benefits the most marginalised people

Empowering women in the Earth observation and geospatial sector

Bridging the STEM gender gap and nurturing a gender-balanced workforce in the region

Across the world, advancements in Earth observation (EO) and geospatial information technology (GIT) have created more opportunities in spatial sciences, natural resource management, landscape mapping, strategic planning, and decision-making. However, men primarily dominate this sector in academia and the workforce. This gender disparity is prevalent in Asia's EO/GIT sector and more pronounced in the HKH region.

To bridge the technology and gender gap and to promote a gender-balanced workforce in the region, we piloted the "Empowering Women in GIT"

(WoGIT) training – the first of its kind – catering exclusively to young women professionals. Between 2018 and 2021, we trained 410 women from diverse academic and professional backgrounds under our SERVIR-HKH Initiative.

In 2022, we organised an advanced training session for our 2021 alumni and a regional WoGIT training, reaching an additional 400 women. The advanced WoGIT training focussed on our SERVIR-HKH services for monitoring agriculture, air quality, extreme weather, floods, land cover, and ecosystems. These training courses were delivered using a blended learning approach – presentations, guided practical exercises, and group project assignments.

Through the WoGIT initiative, we aim to provide significant growth opportunities for women professionals and encourage them to pursue careers in EO/GIT. The aim is for our WoGIT alumni to become exemplary EO/GIT leaders, mentor other women considering professions in EO/GIT, and advocate for women and women's perspectives in STEM and EO/GIT solutions.

We believe that promoting women leaders and role models in EO and GIT will not only make this field more diverse and inclusive, it will also expand the possibilities of this field and help bring positive social change. We hope to continue refining and updating our training materials to sustain women's interest in EO and GIT and encourage them to participate in our training.

We believe that promoting women leaders and role models in EO and GIT will not only make this field more diverse and inclusive, but it will also expand the possibilities of this field and help bring about positive social change.

Best toe forward: how building trenches preserves spring water flow

A story of women-led spring revival in Uttarakhand, India

In the idyllic village of Moldhar, nestled amidst the hills of Tehri Garhwal District in Uttarakhand, India, a pressing challenge looms over the community – dwindling water flow and drying springs.

We have been working to revive Upala Shivani Dhara – a major but drying spring, which supplies water to around 80 households in Moldhar. The spring's 'recharge area' – through which water infiltrates and reaches the aquifers, where groundwater is stored and emerges at the surface as a spring – is in a privately-owned, terraced agricultural field. The terraces remain barren and abandoned, only to be used for fodder collection and seasonal open grazing.

Guided by our six-step protocol for springshed management, we undertook various initiatives, including the construction of "toe trenches" to enhance recharge. A toe trench is a small pit or trench at the base or 'toe' of the upper part of a terrace. While met with scepticism initially, a transformative exposure visit to a previously successful site kindled hope among the Moldhar community. Empowered and motivated, the women of Moldhar displayed unwavering dedication as they tirelessly built hundreds of toe trenches, leading to promising outcomes by the end of 2022.

During the sweltering months of May and June 2022, a group of women from Moldhar persevered to build over 700 toe trenches across 3.5 hectares. By December 2022, we could see an increase in the water flow of Upala Shivani Dhara.

This inspiring story of community involvement and women-led mobilisation demonstrates our commitment to not only reviving springs but also establishing model sites for sustainable water management, with the aim of benefiting communities across India and beyond.

During the sweltering months of May and June 2022, women from Moldhar village persevered to build over 700 toe trenches across 3.5 hectares. By December 2022, we could see an increase in the water flow of a major spring.

STRATEGIC RESULT 4

Building capacity for sustainable mountain development

Amplifying positive change through improved human and institutional capacity

Revitalising yak farming in eastern Nepal

Partnership with the private sector has proven to be a game changer

With climate change, geopolitical issues affecting traditional migration routes, and a growing disinterest among the youth in yak herding, the Himalayan region is facing a decline in traditional yak herding. Recognising the need to preserve this age-old yak culture in Eastern Nepal, while also improving the livelihoods of yak herders, we entered into a tripartite agreement with Nepal Dairy Pvt Ltd (NDPL) and Surketham Dairy Cooperative Limited (SDCL).

The agreement promises to bring tangible impacts on the ground, especially for the yak herders. Yak cheese, a niche product with high market value, holds immense potential to improve the livelihoods of herders. However, the limited capacity to connect with existing markets has hindered the progress of yak dairy processing, as evidenced by the failed attempt of Surketham Dairy Cooperative Limited in 2009. Market issues and transportation challenges posed significant obstacles to sustaining a cheese factory in the region.

Fortunately, the partnership with the private sector has proven to be a game changer NDPL, a prominent player in the Nepali cheese market, acts

as a vital link between yak herders and consumers. With improved road access and NDPL's buy-back guarantee, the cheese now reaches the market on time, commanding a fair price that benefits the herders. The cheese is successfully sold in major distribution outlets, bolstering the economic prospects of yak herding communities.

Furthermore, efforts to promote tourism during the off-season, such as through annual yak festivals and 'goth-stays' (goth: traditional herding station), have created additional income opportunities. This multipronged approach has helped revitalise yak farming in the Kangchenjunga region, ensuring its sustainability and the preservation of a unique cultural tradition.

Given the crucial role of herders as stewards of the HKH rangelands, the success of this tripartite agreement offers hope for sustainable rangeland management and scaling up yak value chain development in Nepal and other countries in the Kangchenjunga region. Efforts are underway to connect yak herders in India and Bhutan with the objective of creating an HKH yak network. By involving the private sector and fostering market linkages, we have addressed the decline in yak herding while generating sustainable livelihoods for yak herding communities.

By connecting yak herders with the private sector, we have created new economic opportunities that can help preserve an age-old tradition.

STRATEGIC RESULT 5

Engaging policy makers

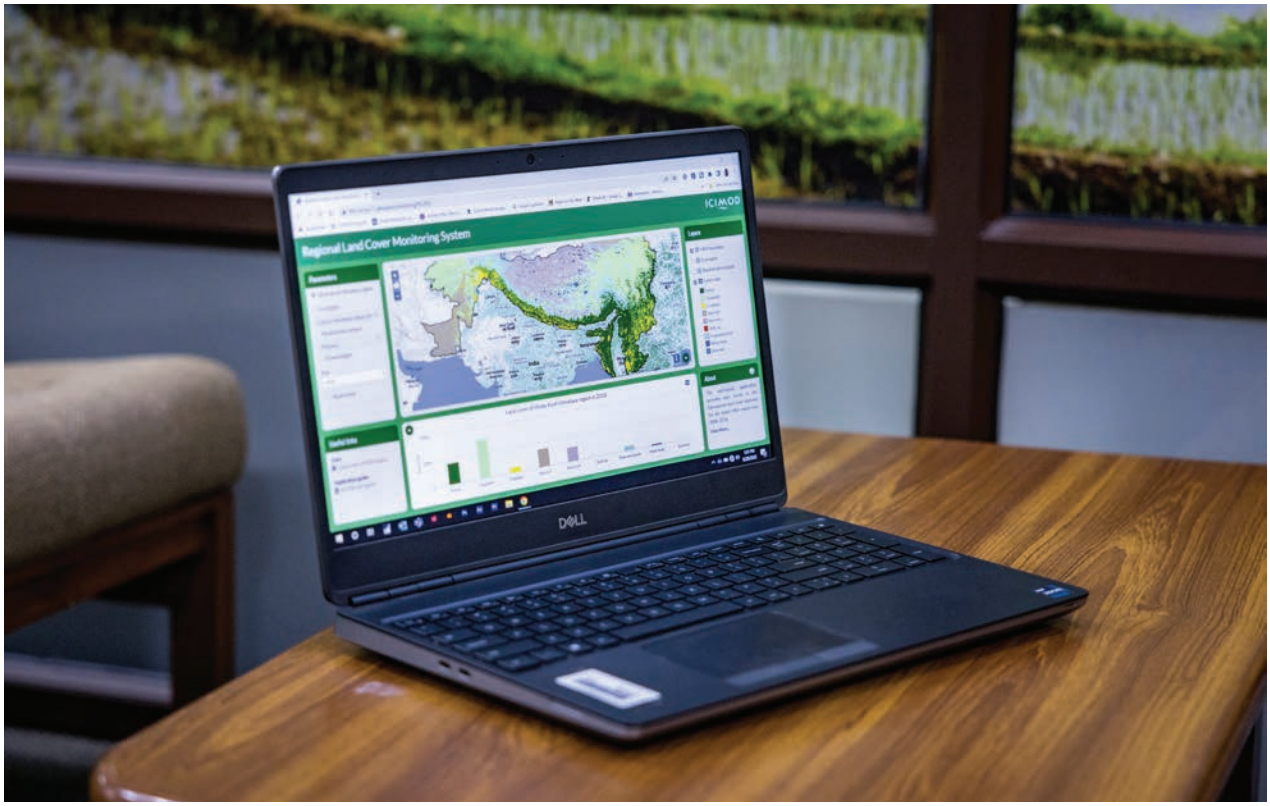
Enhancing the science–policy interface for evidence-based decision making

A reliable land cover monitoring system

The monitoring system enhances Nepal's environmental monitoring and management capabilities

On Earth Day 2022, Nepal's Forest Research and Training Center (FRTC) launched the National Land Cover Monitoring System (NLCMS), a cutting-edge technology platform that generates accurate, up-to-date land cover maps every year. Developed with the support of the SERVIR-HKH Initiative, the NLCMS aids in Nepal's efforts to enhance its environmental monitoring and management capabilities. The launch of the NLCMS marks a significant milestone in our long-standing cooperation with FRTC and the Ministry of Forests and Environment.

By leveraging the power of cloud computing, artificial intelligence, and remote-sensing data from Landsat, the NLCMS provides a comprehensive and reliable picture of Nepal's land and water resources. This allows policymakers to make more informed decisions on land use, conservation, and development. The NLCMS also aids in biodiversity conservation and ecosystem management by providing critical information on forest cover



change and degradation. It also provides the foundational dataset for evidence-based planning and policy development, helping Nepal build a more resilient and sustainable future.

The NLCMS is fully customised from ICIMOD's Regional Land Cover Monitoring System (RLCMS), which provides land cover data for the entire HKH region. SERVIR-HKH is working with other RMCs to develop customised national land cover monitoring systems.

The NLCMS provides a comprehensive and reliable picture of Nepal's land and water resources. This allows policymakers to make more informed decisions on land use, conservation, and development.

Simulating extreme weather hazards in Bangladesh

The Bangladesh Meteorological Department can now operationalise ensemble model forecasts using the High-Impact Weather Assessment Toolkit

High-impact weather events such as cyclones, storms, intense rainfall, damaging winds, hail, and lightning strikes cause hundreds of casualties every year. The pre-monsoon season is characterised by intense localised rainfall and thunderstorm events. In the monsoon, incessant rainfall causes continued flooding in large swathes, affecting thousands across. In 2020 and 2021, cyclones Yaas and Amphan caused massive damage to Bangladesh's coastal areas.

The Bangladesh Meteorological Department (BMD) issues weather forecasts and early warnings for all weather-related events in the country. The BMD has now officially integrated the High-Impact Weather Assessment Toolkit (HIWAT), a customised weather research and forecasting model developed by NASA's Marshall Space Flight Center, into its high-performance computing (HPC) cluster. HIWAT provides forecasts for various weather parameters – rainfall, hailstorm, temperature, and

lightning, among others – 54 hours in advance, and is therefore able to greatly enhance weather forecasting capabilities.

The BMD can now operationalise ensemble model forecasts using HIWAT on its HPC system. Its professionals have received training on independently operationalising and using HIWAT to simulate extreme weather hazards, issue forecasts, and effectively manage the system.

This operationalisation of HIWAT marks a major milestone in ICIMOD's cooperation with the BMD. We have been collaborating with the BMD to enhance their extreme weather forecasting, flood, and drought warning services since May 2018. A partnership was formed with the signing of a letter of effect, and multiple training events have since been organised to enhance the capacity of staff at the BMD. These trainings have covered deterministic and ensemble numerical weather forecasts and featured scientists from NASA and leading universities in the USA as resource persons.

Our SERVIR-HKH Initiative has worked with the NASA SERVIR Science Coordination Office and NASA Marshall Space Flight Center to customise HIWAT for the HKH region. The tool covers areas of Bangladesh, Bhutan, Nepal, and northeast India. Specialised country-level visualisation systems for Bangladesh – HIWAT-Bangladesh, Bhutan – HIWAT-Bhutan, and Nepal – HIWAT-Nepal have also been developed.

HIWAT's precipitation outputs also feed into ICIMOD's Flash Flood Prediction Tool, which generates flood outlooks for smaller streams in the region. Bangladesh's Flood Forecasting Warning Centre uses this tool to monitor flash floods in the country during the pre-monsoon and monsoon seasons.

HIWAT provides forecasts for various weather parameters – rainfall, hailstorms, temperature, and lightning, among others – 54 hours in advance, and is therefore able to greatly enhance its weather forecasting capabilities.

Assessing cryosphere hazards

Data on glacial lakes is being used for risk reduction planning

Disaster risks in the fragile mountain system, particularly Glacial Lake Outburst Floods (GLOFs), can lead to catastrophic phenomena in the high mountains that threaten people's lives, livelihoods and regional infrastructure. For over a decade, our researchers have studied the glacial lakes in the HKH through remote sensing tools and techniques. The data generated through our work can be used to predict the likelihood of GLOFs or related hazards. The data also aids in the development of early warning systems to alert people living in potential GLOF areas to evacuate or take other protective measures. Furthermore, data on the damage caused by past GLOFs and information on critical lakes can further identify vulnerable areas and develop plans for their protection.

So far, our experts identified twenty-one critical glacial lakes in Nepal using extensive remote sensing data analysis. Our key partner in Nepal, the Department of Hydrology and Meteorology (DHM), acted on these findings and selected four high-priority lakes to conduct further field verification of the risk. This also complements DHM's efforts to further strengthen Nepal's disaster management plan. Our research on the status of glacial lakes and analysing the risks of GLOF was undertaken to support UNDP and the Government of Nepal in developing a new national-level GLOF risk reduction proposal for the Green Climate Fund.

Findings on critical glacial lakes has led the Department of Hydrology and Meteorology to select four high-priority lakes for risk verification, aiding Nepal's disaster management planning.

The economics of a sustainable future

What links garbage, pollen, and microplastics in the lungs of newborns?

The answer is the economic and other implications of human-induced environmental change – which are inevitable but often ambiguous. A flood-related economics study in Nepal, conducted by ICIMOD's South Asian Network for Development and Environmental Economics (SANDEE), has illustrated co-benefits, municipal waste management costs and financing around the economics of urban waste management in South Asia. The study highlights waste dumping as a behavioural issue to understand how cities manage solid waste, and to what extent citizens cooperate with civic bodies to dispose of it. It also provided other insights. For instance, it showed that the value of houses in cleaner neighbourhoods can be over 25% more than those in not-so-clean neighbourhoods.

The policy implications of the study were that the government banned single-use plastics below 40 microns. Interestingly, waste management also emerged as one of the key agendas in the election manifestos of major political parties in subsequent local elections. This is important as waste collection and management accounts for up to 80% of municipal expenditure, and at-source segregation of waste and composting has immense potential for cost saving and reducing the pressure on landfills. Single-use plastics are also no longer just a grave environmental challenge – microplastics have now been detected in the lungs of new-borns, creating grave health hazards. Dealing with this challenge and finding alternatives is paramount.

Economics can help shape a sustainable future, potentially guiding environmental decisions on issues from garbage to pollen exposure. Yet the paradox remains, as economic growth continues to bring with it the likelihood of environmental degradation. Although economics is instrumental for environmental decision making, it is not adequately used for such decisions across South Asia. By researching the intersections between just transitions, the environment and socio-economic growth, we continue to explore the complex dynamics between economics and the environment. SANDEE continues to focus on building research capacity and researcher academic leadership, which helps amplify the focus and reach of regional environmental research outputs.

By researching the intersections between just transitions, the environment and socioeconomic growth, we continue to explore the complex dynamics between economics and the environment.

Exploring carbon trading from cleaner bricks

Towards cleaner, more profitable, and socially responsible brick production in the HKH

In 2018, a staggering 20–25% of global air pollution was attributed to the brick industry. As the building material of choice, over 300 billion bricks are produced annually in around 150,000 kilns in South Asia. The resulting smoke emitted into the air contains PM2.5 – fine particulate matter small enough to pass through the lungs, into the bloodstream, and into the organs. This has serious health implications and directly impacts visibility, climate, and melting of Himalayan snow and ice.

To examine this issue closely, we generated a robust body of evidence over a five-year period. We found that emission measurements from India, Nepal and Pakistan show that zig-zag kilns – where bricks are stacked and fired in a zag-zag pattern, allowing a longer interaction with the stacked bricks and better heat transfer – can potentially reduce PM2.5 by around 40% and black carbon by 55% per kilogramme of fired bricks.

Based on this finding, we are now poised to pioneer Nepal's first zig-zag brick kiln conversion carbon trading project, beginning with a pilot and a baseline

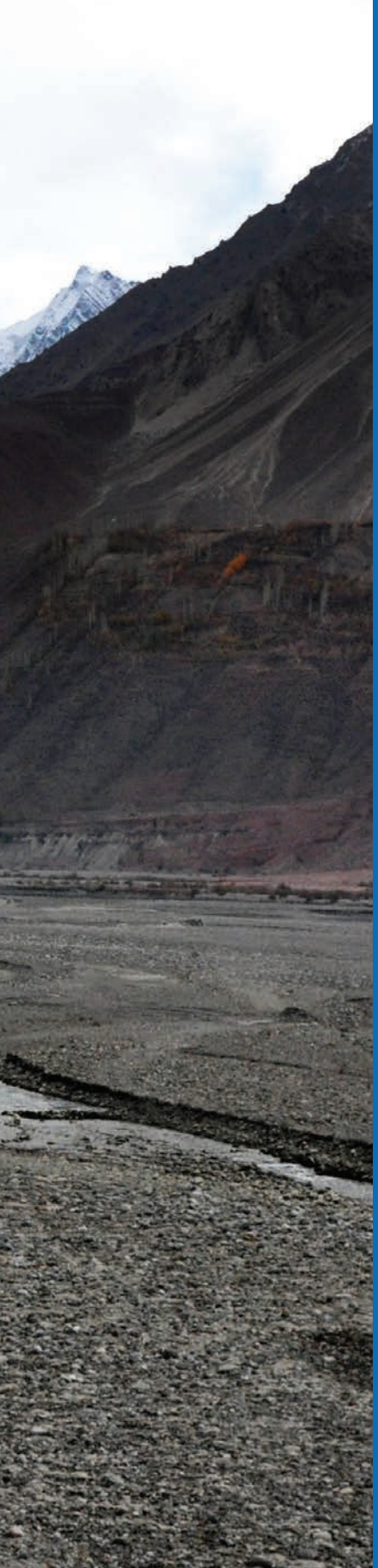
Zig-zag kilns in India, Nepal, and Pakistan can substantially reduce PM2.5 and black carbon per unit of fired bricks. Accordingly, we are looking to pioneer Nepal's first zig-zag brick conversion carbon trading project.

study of the reduction in 'radiative forcing' from brick kiln conversion. (Radiative or climate forcing measures the difference in the energy entering or leaving the atmosphere.) The reduction in emissions is immense. Transition to zig-zag technology slashed fuel consumption by 20%–25%, and air pollutant and black carbon emissions by around 50%.

Along with country governments, ICIMOD mobilised regulatory changes that enabled further air pollution mitigation. Underlying this pivotal environmental shift is a robust business sense: The new firing process results in a greater volume of grade A bricks per batch.

We have introduced innovations such as partially substituting coal with biomass pellets which are made from biomass waste, usually from crop residues, and using liquefied petroleum gas (LPG) for the initial firing of kilns, further reducing emissions. Economic benefits from gas firing are around 60%–70% greater than those from burning fuelwood, and emissions reduction is also 25% greater. Likewise, substituting 30% of the coal input with biomass pellets can reduce emissions of particulate and gaseous pollutants by up to 16%. This is significant as it provides a financial incentive that discourages open agricultural burning, a growing regional issue.

By mainstreaming the zig-zag technlogy in Nepal and Pakistan and reinforcing the national and regional implications of creating a cleaner, socially responsible, and more profitable industry, this mitigation approach can help countries attain Nationally Determined Contributions, Sustainable Development Goals, and net zero country targets.



STRATEGIC RESULT 6

Facilitating regional cooperation

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

A regional mechanism for the HKH

Learning from multilateral cooperation in other parts of the world

Regional cooperation is crucial to addressing the most pressing issues affecting the HKH region, many of which are transboundary in nature. The HKH Call to Action to Sustain Mountain Environments and Improve Livelihoods in the HKH was drafted through country consultations and high-level briefings in all eight HKH countries in 2019, and based on the *HKH Assessment*. The consultations built strong country ownership of the Call to Action and generated ideas on the possibilities for more robust regional cooperation.

ICIMOD's Board of Governors then gave a mandate in September 2019 to constitute an interim HKH Task Force with high-level representation from the eight HKH countries to work closely with ICIMOD for organising the first HKH Ministerial Mountain Summit. This received further impetus with the Ministerial Declaration on the HKH Call to Action in 2020 during the first HKH Ministerial Mountain Summit. In the landmark Ministerial Declaration, the ministers from 8 RMCs agreed "to constitute

a Task Force with high-level representation from the eight HKH countries to assess the feasibility of establishing a regional institutional mechanism". It was mandated to assess similar regional collaborative platforms/institutions in other parts of the world and recommend a feasible configuration for the HKH in a report to be submitted to the next HKH Ministerial Summit.

The HKH High-Level Task Force has since met six times – twice in 2021, and four times in 2022. It has started to assess the feasibility of establishing a regional institutional mechanism, which is being captured in a draft recommendation report. The members also visited the Permanent Secretariat of the Alpine Convention and the Secretariat of the Carpathian Convention in mid-2022 to learn about multilateral cooperation mechanisms, and held its 5th meeting in Innsbruck, Austria.

The draft version of the recommendation report was discussed during the 6th task force meeting held at ICIMOD in October 2022. All task force members critically reviewed the draft report and provided their feedback on the vision, goals, structure, membership and working modality of the proposed regional mechanism, and agreed to finalize the report during the 7th task force meeting. The recommendation report will be presented at the 2nd HKH Ministerial Mountain Summit to be held in 2024 and included in the 2nd Ministerial Declaration.

The Task Force has been mandated to assess regional collaborative platforms and recommend a feasible configuration for the HKH.

Primates in transboundary landscapes

Understanding the status, distribution, and threats to primates in the China-Myanmar border regions

Primates are among the most threatened species in the Far Eastern Himalaya Landscape (FEHL). Their conservation is often challenged by inadequate funding, weak law enforcement, gaps in scientific understanding and information, low institutional capacity, lack of sectoral coordination, and the transboundary nature of threats and conservation issues. Many threats such as poaching, wildlife trading, and habitat fragmentation are transboundary in nature, and cross-border collaboration in research, monitoring, and information sharing can benefit their conservation tremendously.

The skywalker hoolock gibbon (*Hoolock tianxing*) and black snub-nosed monkey (*Rhinopithecus strykeri*) are both newly described species distributed between China and Myanmar in the FEHL. In the past few years, a substantial amount of research has been done on the Chinese populations, their distribution, status, and habitat conditions. In 2021 and 2022, we collaborated with Fauna and Flora International, Myanmar, for a quick assessment of the habitats of the two species on the Myanmar side, where little is known about their status and the threats to their survival, harmonising survey protocols with studies conducted on the Chinese side. We also brought together scientists and conservation practitioners from Fauna and Flora International in Myanmar, Dali University, Sun Yatsen University, Yunshan Conservation, Yunnan University in China, and the Global Environmental Institute for a workshop to exchange updated information on research, monitoring, and conservation of these species, and to identify areas for future collaboration.

Many threats such as poaching, wildlife trading, and habitat fragmentation are transboundary in nature, and cross-border collaboration in research, monitoring, and information sharing can benefit their conservation tremendously.

Capacity for Earth observation and climate projections

Helping young scientists and professionals acquire a deeper knowledge of Earth observation applications and future climate projections

The establishment of the Regional Centre for Capacity Development (RCCD) with Aerospace Information Research Institute under the Chinese Academy of Sciences (AIR-CAS) and National Remote Sensing Center of China (NRSCC) is a key example of regional cooperation initiated by the Mountain Environment Regional Information System (MENRIS). Since its establishment in 2021, under the framework of the Task Group 12 of Asia-Oceania Group on Earth Observations, RCCD has organised regional trainings on various applications of Earth observation bringing in resource persons and trainees from across the region. RCCD is strengthening regional cooperation on capacity development and helping young scientists and professionals from developing countries acquire a deeper understanding of Earth observation data and knowledge, especially on cross-domain scientific research.

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In 2022, we organised training on 'Forest carbon assessment using Earth observation and geospatial information technology' for building the capacities of national agencies in the application of EO and GIT for monitoring forest carbon stock. This was organised by RCCD in collaboration with the Nepal Academy of Science and Technology (NAST) and AIR-CAS, with support from the Alliance of International Science Organizations (ANSO) and International Research Center of Big Data for Sustainable Development Goals (CBAS).

We are also working with other regional partner institutions to build capacity on future climate projections. These training workshops have brought together providers and users of climate services from Afghanistan, Bangladesh, India, Nepal and Pakistan to access, analyse and use datasets from CORDEX, the Coordinated Regional Climate Downscaling Experiment, and promote knowledge sharing and regional collaboration. Together with the Asian Disaster Preparedness Centre (SERVIR-Mekong), we organised regional knowledge forums on droughts and early warning for floods and high-impact weather events which brought in key researchers and stakeholders from South Asia and Southeast Asia to discuss issues, technology options, and policy implications.

Networks for understanding water and cryosphere risks

Our river basin networks foster collaboration on science, policy, and practice, while the Cryosphere Hub focuses on cryosphere change in the HKH

The Koshi Disaster Knowledge Hub (KDKH) is a platform for disaster risk reduction in the Koshi river basin, its work led by members with the aim of fostering collaboration and linking science, policy, and practice. The platform will expand its working groups focusing on various aspects of disaster risk reduction (DRR) in the coming years, with the National Disaster Risk Reduction and Management Authority (NDRRMA) in Nepal, Bihar State Disaster Management Authority (BSDMA) in India, and Institute of Mountain Hazards and Environment (IMHE) in China leading the country chapters of the Hub in Nepal, India, and China, respectively.

The China country chapter plays an active role in the Upper Indus Basin Network (UIBN), and has carried out a number of collaborative research activities, most recently the interdecadal glacier inventories in the Karakoram since the 1990s. The UIBN promotes regional cooperation on climate change impacts in the Indus Basin (shared by Afghanistan, China, India, and Pakistan), with country chapters in each country. A regional workshop on 'Cryosphere and related hazards in High Mountain Asia in a changing climate' was held in 2022, focused on developing a framework for regional cooperation to monitor permafrost changes and its consequences in High Mountain Asia. The sixth UIBN Regional Strategic Committee meeting was held on the sidelines of this workshop, with Duman Yimamaidi, Executive Director of the Almaty subcentre of the Central Asia Ecological and Environmental Research Center under the Chinese Academy of Sciences, and Galymzhan Saparov, Director of the Kazakhstan side of the centre, participating as special invitees on behalf of the UIBN China Chapter.

Elsewhere, the HKH CryoHub enables regional cooperation on cryosphere-related issues and highlights the work of key partners and early career researchers. In 2022, we highlighted the work of Qiao Liu, glaciologist and professor at the Institute of Mountain Hazards and Environment (IMHE), Chinese Academy of Sciences, whose research focuses on debris-covered glaciers and mountain hazards.

The KDKH and the UIBN carry out collaborative research on river basins, while the HKH CryoHub enables regionalcooperation on cryosphere-related issues

The Kailash CAFE

A virtual hub brings together researchers from a variety of disciplines

Collaboration is crucial in determining areas for future research and intervention. Developed in response to the pandemic when physical gatherings were curtailed, Kailash CAFE is a digital platform aimed at bringing together multi-disciplinary researchers working in the Kailash Sacred Landscape (KSL) to share their knowledge and to learn from each other. From Mount Kailash and Lake Mansarovar to vital rivers such as the Indus, Sutlej, Brahmaputra, and Karnali, KSL encompasses cultural and environmental assets from the countries that share the landscape: China, India, and Nepal.

Through the Kailash CAFE in 2022, researchers shared and published their findings, explored research collaboration opportunities, and networked with peers and interested stakeholders. The first edition of Kailash CAFE in 2021 featured 29 presentations, of which 11 were published in a special issue of *Environmental Challenges*. The second iteration of Kailash CAFE in 2022 focused on issues related to sustainable development and mountain ecosystems and attracted over 350 participants from 28 countries and 200 institutions.

As the world continues to face challenges related to climate change and sustainable development, platforms like Kailash CAFE play a crucial role in facilitating research collaboration and knowledge sharing. Kailash CAFE aims to continue as a networking platform for researchers to meet virtually, exchange ideas and methodologies, and collaborate on future projects, making it an important tool for academia and sustainable development.

Digital platforms like Kailash CAFE allow for sharing findings with peers and other interested stakeholders, exchanging ideas, and exploring research collaboration and networking opportunities.

A year for mountains

Marking the International Year of Sustainable Mountain Development

The United Nations General Assembly declared 2022 as the International Year of Sustainable Mountain Development (IYSMD). This declaration was a unique opportunity to raise awareness about the role of mountains and mountain people for our planet and sustainable development as well as for achieving the Sustainable Development Goals.

ICIMOD joined hands with the Ministry of Forests and Environment (MoFE), Government of Nepal to mark the inaugural session of the year of the mountains in March 2022 and contributed to a consultative meeting called by MoFE in July 2022 with parliamentarians to discuss sustainable mountain development in Nepal and to integrate the mountain agenda at the local, provincial, national, and international levels. At these events, ICIMOD underlined the need to further improve information and data exchange through regional cooperation.

In September 2022, as a member of the Steering Committee and Technical Committee, ICIMOD supported the organization of the Mustang Advocacy Summit on Sustainable Mountain Solutions (MAS) hosted by MoFE, Government of Nepal. This event was a culmination of series of activities carried out for the celebration of IYSMD, which also saw the launch of the Mustang Declaration. ICIMOD was instrumental in drafting the declaration, which proposed three key area of action: A Government of Nepal initiative to explore possibilities of an HKH Ministerial Council related to forests, environment, and climate change; development of mountain-specific programmes; and mobilization of financial resources from various sources, including private sector.

The declaration document was submitted to 6th Global Meeting of the Mountain Partnership in September 2022, where ICIMOD also participated and contributed to the formation of a new steering committee. ICIMOD has been a key member of the Mountain Partnership, which is an alliance that includes representative organizations of mountain countries, governments, and NGOs.

As a part of the IYSMD event, experts from ICIMOD also contributed as co-authors to three policy briefs coordinated by the Mountain Partnership, in the thematic areas of ecosystem restorations, resilient mountain food systems, and data and information for science, policy, and society.

> "The time for action is now. We simply can't afford to wait." – Dr Pema Gyamtsho, in his address to the summit.

STRATEGIC RESULT 7

Regional and global outreach

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

A hundred questions

Identifying the most pressing knowledge gaps for cross-basin collaboration in the Upper Indus Basin

Started as a monitoring group in Pakistan in 2012, the Upper Indus Basin Network (UIBN) has, over the years, expanded to include over 100 researchers, policymakers, and practitioners in Afghanistan, China, India, and Pakistan. In the past decade, the UIBN has fostered regional cooperation and worked towards filling existing knowledge gaps – in climate and cryosphere, including glacier behaviour, and the impacts of climate change on water sources, water use, and the communities dependent on them, including in downstream regions.

In 2022, UIBN members were among the authors of a research article that used the horizon-scanning technique to identify 100 questions related to the most pressing knowledge gaps and research priorities in social and natural sciences on climate change and water in the Upper Indus Basin. Recognising the strong linkages between hydroclimate, cryosphere, water resources, the authors ask questions around "governance, policy, and sustainable solutions", "socioeconomic processes and livelihoods", and "integrated Earth System processes".

Publications and avenues that help raise awareness of knowledge gaps and profile opportunities can encourage policy makers, practitioners, researchers, and funding bodies to address them. Moving forward, the UIBN, as a single platform for experts from diverse thematic areas, could be fostered into a think-tank that could advise on water resource management and disaster risk reduction issues across the four basin countries. Its current connections with institutions in academia, government, and civil society across Afghanistan, China, India, and Pakistan can be leveraged for greater collaboration.

Moving forward, the UIBN, as a single platform for experts from diverse thematic areas, could be fostered into a think-tank that could advise on water resource management and disaster risk reduction issues across the four basin countries.

Participants at a high-level event organized by ICIMOD at the Cryosphere Pavilion at UNFCCC COP27, Egypt on 8 November 2022.

Moving mountains together

Putting mountain issues at the centre of the global climate and environment discourse

In December 2022, as a part of the celebration of International Mountain Day and the International Year of Sustainable Mountain Development 2022, ICIMOD launched its new Strategy 2030 – Moving Mountains, which sets a new vision and mission for the HKH region, operationalised through our new four-year plan, the Medium Term Action Plan (MTAP) for 2023–2026. Strategy 2030 raises the Centre's ambitions to meet the immense challenges in the HKH presented by the triple planetary crisis – climate change, biodiversity loss, and pollution. It articulates a new vision: to work towards a greener, more inclusive, climate-resilient HKH, delivered through a new mission: to build and share knowledge that enables regional policy and action, whilst also attracting investment to the HKH to deliver on our vision.

ICIMOD also engaged with its regional and global partners and contributed to the UN's global climate conference, the UNFCCC Conference of Parties, or COP27, in Egypt in November 2022 to promote the mountain agenda and ambitious climate action, and emphasise the urgent need for investment in

At CBD COP15, ICIMOD played an instrumental role in developing the Kunming-Montreal Biodiversity Framework which includes four goals and 23 targets to be achieved by 2030.

mountain priorities. A key achievement at COP27 is that 'mountains' have been formally included in the final COP27 decision relating to the Global Climate Observing System (GCOS) implementation plan, where the COP emphasised the need to prioritise and address observation gaps – including in mountain regions and the cryosphere. Another major highlight was the establishment of a loss and damage fund for vulnerable countries hit hard by floods, droughts, and other climate disasters.

At the 15th session of the Conference of the Parties (COP15) of the UN Convention on Biological Diversity (CBD) in December 2022, ICIMOD contributed in developing the Kunming-Montreal Biodiversity Framework which sets out four goals and 23 targets to be achieved by 2030.

At UNFCCC COP27, 'mountains' were formally included in the Global Climate Observing System implementation plan, with an emphasis on addressing observation gaps in mountain regions and cryosphere. Another major highlight was the establishment of a loss and damage fund for vulnerable countries hit hard by climate change. At CBD COP15, the final text of the historic Kunming-Montreal Global Biodiversity Framework was agreed upon with four goals and 23 targets to be achieved by 2030.

The Alps meet the HKH

A photo exhibition depicts the experiences – shared and divergent – of mountain lives across time and space in two mountain regions

On the eve of International Mountain Day 2022, marked every year on 11th December, ICIMOD jointly hosted a photo exhibition – 'Alps meet the HKH' – with the Permanent Secretariat of the Alpine Convention. This was part of the Resilient Solutions Conference and Expo in December 2022 and sought to continue our collaboration and engagement with other mountain networks. The exhibition showcased the lives and times of the mountain people from the Alps and the Hindu Kush Himalaya (HKH) through photographs taken by Irmtraud Hubatschek and her mother, Erika Hubatschek, two photographers from Austria. We hosted the exhibition from 5–12 December 2022 at the ICIMOD headquarters and the Living Mountain Lab in Godavari.

The exhibition showcased the lives and times of mountain people from the Alps and the Hindu Kush Himalaya

For her entrepreneurial leadership, Mah Begum Amjad, from Gilgit, Pakistan, was awarded the 2022 Dr Andreas Schild Memorial Mountain Prize in the individual category; the organisational category was won by the Agriculture Machinery Centre of Paro, Bhutan, while Basant Pratap Singh, from Bajhang, Nepal, received an honourable mention.

Honouring our mountain heroes

An agriculture centre from Bhutan, a Pakistani entrepreneur, and a Nepali journalist are recipients of the Dr Andreas Schild Memorial Mountain Prize for 2022

Since 2018, ICIMOD's Dr Andreas Schild Memorial Mountain Prize has been recognizing individuals, organisations, or private-sector entities based in the Hindu Kush Himalaya (HKH) and beyond for their outstanding efforts in enabling sustainable and resilient mountain development in the region to benefit the environment as well as communities – particularly the poor, the youth, and women.

In 2022, the Agriculture Machinery Centre of Paro, Bhutan, won the prize in the organisational category for its outstanding efforts in transforming Bhutan's agriculture sector through need-based mechanisation. In the same year, Mah Begum Amjad from Gilgit, Pakistan, received the prize in the individual category for her remarkable leadership in entrepreneurship that influenced community transformation.

Similarly, Basant Pratap Singh, a journalist from Bajhang, Nepal, received an honourable mention in recognition of his efforts in covering the stories of marginalised communities in far-western Nepal.

Kinga Norbu
Dr Andreas Schild Memorial Mountain Prize 2022
$2,500
Basant Pratap Singh
Dr Andreas Schild Memorial Mountain Prize 2022
Protect the pulse.

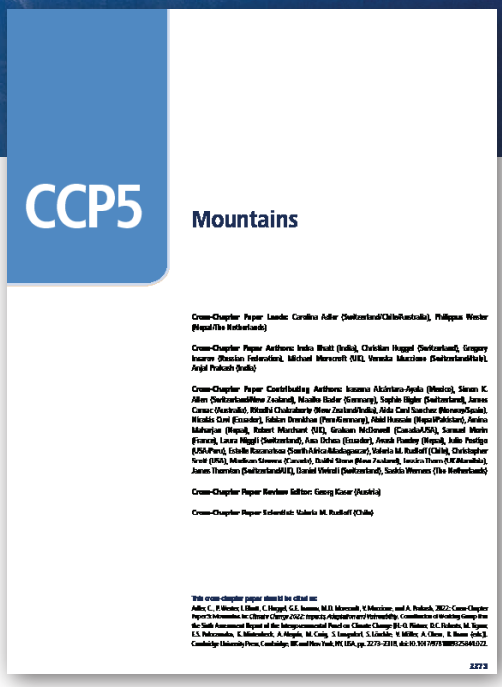
Mountains in the IPCC 6th Assessment Report

Bringing mountain voices to the global platform

The Sixth Assessment Report (AR6) under the Working Group II (WGII) of the Intergovernmental Panel on Climate Change (IPCC) is significant to our work in the Hindu Kush Himalaya (HKH) as it also contains a cross-chapter paper entitled 'Mountains'. ICIMOD experts contributed to this chapter as co-lead and contributing authors; the chapter is part of the IPPC report called 'Climate Change 2022: Impacts, Adaptation and Vulnerability'.

The last time the specific issue of mountains received a dedicated space in the IPCC's Working Group studies was in the Second Assessment Report in 1995. Besides, mountain issues were covered in the year 2019 in the IPCC's 'Special Report on the Ocean and Cryosphere in a Changing Climate' in a chapter titled 'High Mountain Areas'. This is an important step towards bringing mountain voices to the global platform.

The cross-chapter paper on mountains synthesises key content from the AR6 WGII report with a broader scope on the impacts and adaptation to climate change in the mountain regions. Moreover,



CCP5

Mountains

Cross-Chapter Paper Leads: Carolina Adler (Switzerland/Chile/Australia), Philippus Wester (Nepal/The Netherlands)

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Cross-Chapter Paper Review Editor: Georg Kaser (Austria)

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This cross-chapter paper should be cited as:

Adler, C., P. Wester, I. Bisht, C. Huggel, G.E. Insarov, M.D. Morecroft, V. Maximo, and A. Prakash, 2022: Cross-Chapter Paper 5: Mountains, In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2273–2318, doi:10.1017/9781009325844.022.

2273

The paper provides a wider assessment of the solutions space and of sustainable development in the context of climate change in the mountain regions and downstream.

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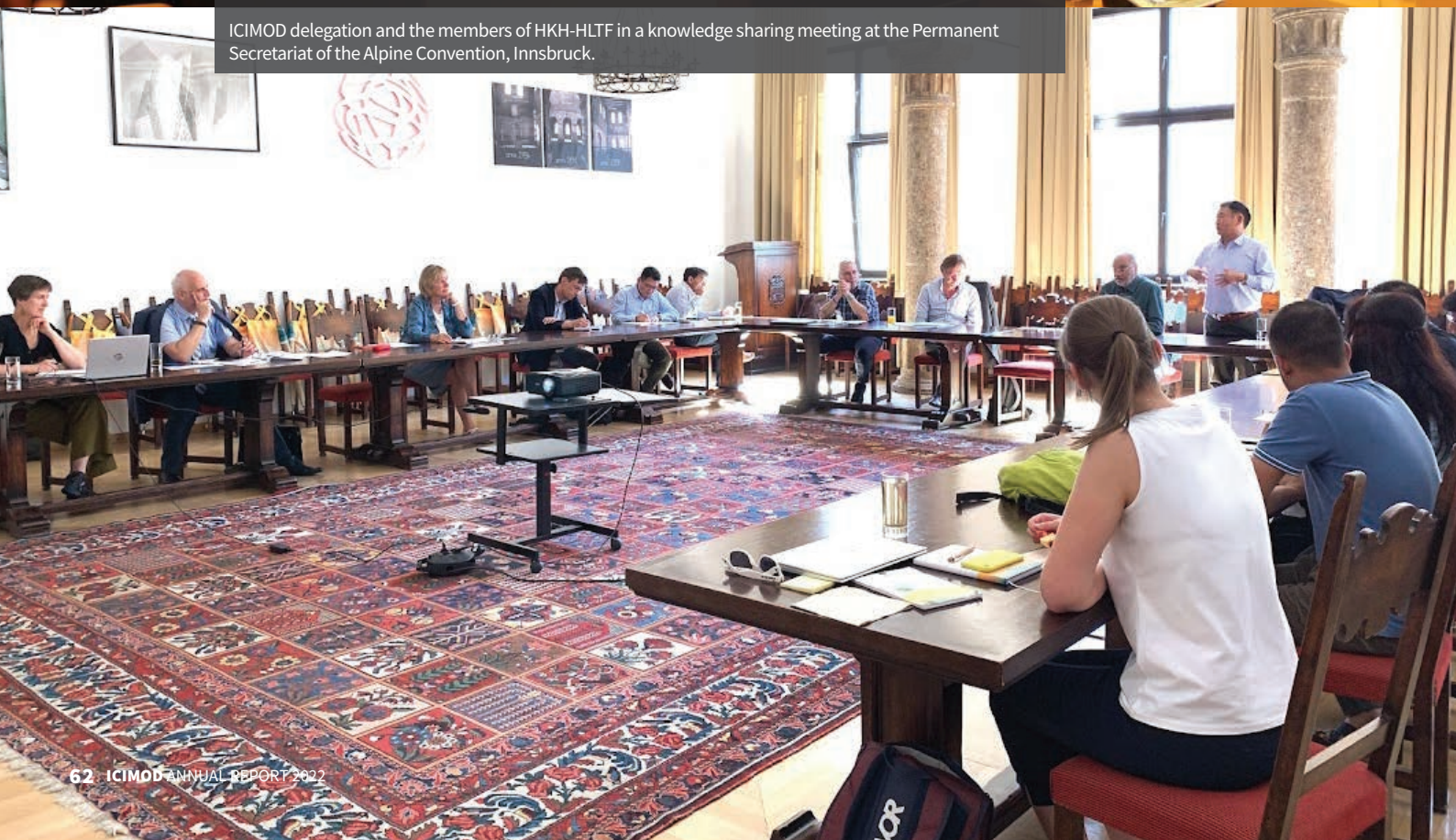
Participants at the plenary session of the Mountains Connect workshop at the UN office in Vienna, Austria



ICIMOD delegation and the members of HKH-HLTF in a knowledge sharing meeting at the Permanent Secretariat of the Alpine Convention, Innsbruck.

When mountains meet

Forging strong mountain alliances across geographical distances

In June 2022, a delegation from ICIMOD and members of an HKH High-Level Task Force (HLTF) from Bangladesh, Bhutan, India, Myanmar, and Nepal attended the Mountains Connect Workshop hosted by UNEP Austria. This was coordinated under the Adaptation at Altitude (A@A) programme, whose overall objective is to increase knowledge on climate change and appropriate adaptation solutions in mountains. ICIMOD is one of the members of the A@A consortium supported by the Swiss Agency for Development and Cooperation (SDC); other partners include the Mountain Research Initiative (MRI), CONDESAN, United Nations Environment Programme (UNEP), Stockholm Environment Institute (SEI), University of Geneva, and the ZoïEnvironment Network (Zoi).

The event was attended by 60 participants from six mountain regions – the Hindu Kush Himalaya in Central and South Asia, the Andes in South America, the Alps in South-Central Europe, South Caucasus, on the border of Eastern Europe and West Asia, the East African mountain range, and the Carpathians in Central and Eastern Europe. It involved a simulation exercise whereby all the participants could experience the complexity of mountain governance in terms of adaptation to climate change The take-home message was that in the real world, the first step for regional cooperation is to ensure national coordination and build consensus within the national mechanism and internal governance instruments.

At Innsbruck, the team had a productive meeting with the Permanent Secretariat of the Alpine Convention – the first international treaty signed in 1991 by eight countries of the Alps Mountain range. The team also met the Austrian delegation to the Convention and the Alpine Convention observer organization CIPRA International. Overall, the team learnt about issues related to farming, tourism, forestry, natural hazards, climate change, and rural-to-urban migration. These lessons helped the HKH HLTF members in drafting a recommendation report on the regional cooperation mechanism for the HKH.

The take-home message was that in the real world, the first step for regional cooperation is to ensure national coordination and build consensus within the national mechanism and internal governance instruments.

Boosting digital storytelling for climate action

Communicating the ground realities of climate change issues, particularly around adaptation

Mountain regions host rich biodiversity and unique cultures and are home to approximately 15 percent of the world's population. Climate change and its effects are often more pronounced in these regions than at lower altitudes, meaning that mountain communities must constantly adapt to change. The Resilient Mountain Solutions (RMS) Initiative aimed to enhance the resilience of women and men in the Hindu Kush Himalaya (HKH) to socioeconomic and environmental changes, including climate change adaptation.

Telling the story of climate adaptation to global audiences is crucial in helping to build awareness and encourage action. With the aim of exposing interested journalists to the context of climate change and resilience building, along with the basics of video story production, in April 2022, a week-long training for journalists was organised jointly with our partner GRID-Arendal.

Led by award-winning Nepali-American filmmaker, Nani Sahra Walker, the workshop shared strategies

Telling the story of climate adaptation to global audiences is crucial in helping to build awareness and encourage action.

for effectively and engagingly communicating the ground realities of climate change issues, particularly around adaptation. It equipped participants with the knowledge and skills to develop and deliver scientifically valid stories that can be easily understood by a wide range of audiences. The 15 videos developed through the workshop reflect the realities on the ground in the research sites, with attention to the local context of culture, traditions, communication strategies, gender issues, and interpersonal and social dynamics of visited locations.

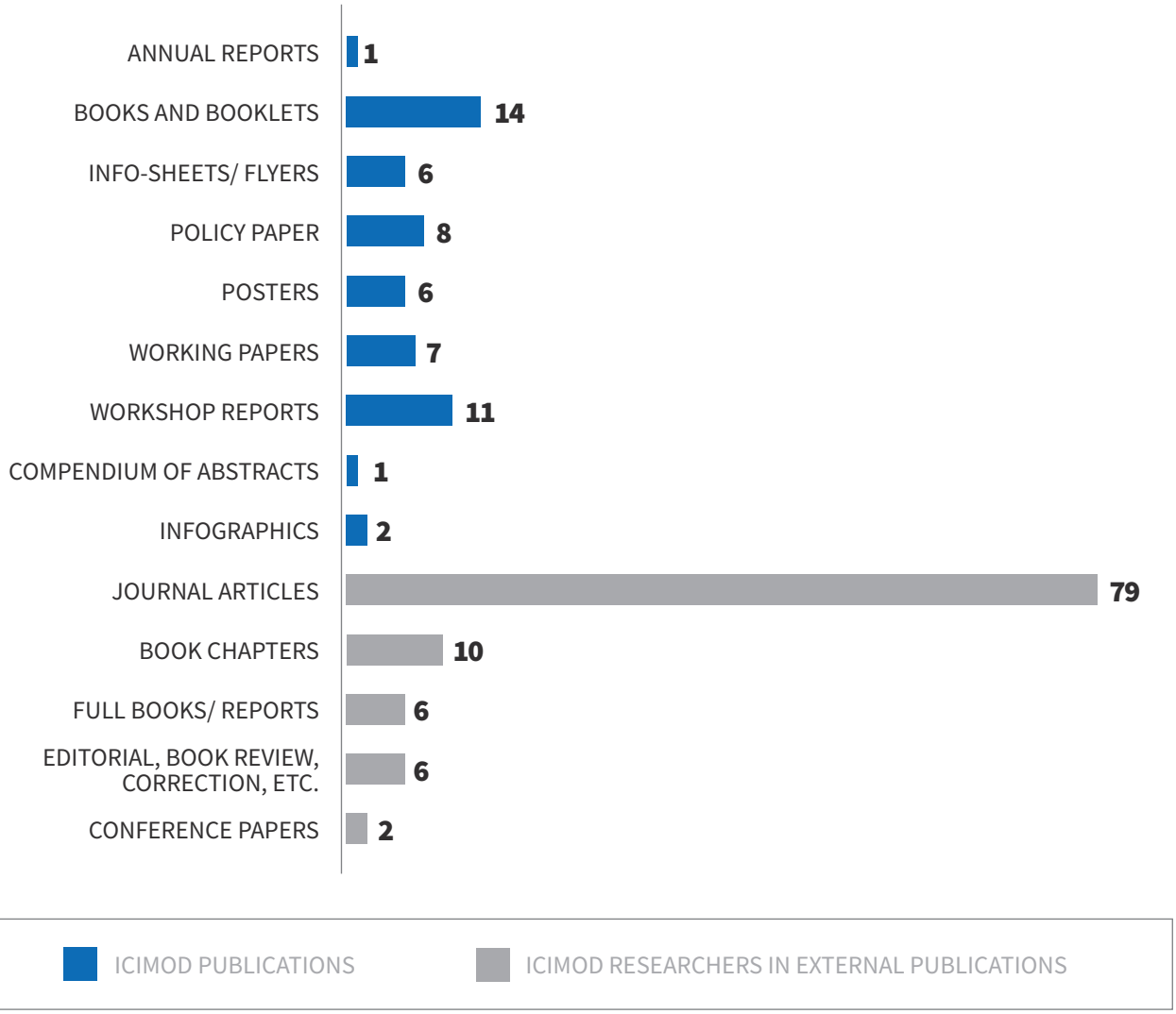
This workshop successfully brought together journalists from across the region to learn, share and network. Visiting the field site – knowledge parks in Kavre – allowed us to present our work and for the participants to learn hands-on lessons on digital storytelling about adaptation to climate change. Each journalist developed their own draft video during the workshop, while others went on to publish vlogs and more refined videos on the topic of adaptation and resilience building. This allowed for wider outreach and dissemination of the work we do. GRID-Arendal went on to announce travel grants for digital storytelling on climate change, with the aim of putting to use the skills acquired during the training week.

Annexes

Publications

2022

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. 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.



Board of Governors

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BANGLADESH	**Ms. Mosammat Hamida Begum (Chair)** Secretary, Ministry of Chattogram Hill Tracts Affairs, Bangladesh Secretariat, Dhaka
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INDIA	**Smt. Leena Nandan** Secretary, Ministry of Environment, Forests and Climate Change, Government of India
MYANMAR	**Mr Htay Aung** Director General, Forest Department, Ministry of Natural Resources and Environmental Conservation, Nay Pyi Taw, Union of Myanmar
NEPAL	**Dr Biswo Nath Poudel (Vice-Chair)** Vice-Chairman, National Planning Commission, Government of Nepal
PAKISTAN	**Mr Zafar Hassan**[2] **Mr Muhammad Asif**[3] Federal Secretary, Ministry of National Food Security and Research

[1] Served from September 2016–September 2021
[2] Served from September 2022–September 2023
[3] Served from July 2022–September 2022

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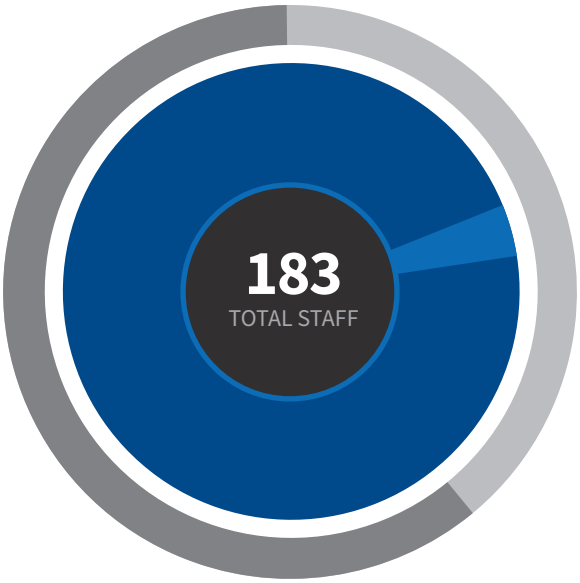
Ambassador Extraordinary & Plenipotentiary,
British Embassy

Mr Jan Erik Studsrød (Vice Chair)
Counsellor, Environment, Energy and Economic Development,
Royal Norwegian Embassy

Staff

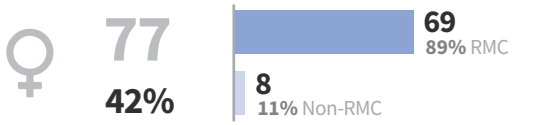
2022

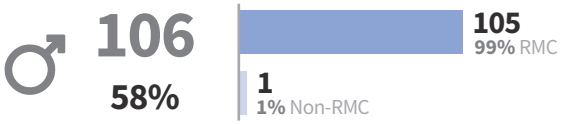
ICIMOD is committed to, celebrates and promotes equal opportunity and diversity in the workplace. We make efforts to ensure that all regional member countries are adequately represented in the workforce and have a Young ICIMOD Professionals Programme (YIPP) to encourage youth from underrepresented regional 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.

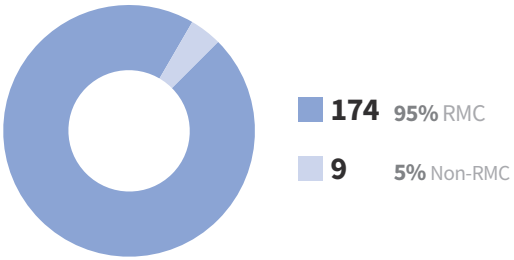


9
5%
SHORT TERM ASSIGNMENTS

174
95%
EMPLOYEES





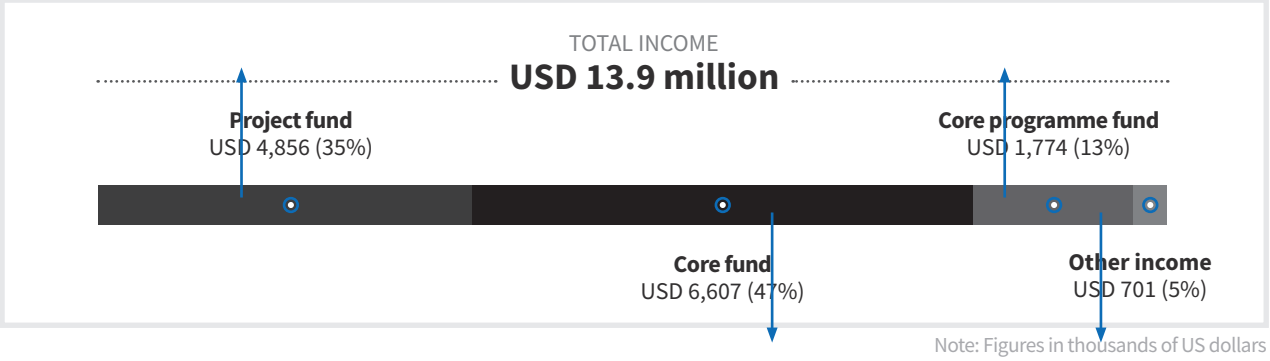


Financial reports

January–December 2022

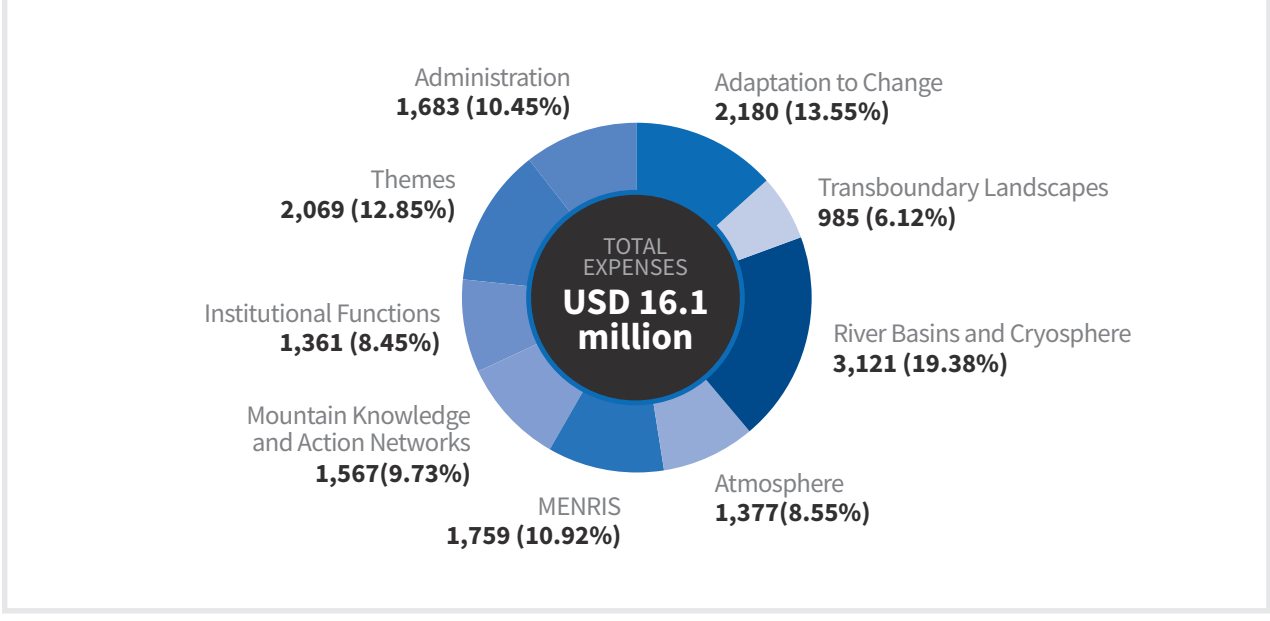
The Centre receives funds in the following broad categories: a) core funds from regional and non-regional countries, and b) programme and project funds. From these funds, expenditure is made on the regional programmes and themes, institutional functions and administration. In 2022, the total expenditure made by the Centre was USD 16.1 million. Of this, USD 13.06 million was spent on regional programmes and themes (81.10%), USD 1.36 million on institutional functions (8.45%), and USD 1.68 million on administration (10.45%). 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, Liabilites and Fund Balances as at 31 December 2022

All amounts in United States Dollars

		As at 31 December 2022		As at 31-Dec-21
Fund Balances				
General Reserve		3,657,760		3,557,044
Operational Reserve		9,606,428		9,508,434
Exchange Equalisation Reserve		503,606		503,606
Core Programme Support Fund Balances (net)				
Norwegian Ministry of Foreign Affairs	-		1,162,740	
Swiss Agency for Development and Cooperation (SDC)	-	-	772,888	1,935,628
Core Support Fund				
Swedish International Development Cooperation Agency, Sweden	-	-	631,301	631,301
Special Projects Fund Balances				
Amounts to be incurred on projects	950,184		915,339	
Amounts to be recovered	(1,846,306)	(896,122)	(1,360,828)	(445,489)
Total Sources of Funds		**12,871,672**		**15,690,524**
Assets and Liabilities				
Fixed Assets		3,128,274		3,188,084
Current Assets, Loans and Advances:				
Cash and bank balances		13,439,110		15,260,858
Loans, advances and other current assets		925,631		975,616
		14,364,741		16,236,474
Less: Current Liabilities and Provisions		(4,621,343)		(3,734,034)
Net Current Assets		9,743,398		12,502,440
Total Application of Funds		**12,871,672**		**15,690,524**

International Centre for Integrated Mountain Development

Operating Statement for the year ended 31 December 2022

All amounts in United States Dollars

		Year ended 31 December 2022	Year ended 31 December 2021
INCOME			
Contribution from Donors			
Core Programme Support		1,774,282	2,008,897
Core Support		6,607,000	7,485,659
Special Projects		4,855,834	3,764,658
Other Income		701,576	429,623
	(A)	**13,938,692**	**13,688,837**
EXPENDITURE			
Programme Expenses			
Core Programme Expenses		3,709,910	2,124,911
Core Expenses		4,140,271	5,626,502
Special Project Expenses		5,577,364	4,380,021
Core Support Expenses			
Directorate Expenses		990,570	935,210
Administrative Support Expenses		1,382,389	1,360,230
Depreciation		300,801	249,276
Foreign Exchange (Gain)/Loss (net)		652,457	416,613
	(B)	**16,753,762**	**15,092,763**
Surplus/(Deficit) of Income over Expenditure	**(A-B)**	**(2,815,070)**	**(1,403,926)**
Add, Provision for completed project balances		(350,896)	(549,506)
Less: Surplus of Special Projects		(721,530)	(615,363)
Less: Surplus/(Deficit) of Core Programme Support		(1,935,628)	(116,014)
Add: Opening unspent SIDA balances adjusted against current year deficit in Core Support Fund		631,301	273,251
Net Surplus/(Deficit) of Operational Reserve before appropriation		**122,493**	**(948,804)**
Transfer to General Reserve		**24,499**	**-**
Net Surplus/(Deficit) transferred to Operational Reserve		**97,994**	**(948,804)**

Partners

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

Ekonnect Knowledge Foundation (Ekonnect)

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, Banglore (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

Yugantar

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)

Bharatpur Metropolitan City Office

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)

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

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 Relaince 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)

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)

Sustainable Eco Engineering Pvt. Ltd. (SEE)

Taalkolla Community Forest User Group, Baitadi

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 Agriculture Research Council (PARC)

Pakistan Council for Water Resources (PCRWR)

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

WaterEd Australia Pvt Ltd, Australia

World Meteorological Organization (WMO), Switzerland

Western Sydney University (WSU), Australia

Winrock International, United States

Yale Himalayan Initiative, United States

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Afghanistan	Bhutan	India	Nepal
Bangladesh	China	Myanmar	Pakistan

NON-REGIONAL MEMBER COUNTRIES

Government of Austria, Austrian Development Agency (ADA)

Government of Norway, Ministry of Foreign Affairs

Government of Sweden, Swedish International Development Cooperation Agency (Sida)

Government of Switzerland, Swiss Agency for Development and Cooperation (SDC)

Programmatic funding

Austrian Development Agency (ADA)

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), Germany

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

Foreign, Commonwealth & Development Office (FCDO), United Kingdom

Government of Australia, Department of Foreign Affairs and Trade (DFAT)

International Development Research Centre (IDRC), Canada

Norwegian Ministry of Foreign Affairs, Royal Norwegian Embassy, Kathmandu

Swiss Agency for Development and Cooperation (SDC)

United States Agency for International Development (USAID)

Strategic and project funding

Aerospace Information Research Institute, CAS

Alliance of International Science Organizations

Commonwealth Scientific and Industrial Research

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

eWater Limited, Australia

Foreign, Commonwealth & Development Office (FCDO), United Kingdom

International Development Research Centre (IDRC), Canada

Loughborough University

Met Office, United Kingdom

Norwegian Agency for Development Cooperation - NORAD

Oxfam International

Swiss Agency for Development and Cooperation (SDC)

The World Bank

United Nations Environment Programme (UNEP)

United Nations Industrial Development Organization (UNIDO)

University of Bern

University of Bristol

U.S. Agency for International Development (USAID) – SERVIR Demand Activity

U.S. Department of State

Utrecht University

Potsdam Institute for Climate Impact Research

Note: List in alphabetical order

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.

REGIONAL MEMBER COUNTRIES

AFGHANISTAN
BANGLADESH
BHUTAN
CHINA
INDIA
MYANMAR
NEPAL
PAKISTAN

ICIMOD and its regional member countries gratefully acknowledge the generous support of Austria, Norway, Sweden and Switzerland for core and programme funding, and Australia, Canada's International Development Research Centre, the European Union, Finland, Germany, the United Kingdom, the United States of America, and the World Bank for project funding.

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