

International Centre for Integrated Mountain Development

Strategic Framework

Enhancing resilience and supporting adaptation
of mountain communities



January 2008

25 years of ICIMOD

Founded in 1983, ICIMOD has provided intellectual leadership for the region over the past 25 years by developing and promoting the mountain perspective framework. This conceptual and operational framework defines the uniqueness of mountain situations as a basis for designing and implementing sustainable integrated mountain development solutions by advocating a paradigm shift where inter-sectoral approaches are preferred and where technical and social issues are addressed jointly.

25 years after its inception ICIMOD is

- **A focal point for a applied research** in a number of areas, most notably
 - Community based natural resources management
 - Watershed management
 - Rangeland management
 - Mountain biodiversity conservation (with a special emphasis on indigenous bees)
 - Mountain risk engineering
 - Flood and disaster mitigation
 - Renewable energy technologies
 - Sloping agricultural land technology
 - Mountain tourism
 - Gender mainstreaming
- **A recognised multi-disciplinary centre** for the systematic exchange of knowledge and information related to integrated mountain development in the region. ICIMOD has prepared some 500 technical publications on knowledge and information generated by its own programmes and those of partners. The information contained in these publications was collected based on needs, and on topics of current interest; taken together they make a critical contribution towards establishing ICIMOD as a 'knowledge bank' on integrated mountain development.
- **A regional focal point for specialised training** of partners in areas such as geographic information systems (GIS), remote sensing (RS), participatory action research, integrated watershed management, and co-management of rangelands. ICIMOD has been successful in capacity building with regional partners by supporting them in the application of the skills and knowledge they have acquired through training. All regional member countries have benefited from the sharing of this specialised expertise.
- **A centre that fosters networks and partnerships** among its regional member countries and globally. As a non-political entity ICIMOD has had notable success in bring together regional member countries to discuss mountain related topics of mutual interest. In an era where global physical and social phenomena are increasingly interconnected, and in particular where there is a growing awareness that the effects of global climate change affect everyone, ICIMOD has endeavoured to bring the special plight of mountain people and environments to the attention of the world.

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ICIMOD – LOOKING TO THE FUTURE

During recent years, population dynamics, new economic growth, and climate change in the Hindu Kush-Himalayan region have occurred so intensely and so rapidly that traditional and balanced adaptations mechanisms are losing their efficacy. The vast ice reserve that is the earth's 'third pole' is in peril. Accelerated glacial melting and environmental degradation threaten the role that this mountain region has always played as water reservoir for one third of the earth's population and as an ecological mediator between the countries of the region. The once self-sufficient people of this region now face dire economic poverty.

There is an urgent need to investigate, to develop adaptation and coping mechanisms and to prepare the communities and nations of the region to successfully manage the changes that are taking place so they can derive maximum benefits from their environment and minimise the risk of disasters. Stability and prosperity in this region have implications for all of Asia and for the world.

ICIMOD aims to contribute to upholding the treasure of diversity, exchange and wealth that the Hindu Kush-Himalayas have to offer by building awareness within the region and in the world of the unique function that this mountain system serves and must continue to serve. ICIMOD aims to help preserve the legacy of the region for all mankind by gathering adequate knowledge and developing the necessary institutional capacity to highlight and promote the region's unique potential for mitigation and to strengthen its people's adaptation mechanisms.

A Long History of Change and Adaptation

The Hindu Kush-Himalayan region has always constituted a place where adaptation, disaster mitigation, and resilience are hallmarks of the people and the landscape they inhabit. Since time immemorial, the people of the Himalayas have maintained a rich cultural identity, food security, and biogenetic diversity within the parameters of their own traditions. These ranges served as a venue and safe transborder routes for the traders, monks, and scientists who brought Buddhism to Central Asia and Islam to the Indian subcontinent and for the merchants from Yunnan and South Asia who traversed the Himalayan mountains and the Tibetan Plateau for thousands of years. Trade and change were the sources of wealth and diversity of which the Kathmandu Valley, home to ICIMOD's headquarters, is a most impressive witness.

Building on the past

ICIMOD was founded in 1983 as the result of an agreement between the Government of Nepal and UNESCO that provided the legal basis for founding the Centre. UNESCO, the Government of Switzerland, and the Federal Republic of Germany were its founding sponsors. The primary objectives of the Centre are to help promote the development of an economically sound mountain ecosystem and to improve the living standards of the mountain populations of the Hindu Kush-Himalayan region. ICIMOD's **regional member countries**, whose territories lie in whole or in part in the Hindu Kush-Himalayan region, include: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

ICIMOD has served as a **knowledge, learning and enabling centre** for the past two and a half decades. It is a multi-disciplinary documentation centre, a focal point for training and applied research, and a consultative centre in scientific and technical matters for all the countries of the region. It is a centre where information and knowledge are developed and exchanged, and where innovation, technology transfer, and effective communications are used to empower its regional member countries. ICIMOD facilitates knowledge transfer across the region and from providers to users. ICIMOD sees knowledge-sharing initiatives as a source of inspiration, innovation, and questioning; it endeavours to customise international and regional knowledge to the needs of individual regional member countries and to use it in the design of future strategies.

ICIMOD works within the **mountain perspective framework**, characterised by understanding the imperatives of mountain conditions such as fragility, inaccessibility, marginality, diversity, specific niche opportunities and the human adaptation practices that hill and mountain communities have evolved while making livelihood-related decisions. This holistic approach favours trans-disciplinary problem analysis, design, implementation, and monitoring of social as well as technical aspects. In particular it includes the crosscutting criteria of policy, governance, equity and gender, and mainstreaming information and knowledge management principles.

What we believe in

ICIMOD believes in a future where the region's mountain people can experience enhanced livelihoods and increased social and environmental security; where they can adapt to environmental and climate change; and where the world's future generations can enjoy the benefits and opportunities afforded the region by nature. ICIMOD foresees a future in which the role of this region as a unique ecological buffer and an area for the enrichment of the region's people and of visitors from the rest of the world is recognised and enhanced.

This multi-dimensional challenge is captured in ICIMOD's Vision and Mission.

ICIMOD's Vision and Mission

ICIMOD's **Vision** is that the mountain population of the greater Himalayas enjoys improved well-being in a sustainable global environment.

ICIMOD's **Mission** is to enable and facilitate the equitable and sustainable well-being of the people of the Hindu Kush-Himalayas by supporting sustainable mountain development through active regional cooperation.

Setting goals and priorities

Overall goals and priorities encapsulate the approach ICIMOD will use to pursue its Vision and Mission. Briefly, these include:

- To increase the regional **awareness** and capacity needed to effectively reduce poverty among mountain people;
- To mobilise and apply multidisciplinary **research** and analytical capacity to address emerging regional and global issues on environmental change.
- To expand strategic **regional and global partnerships** and to cooperate with regional and global centres of excellence on globally important resources such as water, energy and biodiversity;
- To promote **dialogue, networking** and the exchange of information and experiences amongst the region's stakeholders; and
- To provide professional services, technical advice and project management expertise to regional member countries, and where needed, to scale up ICIMOD-generated knowledge and technologies.

How ICIMOD Works

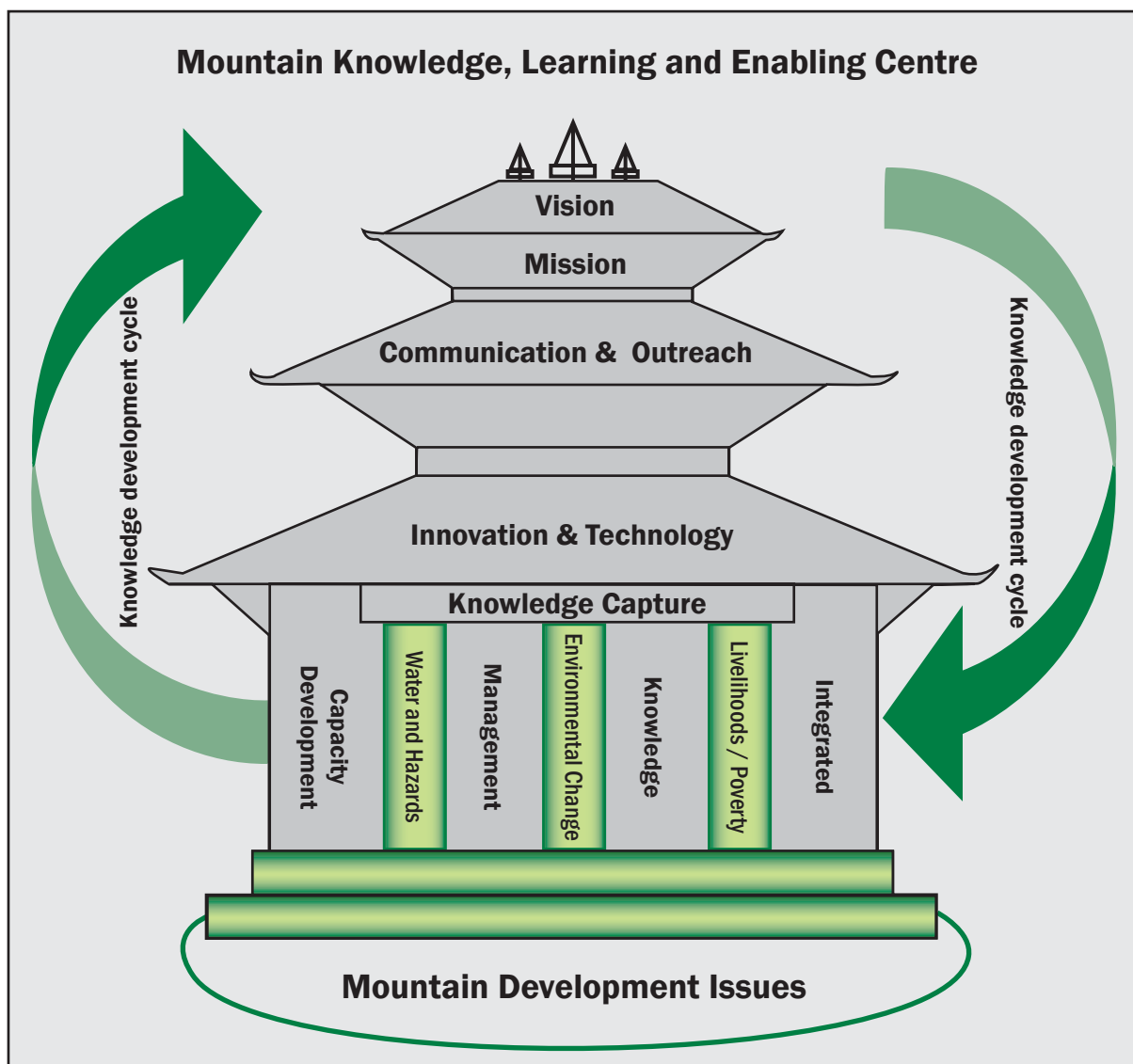
Working with and through partners

ICIMOD implements its Vision and Mission through its regional collaborating partners in the member countries who interact with development practitioners, policy makers, and advocates. There is a continuous feedback loop between these groups which ensures that as conditions and policies change, the Centre's own inputs are continuously revised.

ICIMOD also receives ideas and suggestions and consults with its Board of Governors, Support Group, regional member countries, financial partners, and global partners. These diverse inputs ensure that the Centre's work addresses the needs of the region and the interests of the greater global community.

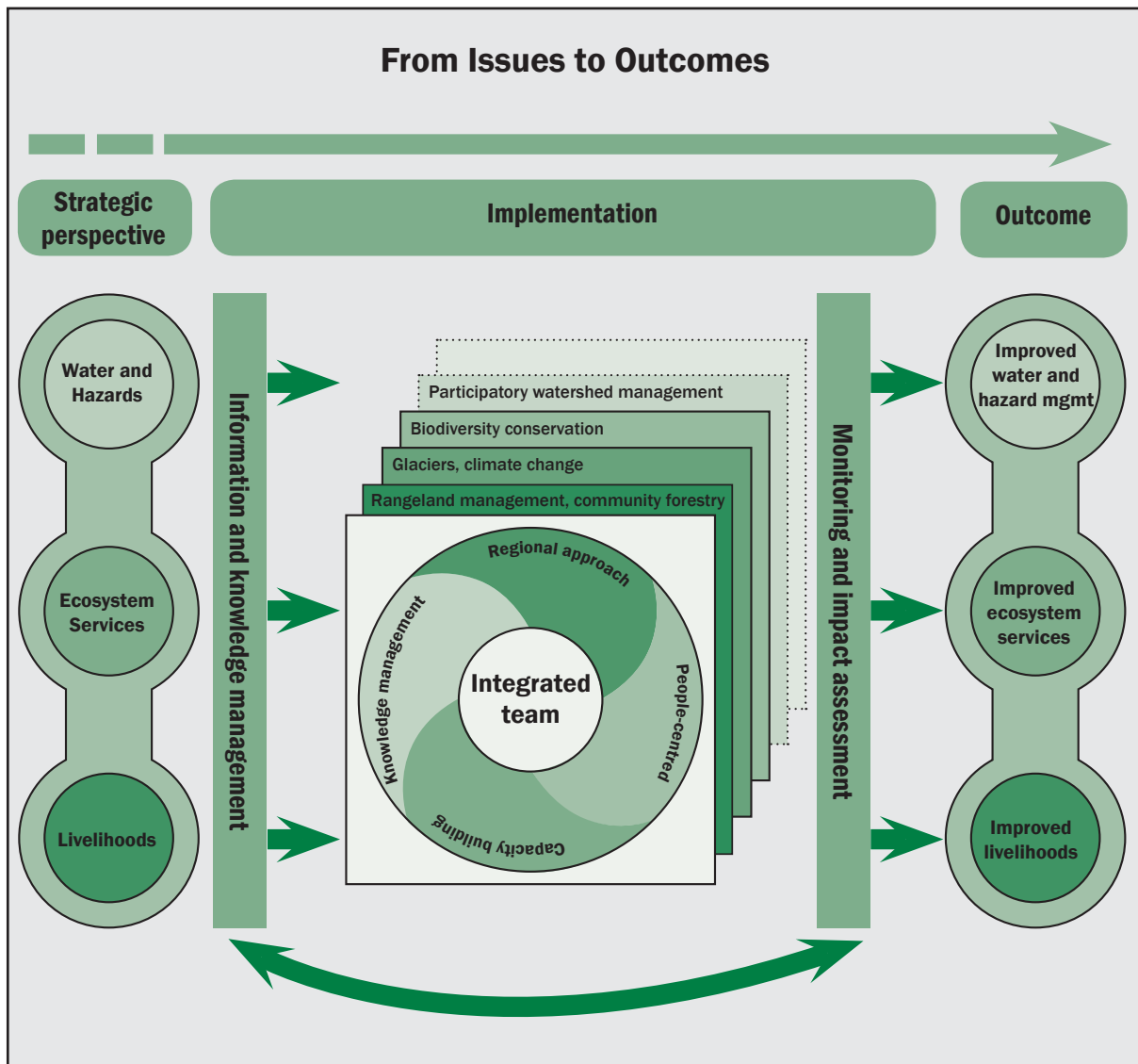
Making change happen

ICIMOD's Vision and Mission are pursued through three Strategic Programmes: **Integrated Water and Hazard Management, Environmental Change and Ecosystem Services**, and **Sustainable Livelihoods and Poverty Reduction**, which are interdependent and interlinked. Water is the single most important resource and source of wealth for the people of the region but it is also a source of catastrophic hazards. The conservation of water, its sustainable management, and negotiated future use are of paramount importance. Livelihoods in the mountains react more immediately to, and tend to be much more strongly linked with, the management and availability of natural resources. There is a need to see that ecosystem services are adequately adapted to environmental changes in general and to climate change in particular. There is also a need to help mountain communities to adapt to the challenges of globalisation by developing concrete approaches that can serve as replicable examples.



ICIMOD's three strategic programmes, together with information and knowledge management, uphold its vision and mission.

These three areas of endeavour are complementary and in many cases deal with different aspects of the same physical or social reality at the macro, meso, and micro levels. Both the strategic approach and the practical implementation are integrated within the knowledge management framework and are underpinned by explicit Centre-wide policies and competence which include: economic analysis, gender and gender mainstreaming, governance, poverty alleviation, human resource development, capacity building, and partnership and intervention. The integrated approach can be summarised diagrammatically in terms of knowledge development, knowledge flow, and the knowledge management framework to show how ICIMOD sees its strategic areas supporting its mission and ultimately its vision for the people of the region; and in terms of the development from identification of issues and clarification of the strategic focus through implementation using an integrated approach to outcomes (see figures).



ICIMOD is strategically focused and operationally integrated

What makes us unique

Since its inception, ICIMOD has been a regional intergovernmental centre with a clear mountain perspective and an ability to work with interdisciplinary teams. This status has allowed it to develop competencies and deliver knowledge and professional services, and to earn an exclusive edge and a position of leadership in the region.

Core competencies that make ICIMOD unique are highlighted in the fact that it is today considered as a regional specialised centre for:

- Documenting and validating knowledge, empowering grassroots initiatives with innovations, and enabling adaptation to a changing environment
- Developing methodologies, strategies and policies through applied research and technology transfer
- Synthesising results developed in other contexts and being able to scale these down to the realities of the region
- Packaging and sharing knowledge and good practices for capacity building, training and networking regionally and globally
- Enabling scaling up in its member countries by providing professional advice to implementing agencies, governments, and other stakeholders
- Providing an accessible platform for dialogue and exchange

ICIMOD's unique position extends to the **complementary advantages** it has earned over the years, in

- acting as an independent inter-governmental centre that is a regional facilitator and broker with a mountain perspective;
- contributing to country-based knowledge becoming regionally accessible and generally promoting the extension of in-country projects to transboundary ventures;
- linking research with practice in the regional member countries by helping to make research results relevant to development practice
- contributing to customising international knowledge to make it relevant and applicable in the region.

How ICIMOD is governed

ICIMOD is governed by a Board of Governors consisting of one representative from each of the eight regional member countries and six independent members who are nominated by the ICIMOD Support Group based on their recognised professional expertise and experience. The ICIMOD Support Group is composed of representatives from all the organisations and institutions that provide financial contributions to the Centre, including the regional member countries. The ICIMOD Board meets once per year; an Executive Committee consisting of the present, previous, and incoming chair, and the chair of the Programme Advisory Committee meets at least once between regular Board Meetings. ICIMOD's administrative and financial systems comply with international standards and are both professionally audited and evaluated by the international sponsors.

Our regional role: a platform and a hub

This region has of late been a centre of high political and cultural tensions; a fact that underlines the region's high strategic and geopolitical importance. Regional cooperation has been relatively slow in spite of all the region's nations being committed to it in principle and ICIMOD is unique in being one of only a very few regional intergovernmental organisations.

The last five years have seen an increased awareness of how climate change can directly influence livelihoods and of the consequences for natural hazards. In response, a few regional countries have created centres to meet these new challenges. Since natural phenomena are transboundary in nature, ICIMOD believes that a regional approach will be more effective. ICIMOD is uniquely positioned to act in this capacity since it is a facilitator and enabler for developing and enhancing regional solutions. Its additional advantage is that it has a history of partnering with international research to act as an important channel for customising new technologies and making them available in the region. Through continuing to share knowledge in this way, ICIMOD will become a main regional knowledge 'hub' and a platform for regional dissemination.

While ICIMOD promotes networking among strategic partners it also works bilaterally with partners to implement scaling up projects. The recent establishment of national committees and country offices promotes these bilateral ties. The ICIMOD-China National Committee Secretariat (Chengdu) was inaugurated in October 2006, the Pakistan country office (Islamabad) was established in April 2006, and the Afghanistan country office (Kabul), was established in February 2007. These offices foster integration with the country's institutions engaged in studying mountain issues, they facilitate information exchange, and provide a base for the assistance ICIMOD provides in implementing scaling up projects.

Funding

The programmes and activities of ICIMOD are funded by long-term sponsors, who provide both core and programme funding to the institution. These sponsors are its regional member countries and non-regional financial partners who support ICIMOD's strategic objectives, strategies, and methodologies. Scaling up activities, which take the form of well-defined projects in the member countries, are largely financed through local funds in the regional member countries themselves. Other public and private donors make contributions towards specific projects on a programme or ad hoc basis. In future, it is expected that the recently relaunched ICIMOD Foundation will contribute significantly to the support of the Centre.

Note that the term 'partner' is used here rather than the more traditional 'donor' to reflect the reality that development in the region is a joint endeavour and that the benefits of a stable and prosperous Hindu Kush-Himalayan region are enjoyed both by the people of the region and by the greater global community.

Regional ownership and global solidarity

Regional member countries are ICIMOD's main constituency but the impact of the work has ramifications for the greater global community. ICIMOD ensures regional ownership and global solidarity by

- **Securing a commitment on the part of the regional member countries:** ICIMOD's regional member countries contribute to its core funding and they also participate in funding some of the Centre's long term research programmes.
- **Keeping abreast of the regional member countries' planning and policy orientations:** ICIMOD keeps a continuous open dialogue to ensure that it is better positioned to respond to their priorities and needs.
- **Sharing findings:** ICIMOD creates decentralised working modalities as needed in order to ensure more intensive interaction with its regional member countries. It also shares its findings with the greater global community for the benefit of mountain people everywhere.
- **Coordinating** with the nodal ministries and national committees of regional member countries to ensure that the mountain perspective is an integral part of policies that affect mountain communities.
- **Participating in global initiatives:** The people of the many countries of the world who have signed the various conventions and global agreements that ICIMOD will attempt to implement will also benefit. These initiatives begin with the very general Millennium Development Goals and Beijing Declaration, but include as well specific conventions such as that on Biological Diversity, the Ramsar Convention on Wetlands, the Convention to Combat Desertification, the Convention on Migratory Species and the Male Declaration, and include also the Kyoto Protocol and others.

Staying relevant to the development dialogue

ICIMOD is constantly revising and updating the data it shares to guarantee that timely information is available. Regular networking with partners ensures that this information is made available to development practice. This periodic revision and refinement or **knowledge development cycle** is how ICIMOD synthesises and exchanges information and experiences. The following steps together form a continuous cycle.

- Identify needs and gaps and generate new knowledge and information as needed for programme implementation.
- Use adaptive research to transfer and interpret regional knowledge and customise global trends to meet regional needs.
- Capture the knowledge created in programmes and other activities and provide access to this.
- Synthesise, package and share knowledge, information and know-how in the forms of demonstration approaches, technological packages, publications (of all types) and policy proposals.

- Monitor the application of proposals on good practices, their impact on overall development issues and endeavours to develop them further.
- Organise bilateral and regional encounters through workshops, conferences and other means to exchange information between and among members, partners, experts and other stakeholders. Use these venues to promote exchange and to identify new needs and gaps.

Different approaches are used to allow ICIMOD to share best practices at the operational, executive and policy levels. For example, while the Centre's strategic focus and adaptive research are regional, ICIMOD gains practical know-how through scaling up projects which are country and partner specific. Another approach is used to provide **support to decision makers** and policy makers, here, ICIMOD avoids providing direct policy advice and rather remains relevant by ensuring that national partners are provided with the information they need to make wise choices for mountain areas. Similarly, ICIMOD's role as a learning centre is fulfilled by providing personal and institutional capacity building through training, exposure visits, exchange programmes, workshops and the like. Its role as a knowledge centre is fulfilled by supporting the introduction of applied research into regional university curricula, consultancies and publications.

Collaboration with universities and centres of excellence

Research centres and universities in the region are ICIMOD's obvious allies in promoting the mountain agenda. These are the Centre's academic and knowledge partners in promoting the mountain agenda. Cooperation creates synergies and mutually increases the capacity for data analysis and synthesis. As an extension to these activities, the Centre is ready to strengthen its participation on curriculum development and to promote graduate studies and training courses on mountain development. Of particular importance are the national institutions that regional member countries have recently created in response to growing concern about global climate change, increased natural hazard risks, and poverty reduction.

In particular instances where the best expertise is not available regionally, the Centre pursues a policy of customising international knowledge. ICIMOD promotes long-term partnerships with international centres of excellence as a means to acquire the specific expertise it needs in technical areas. These partnerships are pursued as part of its long-term programme funding by bilateral partners. ICIMOD facilitates common research programmes, the availability to ICIMOD of senior researchers, the common coaching of academic researchers (Ph.D. students, research fellows, and others) and other institutional arrangements.

Transparency and accountability

Over the years ICIMOD has evolved a set of well-established monitoring instruments and procedures for use at the programme and activity level and it will continue to fine-tune and strengthen these to keep up with new requirements. In particular, monitoring approaches include:

- ICIMOD's performance in its strategic role as a learning, knowledge and enabling centre is monitored by tracking how well the knowledge development cycle is being implemented;
- ICIMOD's relevance (in terms of scaling up its work in the regional member countries) is assessed by a tool that measures how much the Centre has managed to leverage additional regional resources and the extent to which it has been able to replicate success stories;
- Regional ownership is evaluated by indicators that look at the evolution of contributions by the regional member countries and assess the extent to which they are taking ownership of ICIMOD-initiated scaling up projects.

In addition, an analytical accounting system is in place to make it possible to track contributions to human resources, mobilised and indirect costs, costs attributable to each of the respective cost units, and so on.

The ICIMOD Foundation – support from non-regional stakeholders

The ICIMOD Foundation is a not-for-profit organisation that supports the efforts of ICIMOD to be a regional knowledge, learning, and enabling centre for the Hindu Kush-Himalayan region. The Foundation's vision is that through ICIMOD it can make a significant contribution to the stability of this fragile mountain system and the resilience of its people for their benefit and for the benefit of the people living downstream and eventually all of mankind. It is supported by contributions from friends of the Foundation who have an interest in the region and its people.

Adaptation measures which will alleviate poverty in the region by providing new livelihood options and by reducing vulnerabilities to extreme events and natural hazards that are the consequence of climate change are the responsibility of everyone, everywhere in the world. With the Foundation's support, ICIMOD will have the latitude to implement its programmes using a consistent long-term approach. This consistency will assure that ICIMOD becomes a strong regional information hub, a promoter of commonly shared regional knowledge, and the repository of regional databases and methodologies.

While strong regional ownership is imperative, loyal non-regional stakeholders give the Centre a greater international presence in recognition of the implications its Mission has for all of mankind. It was with this goal in mind that the ICIMOD Foundation was originally created. The Foundation is being relaunched in 2008 to call attention to this cause and to give the international community, global enterprises, and concerned individuals everywhere an opportunity to be part of the solution to make a difference in the lives and livelihoods of the people of the region.

The Hindu Kush-Himalayan region* and major river basins

The HKH region* is the 'Water Tower of Asia' and source of the nine largest rivers in the area.

The eight countries of the region are Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

The major river basins of the region – from west anticlockwise – are the Indus, Ganges, Brahmaputra, Irrawaddy, Salween, Mekong, Yangtze, Yellow, and Tarim.



The region contains 3,735 sq.km of snow and ice, truly constituting a 'third pole' of the earth and a formidable global ecological buffer.

This ecosystem provides services and directly forms the basis for livelihoods for a population of around 150 million people; indirectly, the river basins supply water to 1.3 billion people, a fifth of the world's population.

*The geographic qualifier 'Hindu Kush-Himalayan' is not very precise. ICIMOD's target area includes the Karakorum, the Pamir and other neighbouring ranges. Some of the analyses encompass impact areas that include the watersheds of rivers originating in these ranges.

ICIMOD'S STRATEGIC PROGRAMMES - RESPONDING TO THE CHALLENGES OF GLOBAL CHANGE

Globalisation and climate change are major drivers with an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD's three Strategic Programmes serve as a framework for meeting these challenges in the coming years and are the result of an analysis of the strategic interests of regional and non-regional members as well as of the Centre's comparative advantages. These Programmes were discussed in intensive consultation with the stakeholders in order to translate them into operational priorities which make the most of available financial, human, and institutional resources.

Integrated Water and Hazard Management

Water is the single most important resource and source of wealth for the 150 million people living in the region and for the 1.3 billion people who live in the river basins fed by this water tower. Water is both a resource and a cause of potential hazards. Mountain people's traditional methods of managing both water supply and hazards are now being questioned because of the transformations global **climate change** is bringing about. The conservation of water, its sustainable management, and negotiated future use are of paramount importance.

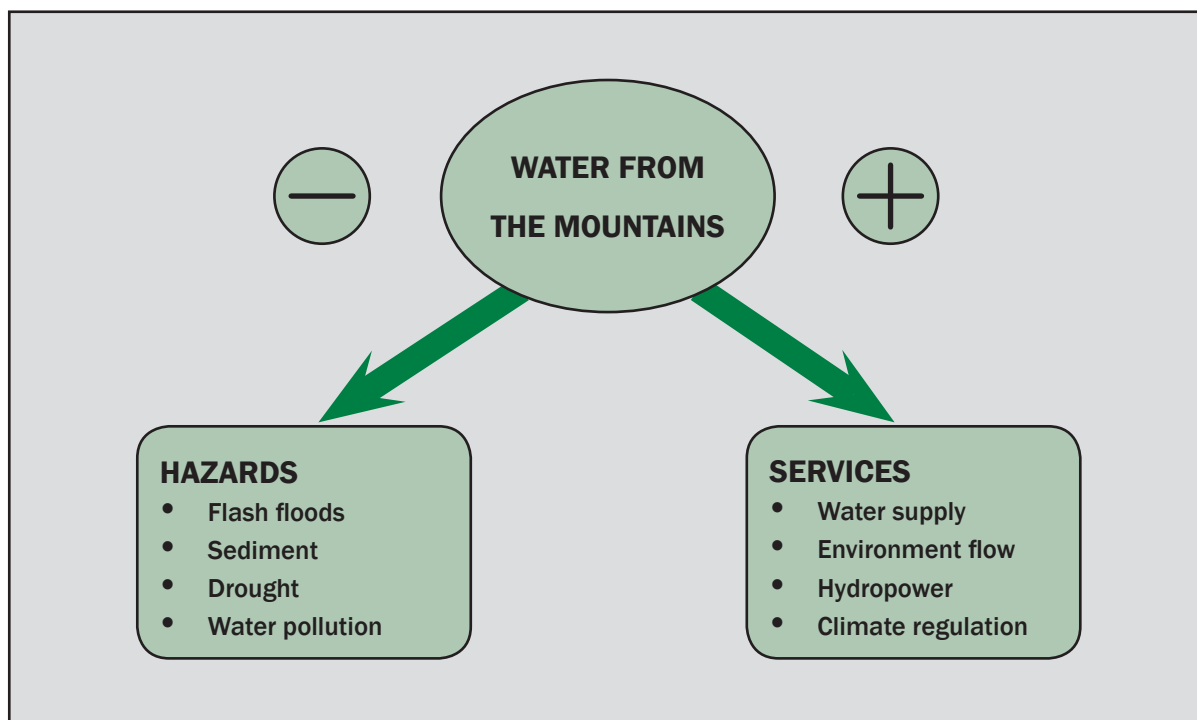


Figure 3: The positive and negative aspects of water need to be managed in a balanced and holistic way

The proper management of water resources impacts the population's livelihoods as well as the region's ecosystems. Water is a source of both hazards and services (Figure 3); these must be managed to promote environmental and human security. ICIMOD investigates water-related issues by periodic monitoring and scientific analysis. As a part of this, ICIMOD is in the process of assessing the land's carrying capacity and developing sets of good practices that can contribute to sustainable livelihoods. ICIMOD contributes concrete measures for the optimal use of water and land resources, and sustainable management of water services and water induced disaster risk reduction.

Water is a finite resource, essential to sustain life, development and the environment. The quality and flow of water resources is determined mostly by climate and the management of land resources. Himalayan watersheds, moreover, have great international significance. As the Water Tower of Asia, this region supports the livelihoods of a downstream population of over one billion people but the frequent cycle of floods (Figure 4) and drought leads to serious natural disasters. Traditional management of both water supply and water hazards is now being questioned because of changes occurring due to global climate change. Managing water resources and their services goes together with managing and mitigating disasters; both spring from the same source. Advocating co-management of water resources and the hazards they embody is thus a strategic focus.

At present the planning and management of the water sector in the region is insufficiently linked with the planning and management of other closely related

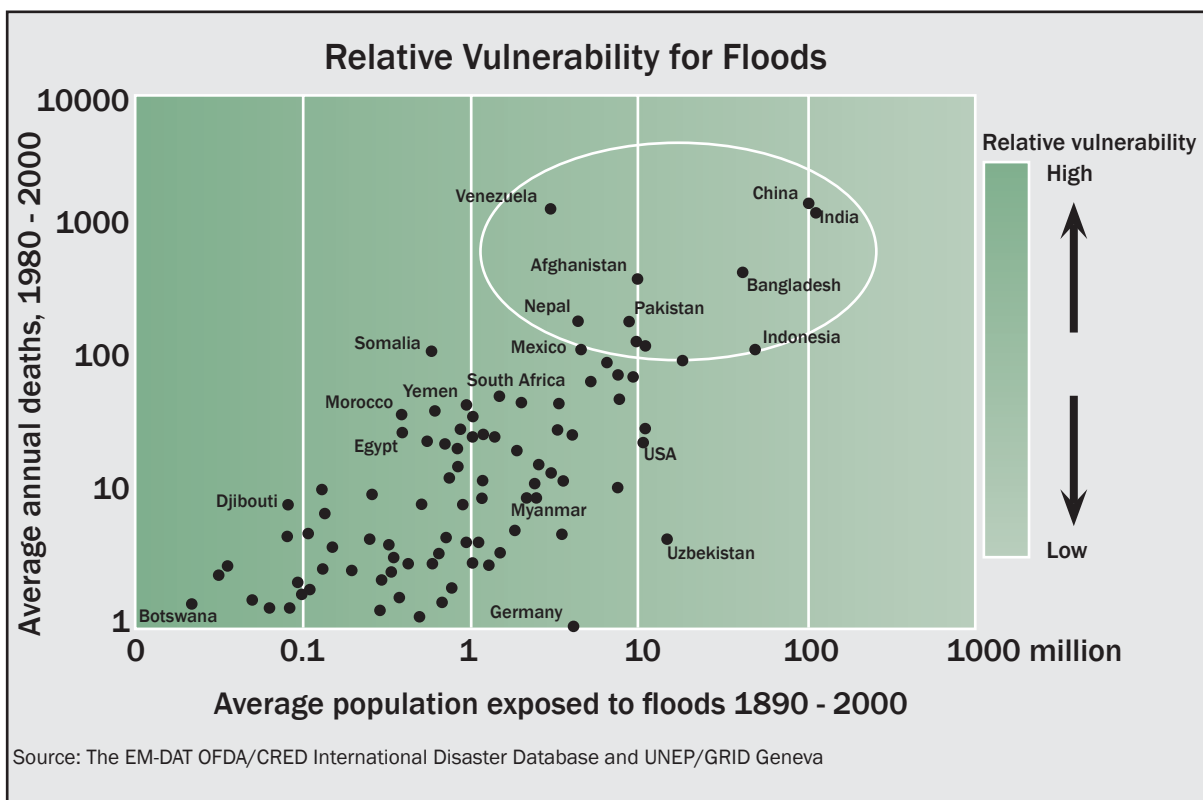


Figure 4: The people of the region are at particular risk for flood disasters

sectors including land use planning. A holistic approach is required to manage water resources and to ensure environmental security. In this endeavour, ICIMOD intends to: a) foster regional and transboundary dialogues and management mechanisms; b) promote integrated water and land management; and c) act as a resource centre for information on water resources. ICIMOD is building up and developing its areas of core competence by acquiring cutting-edge technologies and frontier knowledge to address this. ICIMOD will continue to participate in international networks and to further develop expertise to meet the needs and potentials of regional stakeholders.

ICIMOD will continue to build on strengths to become a recognised regional water reference centre with credible information, appropriate technology and integrated approaches aimed at contributing to the management and the sustainable use of water and land resources for livelihoods, disaster risk reduction, human health and the environment in the region.

Environmental Change and Ecosystem Services

Environmental change exacerbates mountain poverty. Livelihoods in the mountains are considerably more susceptible to environmental and economic change than those in the plains; they react more immediately to, and tend to be much more strongly linked with, the management and availability of natural resources. Ultimately, changes occurring in the mountains impact the availability of resources downstream; in this sense, mountain people are guardians of the resources. ICIMOD, therefore, wants to underline the consequences of climate change and to promote research efforts to mitigate the impact. The immediate costs of **climate change** are particularly harsh on society's poor and vulnerable segments, and ICIMOD means to aid them by providing the needed knowledge and expertise to alleviate these consequences. It is committed to seeing that ecosystem services are adequately adapted to environmental changes in general and to climate change in particular. ICIMOD intends to see that these services are sustainable and enhanced to benefit this region's mountain people as well as the wider region and the world. Moreover, ICIMOD aims to increase recognition of the value of services provided to the downstream and ensure adequate compensation.

There are many direct and indirect drivers of environmental change. ICIMOD wants to remain relevant to the dialogue on environmental change by continuing to monitor and assess ecological and socioeconomic changes (Figure 5). Only by understanding the consequences that change implies for their livelihoods can mountain people be helped to sustain the ecosystem services they provide. ICIMOD aims to aid the people of the region to continue providing environmental services by facilitating the development of sustainable technologies and appropriate policies, and by introducing innovative payment schemes or compensation mechanisms.

Adapting to and mitigating the effects of **environmental change in general and climate change in particular** in the region is vital to the region's people and has

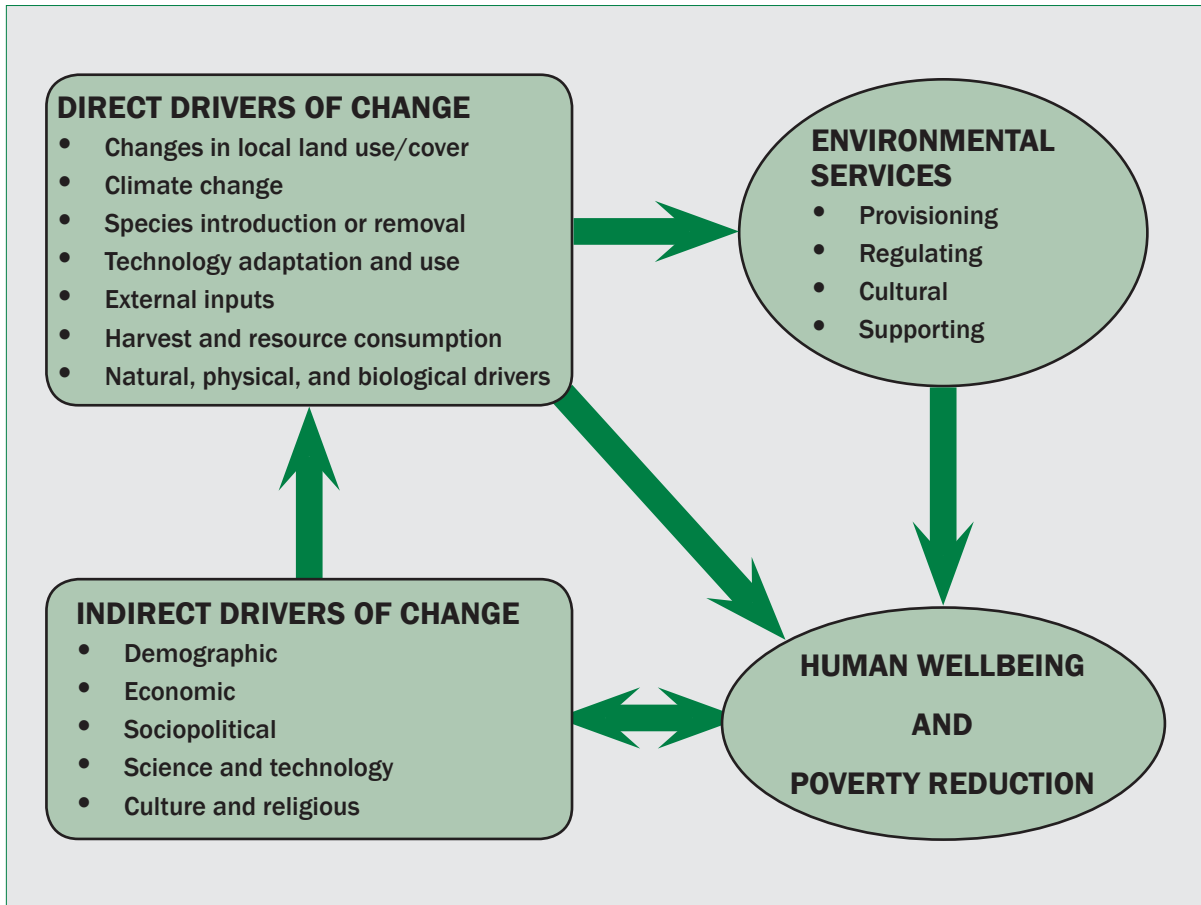


Figure 5: Direct and indirect drivers of change influence environmental services, human well-being and poverty reduction

ramifications for the global community. ICIMOD will continue to strive to find suitable allies to help it transfer and adapt international expertise to the region with the intention of enhancing ecosystem services (especially the supply of fresh water), exploring upstream-downstream relationships, and seeing how carbon sequestration can best be used to benefit mountain communities. Adapting international expertise also means seeing that clean development mechanisms and technologies developed elsewhere are put to good use in the region. Other adaptations include systems for environmental monitoring and disaster preparedness.

Additional aspects of managing environmental change include conserving and managing the region’s formidable biodiversity and ensuring it is recognised as a global resource and part of the planet’s natural heritage for the future. While the ecosystem must be protected and sustained it can also simultaneously be enjoyed and used as a resource for livelihoods. Many possibilities can be found, for example, mountain- and eco-tourism, and the medicinal and aromatic plants that are indigenous to the region and appreciated throughout the world.

ICIMOD contributes to promoting and managing the ecosystem services that the region provides regionally and globally by investigating the impact of environmental change through monitoring ecological and socioeconomic changes, and by analysing

the consequences for the livelihoods of mountain people and downstream inhabitants. Moreover, ICIMOD works to explore upstream-downstream relationships and to validate the services they supply (such as freshwater and carbon sequestration), and to conserve and manage biodiversity as a natural heritage, a resource for livelihoods and for ecological resilience. ICIMOD helps mountain people facilitate the development of appropriate policies and innovative and equitable compensation mechanisms for ecosystem services.

Sustainable Livelihoods and Poverty Reduction

The limited accessibility of mountain communities, their inability to avail themselves of services, and the lack of available opportunities are – in addition to resource poverty – conditions that can constrain future generations from creating prosperous and **sustainable livelihoods**. In this context, ICIMOD’s mission is to help these communities adapt to the challenges and temptations of globalisation, to make the most of new technological developments, and to cope with the environmental consequences of global climate change. ICIMOD aims to assist mountain people to identify global climate change opportunities and make the most of them by developing concrete approaches that can serve as replicable examples.

Regional member countries have all developed strategies for poverty reduction under the **Millennium Development Goals** framework and various other plans for developing sustainable livelihoods. However, ICIMOD’s extensive experience with

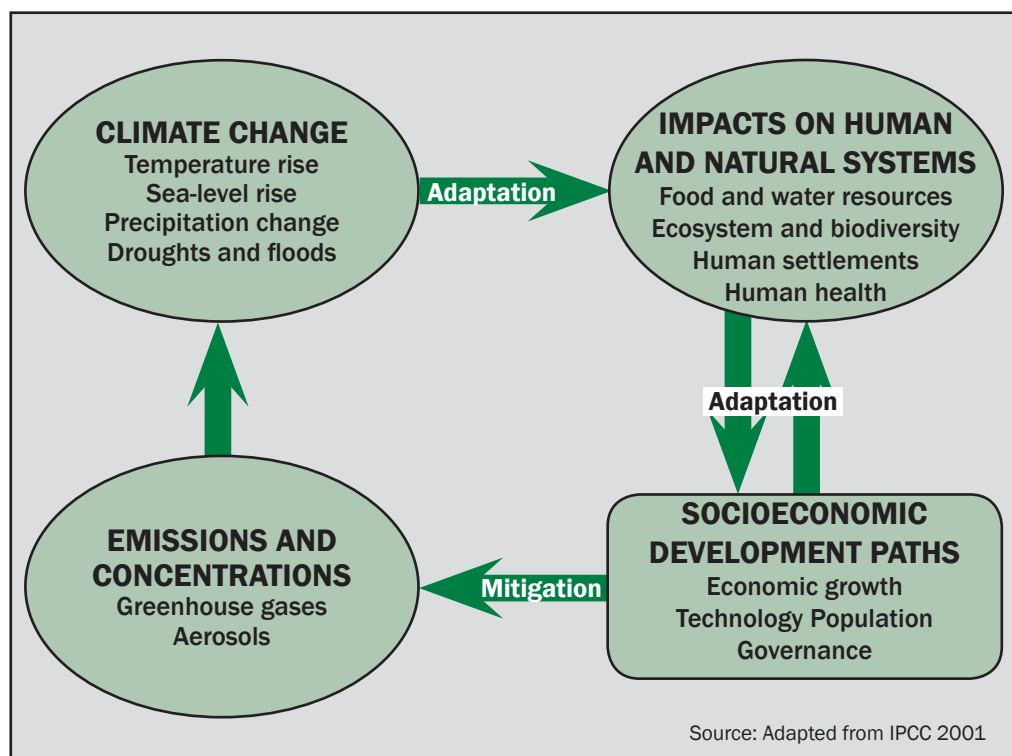


Figure 6: The need for adaptation and mitigation motivate ICIMOD’s focus on sustainable livelihoods and poverty reduction.

mountain-related issues has shown that these policies need to be fine-tuned and placed within the specific context of mountain perspectives and imperatives to be relevant and to contribute effectively to sustainable development in mountain areas. Such mountain-specific pro-poor strategies need to be aimed at empowering mountain people to meet the various challenges and temptations posed by globalisation so that mountain people can profit from them without compromising their own local livelihoods and values. *(Note: 'Livelihoods', in the ICIMOD context, are understood as actions, assets and activities including economic, social, cultural, ecological, policy and institutional dimensions.)*

ICIMOD fosters strategies, options and opportunities specifically aimed at the rural poor in the region with an aim to improve livelihoods for the mountain poor that visibly and measurably reduce their poverty and vulnerability. Such strategies include monitoring the poverty situation and its drivers, conducting in-depth analysis of potentials, and promoting concrete solutions (in the form of niche products, value-added services and policy options). The emphasis is on helping people living in the region to **adapt to change** and allay its harmful effects (Figure 6). ICIMOD will build on strengths to develop its capacity to monitor and analyse the factors that cause poverty and to better recognise its indicators. *(Note: 'Poverty' in the ICIMOD context is considered to be a multidimensional phenomenon characterised by interdependent factors together with increasing marginalisation.)*

ICIMOD promotes the use of opportunities arising from mountain-specific conditions such as on-farm and off-farm niche products and options for value-addition as well as non-place-based livelihood options like migration. Particular attention is paid to the interdependence between upstream and downstream livelihoods, rural-urban linkages, **value chains, and market dimensions**. The unique opportunities afforded by the region's rich natural and cultural diversity and associated traditional knowledge can all be used to improve livelihoods. Impediments that stand in the way of mountain people reaping the full benefit of their unique environment need to be continuously addressed and updated; this may include issues such as bringing greater transparency to medicinal plant markets, supporting the use of branding for niche products, and making the best use of resources to improve livelihoods. The equity aspects of the suggested interventions also need to be revised at regular intervals to avoid further feminisation of agriculture-based labour or increased marginalisation of minority groups.

ICIMOD encourages the development of regional capacity to reduce mountain poverty and to ensure the increased economic resilience of mountain people by exploring sustainable livelihood options and enhancing innovative rural income generation strategies. ICIMOD works hand-in-hand with regional partners to generate, promote and customise knowledge on equitable socioeconomic adaptation strategies and methods to allay the effects of socioeconomic and environmental change. ICIMOD continuously monitors and analyses the poverty situation and its main drivers, to develop policy-relevant data.

The crosscutting role of Integrated Knowledge Management

ICIMOD is a **knowledge, learning and enabling centre** where information and knowledge are developed and exchanged, and where innovation, technology transfer and effective communications are used to empower its regional member countries. Within this mission, ICIMOD serves as an open-house of knowledge sharing for initiatives both from the region and from the world. ICIMOD is a regional platform where policymakers, experts, planners, and practitioners can meet and exchange ideas and perspectives. Building on strengths, ICIMOD facilitates knowledge transfer across the region and from providers to users. ICIMOD sees knowledge-sharing initiatives as a source of inspiration, innovation, and questioning, and as an opportunity to customise international knowledge, tailoring it to the region's needs and helping in the design of future strategies.

Building on existing communication and information instruments, ICIMOD is developing a knowledge management approach covering all relevant activities where all staff members are called upon to be knowledge creators and managers. Internal knowledge management provides the basis to make ICIMOD learning and experience accessible to others, to absorb and consolidate knowledge generated by others, to make updated knowledge available to those needing it, and to support an **innovation systems** approach in programmatic work. The focus is on providing support to increase the potential for success and efficiency of its Strategic Programmes, to analyse demand, constantly seek out and evaluate available knowledge, and use modern and interactive tools, technologies and approaches to link scientists, farmers, policy makers and others, and to improve communication and exchange both internally and regionally. Information and Knowledge Management provides the framework, technology and coordination of activities in the context of an institutional approach defined by the operational programmes and ICIMOD's mission.

ICIMOD is continuously developing appropriate institutional mechanisms both to support understanding of knowledge management approaches among Centre staff and to support the knowledge activities themselves; these include:

- Integration of knowledge management throughout the Centre and its activities supported by a common framework, appropriate infrastructure, optimal institutional mechanisms, and the development of a supportive knowledge sharing and learning culture;
- Sharing of the results of research and applications in the strategic focus areas using communications methods and channels appropriate for the intended audience, as described in a specifically designed strategy based, where appropriate, on an innovation systems approach;
- Creation of a consolidated knowledge base encompassing information and knowledge relevant to and developed under ICIMOD's programme, together with other information of interest to stakeholders, both for internal use and as

a reference point for others, and including evaluation and selection of data, information and knowledge to be retained;

- Creation of an interactive dialogue platform and knowledge hub for regional communication and exchange;
- Activities to support intensifying and expanding innovation systems in the region and beyond, and raising public awareness

ICIMOD will implement its three Strategic Programmes based on existing and well-developed communication and information instruments. Information and knowledge management is a fundamental approach underpinning, and explicitly integrated into, all activities. The Centre's comprehensive, efficient and professional information and knowledge policy, appropriate tools and methodologies make use of all staff as knowledge managers. The clear focus is on providing support to increase the potential for success and efficiency of the Strategic Programmes, and to use tools and approaches that improve communication and exchange with and among others in the region.

Geo-information and Remote Sensing Systems

Addressing the issues of the region demands that special attention be paid to its remoteness, its vastly varying socio-ecological conditions and to its very distinct spatial and temporal characteristics. Diverse geographic factors influence the social and ecological aspects that play a dominant role in influencing mountain development and represent a 'common denominator' for many of these issues. ICIMOD uses geographic information systems (GIS) to monitor, model, and analyse these at multiple scales. As GIS solutions are mainstreamed into programmes it makes them viable for practical applications and helps to support the knowledge development cycle.

ICIMOD is known as a regional centre for

- **Regional geo-information resources** – ICIMOD is one of the first and foremost regional institutions promoting **geo-based solutions** for sustainable development in the region and is a recognised regional resource centre for geo-information and earth observation applications.
- **Remote sensing and GIS information and learning across the entire region** – Through the dissemination and training that ICIMOD has promoted, geo-information and earth observation remote sensing technologies now provide a viable institutional and technological framework to support informed decision-making in the region.
- **Decision support systems as an instrument of integrated local planning** – The Centre's special focus is on building up capacities in regional member countries for the eventual use of modern decision support tools and technologies.
- **Disaster risk mapping as a competence and service** – The Centre works with partner institutions to promote the use of modelling and terrain classification, and hazard and vulnerability assessment mapping as tools to help create awareness about the real dangers posed to human life and infrastructure.

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