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Beyond boundaries

Contouring transboundary landscapes in the Hindu Kush Himalaya

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Beyond boundaries

Contouring transboundary landscapes in the Hindu Kush Himalaya

Editors

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Bandana Shakya, Serena Amatya

International Centre for Integrated Mountain Development
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Contents

Abbreviations and acronyms

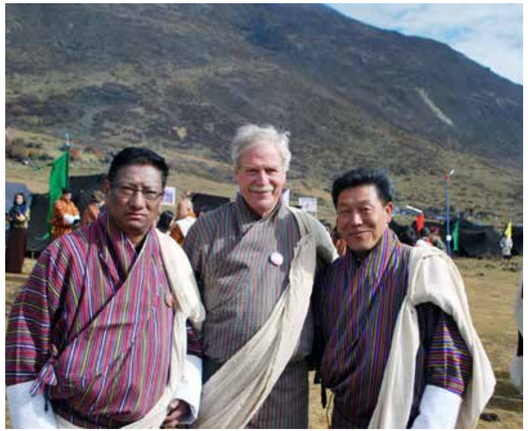
ABS	Access (to Genetic Resources) and Benefit Sharing
ARIES	Artificial Intelligence for Ecosystem Services
ANCA	Api Nampa Conservation Area
BIOFRAG	Biodiversity responses to habitat degradation and fragmentation
CAS	Chinese Academy of Sciences
CBD	Convention on Biological Diversity
CHEA	Central Himalayan Environment Association
COP	Conference of Parties
DAI	Dinaric Arc Initiative
DNPWC	Department of National Parks and Wildlife Conservation
ELC	European Landscape Convention
ESMF	Earth System Modeling Framework
EUROPARC	Federation of Nature and National Parks of Europe
FCPF	Forest Carbon Partnerships Facility
FIEM	Framework for Integrated Ecosystem Management
FRL	Forest Reference Level
FWED	Forest Wildlife and Environment Department
GB	Gilgit-Baltistan
GBIF	Global Biodiversity Information Facility
GBPNIHESD	GB Pant National Institute of Himalayan Environment and Sustainable Development
GCF	Green Climate Fund
GHG	Greenhouse gases
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GLF	Global Landscapes Forum
GLORIA	Global Observation Research in Alpine Environments
GNHC	Gross National Happiness Commission
HI-LIFE	Landscape Initiative for Far Eastern Himalaya
HKPL	Hindu Kush Karakoram Pamir Landscape
HKH	Hindu Kush Himalaya
HUC	Himalayan University Consortium
ICIMOD	International Centre for Integrated Mountain Development
IGSNRR	Institute of Geographic Sciences and Natural Resources Research
ILSP	Integrated Livelihood Support Project
INR	Indian Rupee
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IRBAS	Intermittent River Biodiversity Analysis and Synthesis
ITTO	International Tropical Timber Organization
IUCN	International Union for Conversation of Nature
JLG	Joint Liability Groups
KL	Kanchenjunga Landscape
KLCDI	Kangchenjunga Landscape for Conservation and Development Initiative
KMC	Knowledge Management and Communication
KNP	Khunjerab National Park
KSLCDI	Kailash Sacred Landscape Conservation and Development Initiative
LOA	Letters of Agreement
LOI	Letters of Intent
LTESM	Long-Term Environmental and Socio-ecological Monitoring
MoEF&CC	Ministry of Environment, Forests and Climate Change
MoFE	Ministry of Forest and Environment
MOU	Memorandum of Understanding
MRV	Measuring, Reporting and Verifying
MSc	Master of Science
MTAP	Medium Term Action Plan
M&E	Monitoring and Evaluation
NBSAP	National Biodiversity Strategies and Action Plans
NCC	National Coordination Committee
NDC	Nationally Determined Contributions
NFMS	National Forest Monitoring System
NGO	Non-governmental organization
NITI Aayog	National Institute for Transforming India
NP	Nagoya Protocol
NRM	Natural Resource Management
NTFP	Non Timber Forest Products
ODA	Overseas Development Assistance
PIPA	Participatory Impact Pathway Analysis
PMU	Programme Management Unit
PPM&E	Participatory Planning, Monitoring and Evaluation
PREDICTS	Projecting Responses of Ecological Diversity In Changing Terrestrial Systems
PSC	Programme Steering Committee
RBF	Result based Financing
RBP	Result based Payment
RCF	Regional Cooperation Framework
RDS	Regional Database System
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RMC	Regional Member Countries
SAARC	South Asian Association for Regional Cooperation
SABAH	SAARC Business Association of Home Based Workers
SADC	Southern African Development Community
SAWGP	South Asia Water Governance Programme
SBSTA	Subsidiary Body for Scientific and Technological Advice
SDG	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction
SGS	Salzburg Global Seminar
SIS	Safeguard Information System
TAR	Tibet Autonomous Region
TBL	Transboundary Landscape
TOC	Theory of Change
TOR	Terms of Reference
TOT	Training of Trainers
UNCCD	United Nations Convention for Combatting Desertification
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USD	United States Dollar
UWICE	Ugyen Wangchuk Institute for Conservation and Environment
VC	Value Chain
WCMC	World Conservation Monitoring Centre
WHS	World Heritage Sites
WWF	World Wild Fund for Nature

Foreword

ICIMOD has been implementing its 'landscape approach' across four North–South transects in the Hindu Kush Himalaya (HKH) – encompassing the transboundary Kailash, Kangchenjunga, Far Eastern Himalaya, and Hindu Kush Karakoram Pamir landscapes – since 2012. These years of implementation have, in many ways, been characterized by a steep learning curve as the institution's transboundary initiatives have strived to pioneer collaborative efforts across national boundaries to secure future regional cooperation.

Climate change mitigation and adaptation need to be tested at scale. To ensure this, our regional REDD+ Initiative is embedded in our Regional Programme on Transboundary Landscapes. The goal is to incorporate future concepts of incentive-based mechanisms related to greenhouse gas emissions reduction, carbon sequestration and biodiversity conservation at the landscape and regional scales. The recently published *Hindu Kush Himalaya Assessment*, which distills comprehensive research outcomes in the HKH and provides an assessment of impending climate change impacts for mountains, also notes that regional cooperation is needed to harness opportunities at the regional scale. Our Transboundary Landscapes Programme is a well-targeted contribution in this context.

The transboundary landscapes concept can be most efficiently implemented in the HKH when governments in ICIMOD's Regional Member Countries (RMCs) – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan – take full ownership of it. At the same time, because landscapes are as much about people



as about geography, strong partnerships with credible academic institutions, NGOs, INGOs, private sector actors, development partners, strategic learning and policy-influencing networks, and local governance bodies with advocacy and outreach potential are needed. Therefore, ICIMOD's Transboundary Landscapes initiatives have sought to redefine conservation and development perspectives through multistakeholder engagement. Our engagement at the onset of implementing this pioneering concept has led to transboundary cooperation as agreed upon through Regional Cooperation Frameworks and South–South Dialogues.

Over the past seven years, our Transboundary Landscapes Programme has been supported by the Department for International Development, UK; the German Federal Ministry for Economic Cooperation and Development (BMZ), Germany; the Austrian Development Agency; and the Swedish International Development Cooperation Agency (SIDA), who are all among ICIMOD's long-term supporters. Our RMCs have also endorsed the participatory and consultative conceptualization and implementation processes, designated prime national institutions as partners to ICIMOD, and provided strategic guidance and funds to ensure that transboundary cooperation for conservation and development evolves and that the lessons learned are harnessed and shared.

It is now time to "look back to move forward". I think the documentation and collation of all that we have learnt and the integrative processes involved in doing so will help us and our regional partners reflect on why transboundary cooperation matters, evaluate where we are now and why, as well as how and what we can build from existing knowledge to take this forward.

I look forward to wide dissemination of this information and attention from our readers – ranging from policymakers to practitioners and stakeholders. We believe that functional transboundary cooperation in conservation and development is a major step towards broader regional cooperation in the future. This will not only ensure that the resilience of people and mountains is built, but will also bring peace and stability to our region.

David Molden, PhD
Director General
ICIMOD

Preface

In “Regionalism and the 2030 Agenda” (2016), the UN notes that the UN Charter and the 2030 Agenda both recognize the importance of regional action, which is essential for addressing issues of trade, food and energy security, climate change, connectivity, and countering health epidemics. It highlights that regional commissions are “spearheading UN regional efforts to support their member countries” in implementing the 2030 Agenda, including by promoting integration, policy coherence, strengthened data and statistical capacities, and peer learning. Therefore, regional cooperation is earning global attention.

Landscapes are an entry point for triggering long-term regional cooperation. With their intertwined ecosystems crossing borders, they present potentially appropriate scales of planning and operation, with scope for integrating multi-level ownership and prioritized development interventions and investments with coherent outcomes.

The challenges to balanced conservation and development of landscapes, which is vital for coherent, sustainable, and equitable development, have also earned global attention. International policy dialogues such as the UN Sustainable Development Goals (SDG 1–Poverty, SDG 13 – Climate Actions, SDG 15 – Life on Land) and outcomes of the Paris Agreement have highlighted the need for sustainable landscapes as a source of multiple social, economic, and environmental benefits. The necessity of regional cooperation and regional strategies is also highlighted by the World Risk Index

(Birkman 2016) given the magnitude of challenges, particularly in countries which are highly vulnerable to natural hazards and climate change impacts. It recommends that more precise options and improved capacities of regional institutions be explored to promote resilience and enhance regional cooperation. The Hindu Kush Himalaya (HKH) – with its immense cultural, biological, aesthetic, and geo-hydrological values – has vast transboundary landscapes, which are already known as regions vulnerable to climate change. Already, the failure to plan for and tackle landscape degradation and other risks – biodiversity loss, climate change, water-food-energy insecurity, droughts, floods, and epidemics – has put a strain on communities, the environment, economies, and downstream river basins.

It is in this context that the transboundary cooperation initiatives of ICIMOD and regional partners from its eight Regional Member Countries have emerged. Since 2012, these initiatives have undertaken pioneering work on bridging national conservation and development strategies and investments using a landscape approach. This has been done through a viable transboundary cooperation mechanism, which meets the priorities of communities on the ground and simultaneously supports national contributions to global conservation and development targets at scale (e.g. Paris Agreement, SDGs, Aichi Targets). We believe that the efforts of our Regional Programme on Transboundary Landscapes are showing early signs that such an approach has the potential to effectively reduce climate risks by promoting mutually agreed-upon avenues of cooperation between participating countries. The resulting common benefits can be a way forward for building peace as well as environmental and economic stability in the HKH.

This book captures the development of the programme, implementation process as well as some of the achievements so far. We hope that it will generate interest and commitment to further support innovative ideas for scaled up conservation and development efforts in the HKH.

Eklabya Sharma, PhD
Deputy Director General
ICIMOD

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This book would not have been possible without the rich, collective experiences and knowledge of contributors and experts from diverse disciplines who helped conceptualize, plan, and implement initiatives – including REDD+ – in four of six identified transboundary landscapes in the Hindu Kush Himalaya. This decadal journey was made possible by the strong partnership built during the process and the ownership taken by regional government agencies, implementing partners, academic and knowledge institutions, and core donors from Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Sweden, and Switzerland.

We wish to express particular thanks to the Department for International Development, UK; the Federal Ministry of Economic Cooperation and Development (BMZ), Germany; the Austrian Development Cooperation, and the Swedish International Development Cooperation Agency for their support to ICIMOD's Regional Programme on Transboundary Landscapes. We are grateful to our reviewers – Cora van Oosten from the Wageningen Centre for Development Innovation, the Netherlands and Arabinda Mishra, Wu Ning, and Sanjeev Bhuchar from ICIMOD – for their constructive feedback and inputs. We are also thankful to Nakul Chettri for his valuable inputs and for seeing this book through to publication.

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CHAPTER 1

Genesis

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This chapter outlines experiences emerging from wider ownership of the "landscape approach" concept and the significance of the same, based on succinct deliberations on what landscapes are and why they are gaining global and regional attention amongst Hindu Kush Himalayan (HKH) countries. It elaborates on the meaning and importance of landscapes harnessed through research in the social and natural sciences over the years, influencing their broader understanding and appreciation. It tracks the unfolding of global commitment to the Convention on Biological Diversity (CBD), beginning in 1992 when conservation theories and approaches lacked a focus on 'landscapes and people' and touched on a more holistic 'ecosystem approach', balancing conservation and development – accepted as a paradigm in integrated landscape dynamics and management. This chapter sheds lights on integrated landscape management, an evolving and iterative process involving stakeholders beyond administrative jurisdictions and boundaries. It builds its argument on universally emerging climate change issues (Wester et al., 2019) and on managing natural resource governance as potential bases for bilateral and regional cooperation among nations. Complementing the latter argument is the fact that several nations are signatories to commitments such as the Paris Agreement and the Sustainable Development Goals (SDGs), and there are commonalities to meeting targets in mutually shared landscapes with rich networks of bio-physical and cultural linkages. The chapter discusses transboundary cooperation initiatives currently being implemented as well as the lessons learnt from these experiences while exploring avenues for future regional cooperation to ensure peace and prosperity among the people of the region while sustaining its ecosystems.

1.1 Integrated landscape approach

Landscapes are known to be vital for sustainable and equitable development. International policy dialogues such as the operational SDGs (SDG 15 – Life on Land) as well as the outcomes of the Paris Agreement (2015) have highlighted the need for sustainable landscapes to be recognized as a source of multiple social, economic, and environmental benefits. The Salzburg Global Seminar (2016), in its deliberations on transboundary cooperation for conservation, recognized that threats to natural systems know no borders. Accordingly, failure to tackle landscape degradation and plan for risks including biodiversity loss, climate change, water-food-energy insecurity, droughts, floods, and epidemics – puts a strain on communities, the environment, and economies. Ultimately, this aggravates poverty, conflicts, migration, and the depletion of natural capital.

Biodiversity conservation and the science of landscape ecology in particular have been addressed in a "landscape context" since the early 1980s. In the 1990s, conservation initiatives used the approach of protection and strict monitoring, which gradually gave way to the conservation-and-development approach. It was recognized that alienating local customary institutions from protected areas was not entirely helpful in promoting conservation. 'People' and 'society' were notably absent from such considerations; as a result, conservation has been beset by disappointments and failures (Chan et al., 2007; McShane & Wells, 2004; Sayer et al., 2013). Ten principles of the landscape approach were adopted by the Subsidiary Body on Scientific, Technical, and Technological Advice of the CBD in 2012. Lessons learnt over the course of a few decades conclude that sectorial approaches to land management are no longer sufficient to meet key global development challenges (SDGs 1 – No Poverty, 5 – Gender Equality, 15 – Life on Land).

An integrated landscape approach is the most promising tool for realizing SDGs and Nationally Determined Contributions (NDCs), as outlined under the Paris Agreement. Expectations from such an approach are quite high. At the Global Landscapes Forum (2016), the focus was on identifying solutions that help realize both development and climate goals on the ground; measure progress towards 'climate in development' goals in landscapes, based on applied science; and build a platform that inspires local action for global goals. In today's context, achieving long-term economic, environmental, and social goals increasingly depends on understanding and accounting for the impact of land management decisions on ecosystem goods and services and developing a more coordinated approach to natural resource management at a larger scale (Denier et al., 2015 p 26).

Simply, landscapes in a natural setting have shaped how people live, their settlement patterns, livelihoods, cultural practices, and beliefs – indeed their very way of life. Landscapes can be seen as meeting grounds between nature and people, between the past and the present, and between tangible and intangible values (Brown, Mitchell, & Beresford, 2005). The European Landscape Convention (ELC) describes a landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and human factors". Denier et al., (2015) conclude that integrated landscape management is a term used to describe multi-stakeholder approaches to landscape management. It rests on trade-offs and synergies among the stakeholders and between different parts of the landscape, and by building collaborative relationships. Hence, attempts to formalize and characterize what landscape approaches actually represent have resulted in a plethora of interlinked terminology and re-invention of ideas and practices under multiple guises (Denier et al., 2015). The approach builds on functioning governance arrangements that meet diverse stakeholder objectives and is considered a means of implementation for achieving multiple

interrelated SDGs and a broader set of targets as they play out, often simultaneously, at the local level (Mbow, Neely, & Dobie, 2015).

In yet another aspect of defining landscapes as cultural entities, over the centuries, historians, artists, musicians, writers, and travellers have described various landscapes across the globe. They have linked landscapes with social, political, and economic changes and practices, and described what is special about their respective landscapes – cold, dry deserts and rangelands, rich forests, vast bodies of water, and grand mountains. The word "landscape" occupies a unique niche in human culture. Encompassing fields such as geography, ecology, the arts, and philosophy, landscapes have various interpretations, and several approaches have been applied to classify or systemize them (Armand, 1975, 1988; Meinig, 1979; Jones, 1991; Grodzynskyi, 2005). Landscapes are also spatially explicit and consist of a wide range of spatial and temporal scales (Liu & Taylor, 2002). They also encompass methods to identify and measure themes or layers of information that include both tangible and intangible values (Head, 2004; Axelsson et al., 2013).

Capturing synergies and managing trade-offs lead to healthier landscapes, which not only exhibit healthy ecosystems, but also sustain productive agriculture and communities (Nicholls et al., 2013). Therefore, in today's context, integrated landscape management is linked to the landscape approach, which seeks to provide tools and concepts for allocating and managing land to achieve social, economic, and environmental objectives in areas where agriculture, mining, and other productive land uses compete with environmental and biodiversity goals.

Considering that on-the-ground implementation of the landscape approach is a challenge, it is important to bring together stakeholders with different views and perceptions to discuss what should happen in a given landscape and how optimal land use strategies can be formulated. This calls for recognizing and negotiating for trade-offs to work towards a common vision so that all stakeholders understand that they are likely to be winners as well as losers but that the overall goal is for one to "win more" and "lose less" (Louman et al., 2015, Sayer et al., 2015). The complex interconnectedness of landscape elements and processes, the interests of diverse stakeholders groups, and more importantly, the difficulties associated with motivating various players to work across social, political, and scientific disciplinary boundaries to put the landscape approach into actual practice remain its key features.

Sayer et al., (2012) in synthesizing current landscape approaches propose 10 summary principles to support implementation of a landscape approach. These principles emphasize adaptive management, stakeholder involvement, and multiple objectives. However, various constraints are recognized, with institutional and governance concerns identified as the most severe obstacles to implementation. The perspectives change drastically as we move from a national sovereignty context, marked by appropriate governance delivered often by customized institutions and management systems as per national rules, to a generally geopolitically sensitive terrain of transboundary landscape cooperation (Pasakhala et al., 2017). Moreover, it is more often the case that borderlands are hinterlands, poorly defined spaces, somewhere in between urban centres, cultures, watersheds, forest ecosystems, and so on, sometimes even forgotten by the state, with little attention and fewer services (de Jong & Evans, 2011).

Essentially, transboundary cooperation is about reaching mutual understanding to ensure sustainability of shared ecosystems across international boundaries. As such, it implies active cooperation and, ultimately, joint decision-making and management. The transboundary landscape approach therefore adds value to existing natural resource governance patterns, opening opportunities for innovation in transnational institutional mechanisms that can address global challenges coherently. Hamilton, L. S. & McMillan, L. (Eds.) (2004) note that transboundary conservation areas have the ability to reduce the risk of biodiversity loss through common and coordinated cross-border measures. In this time of global concern about the impacts of climate change, Hamilton (2008) emphasizes the importance of large protected areas such as transboundary areas that conserve carbon rich habitats, thus increasing resilience and the ability to adjust to climate change. Transboundary conservation areas that integrate nature conservation and sustainable development can strengthen bilateral or regional political security while simultaneously providing benefits to the local population (Sandwith, Shine, Hamilton, & Sheppard, 2001).

Further, recognizing the above key challenges and opportunities, and other prevalent issues in the region, conceptual thinking around regional cooperation is largely based on the realization that the landscape approach is distinct given that it does not follow the traditional unidirectional project cycle approach. The approach considers the dynamic nature of living landscapes and resists defining an end point, rather positioning itself as an iterative process of negotiation, trial and adaptation (Frost et al., 2006; Louman et al., 2015). Since the landscape evolves in a more or less chaotic manner, it exhibits an inherent complexity. Hence, under extremely sensitive political conditions it is possible to bring together Jordanian, Palestinian, and Israeli environmentalists. EcoPeace (2018) has set primary objective of promoting cooperative efforts between above three adjoining countries to protect shared environmental heritage along Jordan River. In so doing, it seeks to advance both sustainable regional development and the creation of necessary conditions for lasting peace in the region.

In the European Union, the transboundary landscape approach has proven effective in establishing strong, credible advocacy support partnerships between recognized regional organizations. For example, effective advocacy for regional political commitment in the South-eastern European region would not have been possible without the joint effort of members of the Dinaric Arc Initiative (DAI). Evidence indicates that although challenging, joint management through a wider group of stakeholders over a shared resource not only makes management more effective but also facilitates cooperation and peace, particularly when underpinned by economic and political linkages (SGS, 2016). Integrating lessons learnt from best practices, the Global Landscapes Forum in its Outcome Statement (2016) highlights four cross-cutting key messages to move towards sustainable landscapes:

- Strengthening cross-sectoral collaboration efforts
- Increasing engagement with local stakeholders
- Pushing to mobilize the private and finance sectors
- Implementing improved technology and tools to increase transparency and effectiveness.

Many encouraging case studies globally demonstrate how integrated landscape management can be instrumental in achieving sustainable development outcomes. Article 5 of the Climate Agreement, for instance, endorses collaborative efforts for achieving stakeholdership, urging parties to "take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases". It does this through the Warsaw Framework for Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries (REDD+) and the Cancun Agreement (2010). Likewise, the New York Declaration on Forests and Action Agenda (2014) pledges to end natural forest loss by 2030 and the Bonn Challenge aims to restore 150 million hectares of forest by 2030. Other successful examples include Brazil's Green Municipalities Programme, the Integrated Watershed Management Programmes of the Ethiopian highlands, Grain for Green in China, community forestry in the mid-hills of Nepal, and snow leopard habitat conservation in Ladakh, India. Importantly, when taken together, these case studies show that integrated landscape management is flexible enough as an approach to have impact across an enormous range of geographies, cultures, types of actors, institutions, and needs.

The landscape approach in the Hindu Kush Himalaya

The vast complex of hills, valleys, plateaus, and mountains in the HKH region contains some of the world's tallest peaks, and 60,000 km^2 of glaciers and 760,000 km^2 of snow cover. Bajracharya, S. R., & Shrestha, B. R. (2011) state that these snow and ice reserves represent a massive store of freshwater providing resources for energy, tourism, sanitation, and food production, among many other regional needs. The region's 10 major rivers basins – the Amu Darya, Brahmaputra, Ganges, Indus, Irrawaddy, Mekong, Salween, Tarim, Yangtze, and Yellow rivers – connect upstream and downstream areas in terms of trade, culture, communication, and resource management. Further, they (directly and indirectly) provide goods and services to 1.9 billion people throughout HKH and adjoining Asian continent (e.g. South Asia), including 240 million people who live in the HKH region (ICIMOD, 2017; Molden et al., 2017).

The implementation of the transboundary landscapes concept at the International Centre for Integrated Mountain Development (ICIMOD) recognizes the transboundary nature of ecosystems and the flow of services beyond administrative boundaries. As a future conservation and development paradigm, the transboundary landscape approach represents a clear opportunity for scaling up effective regional cooperation to attain milestones set by global agenda such as the Convention on Biological Diversity (CBD), the Paris Agreement within the United Nations Framework Convention on Climate Change (UNFCCC) 2015, and the SDGs 2030 targets. Thus, ICIMOD's transboundary landscapes concept is based on a "Framework for Trans-Himalayan Transect and Landscape Approach" for the four north-south transects and six identified transboundary landscapes recognized by several global conservation and environmental organizations such as the CBD and the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Sharma, Chettri & Oli, 2010; Molden et al., 2017). However, a defining shift to the narrative of protected areas and biodiversity conservation is needed as landscapes involve complex interactions between human and natural systems. For practical purposes, a landscape is defined as a "socio-ecological system that consists of natural and/or human modified eco-systems, and which is influenced by distinct ecological, historical, political, economic and cultural processes and activities (Denier et al., 2015, P 26).

Several transboundary initiatives are thus underway in this fragile landscape. Studies show that as long as some basic principles are adhered to, it is possible to strike a balance between conservation and development while meeting land use demands such as intensive agriculture and infrastructure development. These principles of land use emphasize sustainable management of natural resources, stakeholder involvement, and multiple objectives. However, there are several constraints to implementing these principles. Chief among them are institutional and governance concerns. In this context Pasakhala et al., (2017) conclude that the upstream-downstream context of the HKH, the understanding of resource protection and management opportunities should come at an early stage to ensure that transboundary cooperation for conservation and development yields a positive outcome. To enhance the understanding of such opportunities, it is important to promote good governance of natural resources through prevention and control of illegal poaching, Non Timber Forest Products (NTFP) trade, fair and equitable benefit sharing in forest based enterprises.

In spite of the challenges associated with implementation, transboundary programmes are designed to reach the most marginalized of communities. Cross-sectoral initiatives are implemented from the local to the regional level, and cover areas ranging from forest management to infrastructure building. Often, nested and multilevel strategies and policies are applied to ensure sustainable use of natural resources. Ultimately, any adapted framework for planning, establishment, and management needs to consider and balance a range of options for supply, conservation, and land use management, with clear responsibilities assigned to multiple stakeholders (McEvoy et al., 2010).

Apart from governments, international and national non-governmental organizations, various United Nations agencies, protected area managers, and other stakeholders at the global and/or regional scales also facilitate transboundary landscape cooperation initiatives. These bodies include the International Union for Conversation of Nature (IUCN) with its Transboundary Conservation Specialist Group of the World Commission on Protected Areas, the Federation of Nature and National Parks of Europe (EUROPARC Federation), the Peace Parks Foundation, Conservation International, The Nature Conservancy, UNESCO, the United Nations Environment Programme (UNEP), World Wildlife Fund (WWF), the International Tropical Timber Organization (ITTO), and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (Erg, Vasilijević & McKinney, 2012).

1.2 Transboundary cooperation in the Hindu Kush Himalaya

The terms "transboundary conservation landscape" and "transboundary conservation initiative" are used here to address geographic areas and processes where cross-border cooperation takes place with the specific purpose of achieving conservation objectives. A wide array of terms are used worldwide to denote these processes – international peace park, transfrontier protected areas, peace parks, transboundary natural resource management areas, and many others – often resulting in confusion as to their meaning and the particular objectives these areas aim to accomplish. Although the idea of cooperation across national boundaries for nature conservation purposes emerged in Europe, the first transboundary protected area was actually proclaimed in North America in 1932 between Waterton Lakes National Park in Canada and Glacier National Park in the USA, just one month earlier than in Europe. The parks were officially inaugurated as the Waterton-Glacier International Peace Park, celebrating the peace and goodwill between the two countries.

Until recently, transboundary and regional cooperation in the HKH region was very limited. In 2007, the Intergovernmental Panel on Climate Change (IPCC) Assessment Report identified the HKH as a data gap region, and indicated that all glaciers in the region would disappear by 2035 (IPCC, 2007; Molden et al., 2017). This triggered major concern and debate among the eight HKH countries – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – because people in the mountains and downstream regions depend on glacier-fed water resources.

The HKH faces several critical regional issues related to climate change, degradation of natural resources, flood-related transboundary humanitarian impacts, social changes and out-migration, and globalization, all of which provide an opportunity for the above eight countries to cooperate to address challenges. Governments in the region are being advocated to combine and accelerate efforts to advance sustainable mountain development, especially with a view to benefiting from the global conservation and development agenda, such as the UN Sustainable Development Goals for 2030 (Chapters 2 and 5 in Wester et al., 2019). Such meaningful cooperation will be possible if supported by scientific evidence and future scenarios where technical regional institutions like ICIMOD have a role to play (ICIMOD, 2017).

As China and India emerge as world leaders in scientific and technological research, they become instrumental actors in future collaborations among HKH countries to counter the growing impacts of climate change and other environmental challenges (Sharma, 2017). Science plays a crucial role in influencing improvement of policies and practice decisions, but it may not be enough if we do not share relevant scientific research with stakeholders who matter for decisions at scale.

All HKH countries are committed to global targets such as the United Nations Sustainable Development Goals, the Paris Agreement within the UNFCCC, the Sendai Framework for Disaster Risk Reduction (SFDRR), and the Aichi Biodiversity Targets of the CBD. Through regional scale work and formation of regional alliances, ICIMOD and partners contribute HKH and mountain perspectives to these global agenda (Molden et al., 2017).

CONSERVATION TRADITIONS AS A BASIS FOR COOPERATION

The biological and cultural diversity of the HKH presents an opportunity to develop a range of local place-based learning processes. These landscapes represent ethnic intermixing and cultural assimilation across borders. Over the centuries, Himalayan passes have seen people moving in and settling down in different regions. The landscape has been a centre of activities for several ethnic, linguistic, and cultural groups coming from different directions at different times. Struggle and assimilation occur simultaneously. In fact, the intermixing of various cultures as well as the vertical and horizontal mobility of social groups have been important to the evolution of the characteristic diversity of the region. Irrespective of this diversity, all civilizations in this landscape have rich traditions of conservation, where natural resources are revered and protected through customary methods. Throughout the landscape, the common practice guided by folk wisdom is not to misuse, degrade, or destroy. Natural resources (trees, forests, rivers, springs, endemic flora and fauna, and mountain peaks and hill sites) are revered and endowed sacred value. The prevalent folk belief system of the landscape has helped the conservation of its natural resources. This basic instinct among local communities is a powerful tool for building and implementing a cooperation framework.

There are lessons to be learnt from the implementation of regional programmes between ICIMOD and its eight regional member countries (RMCs) as outlined in the organization's Medium Term Action Plan (MTAP–III) (2012–17). It shows, inter alia, that transboundary landscapes and river basin management clearly have the potential to address issues of natural resource governance, security of ecosystem services and livelihoods, and building of resilience to climate change impacts. Work has already been undertaken on culturally and ecologically important landscapes within the transboundary context.

As per a review conducted by Angelstam et al., (2013), there is now an increasing trend emerging in the favour of the diversity of landscape concepts as a tool for sustainability science and a human-centred development perspective. In considering the international management categories for protected areas – moving beyond what is written in manuals – it is important to understand the regional and social context in which the archetypes of these categories were developed (Brown et al., 2005).

A shared framework and understanding on natural resources governance at the regional scale, supported by appropriate institutions, can be useful in achieving the broader goal of regional cooperation. This is also keeping in view that regional cooperation amongst HKH countries has to some extent be either practiced bilaterally or within the established South Asian Association for Regional Cooperation (SAARC) Framework. Though most of ICIMOD RMCs have started reframing their policies, national development strategies, and plans conducive to regional cooperation, this has not yet percolated to governance systems delivering on the ground.

A few concrete models for future building of regional cooperation have already emerged, such as the eco branding of landscapes, science policy forums, south-south dialogues, and inter-country cooperation dialogues on river basin management (Denier et al., 2015).

ICIMOD recognizes that collaborative work is needed to enhance knowledge in the HKH through official policy discussions and negotiations around issues to foster deeper long-term collaboration. Initial evidence from its work is beginning to inform the highest levels of decision-making. Moving forward, ICIMOD also envisages a regional policy forum in which its member countries deliberate on issues of common interest.

Deriving lessons from process adapted and practices implemented (See subsequent chapters 2 to 5), transboundary landscapes initiatives at ICIMOD can help redefine development perspectives in multi-stakeholder engagements that lead to transboundary cooperation through agreed upon regional cooperation frameworks. Also, south-south dialogues could open up opportunities to forge collective new solutions for mitigating governance deficits, adding value to livelihoods at scale while securing ecosystem services, and finally, enhancing resilience. Thus, a solid foundation for matching global experience and discourse to scale up the HKH transect concept based on a landscape approach is poised to give deeper insight into and lessons on how science can be made more relevant and how research findings can find more traction in regional policies and practices in the years to come.

1.3 Conclusion

Accounts from sections 1.1 and 1.2 lead to key conclusions that outline the scope for a transboundary landscapes concept. The conclusions drawn are given below:

1. As an all-encompassing concept, the landscape approach combines conservation and development trade-offs at scale, thus ensuring the benefits of a sustained flow of ecosystem services to communities both upstream and downstream.
2. A landscape approach that forms the basis of common management objectives at the transboundary scale can integrate policy, science, and practice, leading to adaptive management.
3. Transboundary cooperation, whether based on bilateral or multilateral cooperation, has the potential to foster regional cooperation at scale and address national targets for global commitments (e.g., Aichi Targets, SDGs).
4. The linkages between ecological, social, economic, and cultural systems in HKH landscapes can be strengthened to lead to effective regional cooperation in conservation by filling data gaps, sharing best practice information, and ensuring monitoring and coordinated management activities.

CHAPTER 2

Design – thinking together

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Chapter 1 outlined the transboundary landscape concept as a forward-looking approach to bridging conservation and development across country borders at both upstream and downstream locations. Chapter 2 elaborates on the overall consultative and iterative process that is part of building a long-term common vision among participating countries and among a range of stakeholders in terms of agreeing on content, operational modalities, and overarching governance mechanisms that can be applied to ensure transboundary cooperation. It explores the building blocks of transboundary cooperation in the form of a sequence of sub-chapters that range from the articulation of planning and coordination between participating country stakeholders, to a mix of particularities such as the need for the development of conceptual frameworks, methodologies, and tools that should be jointly developed for ownership and mainstreamed application. It highlights the need for creative partnership building with continued and cohesive mentorship of inter-country teams for long-term commitment to the idea of working and delivering on transboundary policy, practice, and science-based learning.

Given the complexity of issues – sovereignty and security from the perspectives of individual countries – and the sensitivity of the chosen thematic foci and set milestones and outcomes, the real-time steering of a transboundary landscape concept needs attention. It is important to demonstrate the use of the "landscape journey"[1] as a tool to understand issues and emerging opportunities to achieve transboundary cooperation while addressing local sub-national needs. Thus, in this Chapter, parts of the process – from consultation and consensus- building process to delivery of knowledge products and tools and methodologies – are described comprehensively. These elements together can help successfully deliver the transboundary landscape concept (see Chapter 3).

2.1 Conceptualizing transboundary landscapes

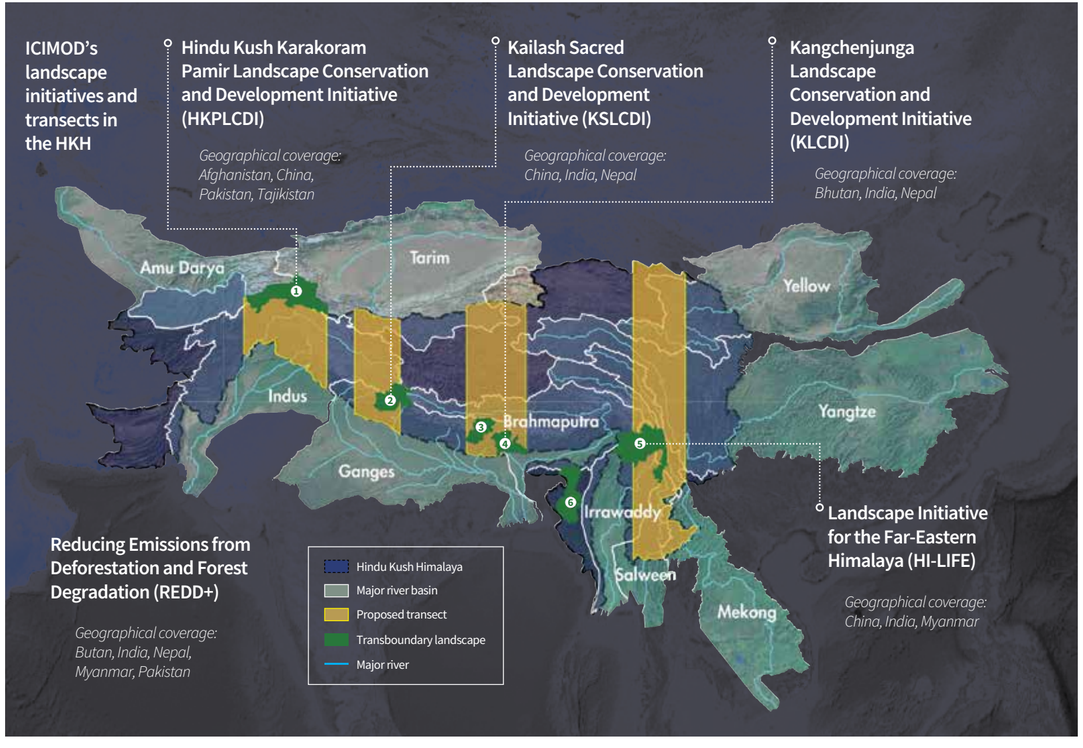
The rationale behind implementing the transboundary landscape concept as underlined in Chapter 1 relies on redefining conservation and development perspectives through multi-stakeholder engagement at scale and across borders. Arguments in favour of the landscape approach cite how best practices at the village and catchment levels cannot be scaled up and are resource inefficient. There are also questions about whether these practices can sustain once a project ends.

Transboundary cooperation and agenda need to integrate "Win more – Lose Less" metaphor (see Chapter 1) for participating inter-country stakeholders. Once the ownership of a common agenda is established, long-term concept of transboundary cooperation and associated outputs and activities can be framed. In the HKH, collective action to find solutions to natural resource governance and other management deficits (e.g. wildlife trafficking) can have great success. Countries have a common interest as borders are often conspicuous for designated protected areas and conservation is of prime importance. Through transboundary cooperation, trans-border initiatives across the HKH aim to secure a sustained flow of ecosystem services and livelihoods at scale while enhancing both social and ecological resilience.

This rationale aligns with ICIMOD's long- term vision: that men, women, and children of the HKH enjoy improved wellbeing in a healthy mountain environment. This will also address issues related to poverty and inequity, fast-degrading mountain ecosystem services, and physical vulnerabilities and risks, which are still prevalent and are now part of the SDG 2030 targets that ICIMOD's member countries have set. Planning at the transboundary scale would also

[1] Landscape Journey is a process tool for practitioners that provided a simple but interesting insight to how landscape approach can be understood, applied and promoted to look beyond boundaries of one sector, one theme, one idea, one landscape, one country, and bridge these diverse perspectives.

FIGURE 1 ICIMOD'S LANDSCAPE INITIATIVES AND TRANSECTS IN THE HINDU KUSH HIMALAYA



require thinking about (adapted after ICIMOD's Strategic Results in MTAP–IV):

How innovations and best practices can be first produced and then scaled up jointly with partners?

1. Which data sets need to be generated and how the use of relevant data for analysis and knowledge generation can be ensured?
2. Which approaches can be advanced at scale to promote inclusive development and gender equality?
3. Which human and institutional capacities need further inputs?
4. Which set of enabling policies can influence transboundary cooperation?
5. How transboundary cooperation can be linked with long-term regional cooperation for sustainable mountain development?
6. How learning at scale can find recognition at relevant global forums to which participating countries are a party?

Transboundary cooperation conceptualizes long-term piloting and monitoring of innovative approaches, and focuses on meeting regional capacity-building needs to deliver strategic results. The HKH hosts a wide range of ecosystems, which provide numerous services in terms of food, water, energy, biodiversity, climate regulation, and culture. Hence, HKH landscapes also converge in terms of aesthetic, cultural, material, biological, and geo-hydrological values, which have an upstream-downstream connection (e.g. producers-consumers). These features are currently subject to climatic and non-climatic changes that affect the livelihoods and resilience of communities living within the region, as well as in downstream areas.

Transboundary landscapes at ICIMOD

Conceptually, ICIMOD's transboundary landscape approach visualizes four north-south transects for the HKH and six identified transboundary landscapes that capture the heterogeneity of eco-regions, cultures, and climatic features (Figure 1): Kailash Sacred Landscape (KSL), Kangchenjunga Landscape (KL), Landscape Initiative for Far Eastern Himalaya (HI-LIFE), Hindu Kush Karakoram Pamir (HKPL), Everest, and Cherrapunjee-Chittagong.

In recognition of the need for increased regional cooperation, the CBD advocates the use of landscape and ecosystem approaches for managing biodiversity in the HKH. ICIMOD's Regional REDD+ Initiative is embedded in its Transboundary Landscapes Programme to enable the incorporation of incentive-based mechanisms related to greenhouse gas emissions, carbon sequestration, and biodiversity conservation at landscape and regional scales. The Transboundary Landscapes Programme was designed through an iterative, consultative process with regional partners and rests on the following fundamental pillars:

- Promoting integrated and participatory approaches in ecosystem management to mountain development throughout RMCs, starting from the premise that ecosystem services flow beyond administrative boundaries and thus require regional and multilateral cooperation in transboundary landscapes
- Adopting approaches that integrate multi-stakeholder priorities with scientific data in such a way that trade-offs between conservation and development can be properly assessed and addressed
- Promoting regional acceptance of common frameworks, long-term research and monitoring, common methodologies, information sharing, and collaborative management for the purpose of converting science into conservation and development policy and practice
- Contributing scientific input to global policy processes such as the Ramsar Convention, the CBD, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), and the UNFCCC—Global Landscapes Forum
- Demonstrating improved transboundary cooperation among member countries through regional policies and strategic partnerships, leading to sustainable mountain ecosystem services and equitable livelihood benefits at regional landscape levels.

The HKH region is extremely heterogeneous. As a result, there are multiple inter-linkages between biomes and habitats, and strong upstream-downstream connections – the socio-cultural interfaces among communities separated by national borders and connections related to the provisioning of ecosystem services. Because the transboundary landscape approach is people-centred, cultural conservation is seen as an essential step towards resource conservation. Successful resource conservation is expected to translate into sustainable and equitable development.

Expected outcomes include improved ecosystem management across the landscape and better livelihood options for its people. By establishing common ground for cooperation to sustain ecosystem goods and services while enhancing ecological integrity and sociocultural resilience, the transboundary landscape approach not only addresses national development and mitigation targets but also helps RMCs meet a larger goal, potentially linking their national commitments to global conservation and development agendas such as the SDGs, the Paris Agreement, the Convention of Biological Diversity.

2.2 Framing a collective vision for transboundary landscapes

Based on ICIMOD's experience, this chapter reflects on building blocks essential to developing a successful transboundary landscape programme jointly owned and operated by two or more countries. The building blocks refer to and are result of past discourses, experiences, and lessons from transboundary initiatives in the KSL, KL, HI-LIFE and HKPL.

1. **Building shared understanding of a transboundary landscape:** A landscape encompasses a diversity of geographic, ecological, socio-cultural, economic, policy, and institutional situations. Many of its elements – its biodiversity, communities, and rivers, for instance – extend beyond one nation's administrative boundaries. Unbundling the details of a given landscape's elements – geo-political, environmental, and economic situations; conservation and development prospects; sociocultural dynamics; and institutions and policy implications – presents an opportunity for countries to identify issues of common interest and therefore prospects for collaboration. A transboundary landscape with its diverse stakeholders is thus envisioned as a future "one management unit" as far as issues of common interest and potential, which are to be managed through regional cooperation, are concerned.

2. **Developing a Theory of Change:** Developing a shared understanding sets the stage for exploring dynamism or changing perspectives in a transboundary landscape. Landscapes have and will transform over time given the influence of socio-political, demographic, environmental, and economic drivers. Managing transformations in a sustainable way – that is, maintaining the essence and integrity of a landscape for the future – is one of the common purposes for countries to collaborate at a transboundary level. Analysing pathways of change helps countries develop a "common shared vision" for a given landscape. With shared vision comes a thorough understanding of the result chain (actions>outputs>outcomes>impact>intended vision) and intervention logic required to progress from one result to the next one. Understanding change perspectives also helps clarify what knowledge, behaviour, skills, relationships, and mandates different institutions or actors contributing to change in a given landscape possess and what they would like to have differently.

3. **Coming together through collaborative planning:** Achieving a shared vision calls for collaborative and adaptive planning. Landscapes host a wide range of actors with different perspectives, strengths, opinions, ideas, experience, and expertise. Even when working in the same landscape, different actors have different stakes and aspirations guided by their individual value systems. Collaborative planning sets the stage for multi-stakeholder dialogue, and helps identify a suitable disciplinary mandate which makes the most out of the combined thematic strengths, and expertise and skills of multiple landscape actors. Stakeholders' interests and influence are mapped and combined to plan for achieving the shared goal envisioned for a given transboundary landscape programme keeping in mind the results, milestones, and timeframes and strategies to monitor progress and mitigate risks.

4. **Striking partnerships and setting up investment plans:** Implementing an adaptive action plan requires dedicated partnerships and committed investments. Given the diversity of interests and influence among the actors in a transboundary landscape, their level of engagement and commitment, possible contributions in terms of resources, space for action, and time and skills vary considerably. Developing partnerships and an investment plan can back up collaborative planning by identifying and defining the necessary financial and human resource inputs and commitments. This enables diverse constituencies of actors to work together effectively, complementing each other's efforts and supplementing existing partnerships (for example, bilateral partnerships between countries and government schemes). However, as a matter of practise, early partnerships are forged with institutions that have been part of the conceptualisation phase and are strategically placed to provide support in seeking approvals for going ahead with a transboundary concept. Partnerships and the respective roles and responsibilities of different actors are affirmed through both informal and formal partnership mechanisms, such as Memorandums of Understanding (MOU), Letters of Agreement (LOA), etc. There can be strategic (policy), academic (research), and implementation (management) partnerships, as well as local, national, regional, and global scale partnerships.

5. **Anchoring institutional mechanisms for delivery of concept:** Commitments by landscape actors are stronger when backed by robust institutional mechanisms. Institutional mechanisms anchor and streamline programmatic processes and operate at different levels. Both regional level – for example, the China-India-Nepal regional Programme Steering Committee (PSC) for KSL – and national, local level committees – for example, the State Coordination Committee for HI-LIFE India – are required for transboundary landscape programmes. Regional level steering committees, in particular, are useful when addressing cross-border or transboundary common objectives and promoting a regional voice in the global arena. However, institutional mechanisms must be supported and agreed upon by countries for specified terms of reference that outline coordination, management, monitoring, and evaluation norms.

6. **Securing strategic endorsement from the top:** Institutional mechanisms need formal strategic support and endorsement to function efficiently. Formal endorsement for a transboundary landscape programme can be facilitated through the formulation of Regional Cooperation Frameworks (RCFs) to ensure that participating countries are convinced that their national sovereignties are not infringed upon while signing. It defines the scope and principles for regional cooperation and outlines broader investments, partnerships, and institutional modalities. This reinforces the "buy-in" of transboundary (regional) efforts by the governments of individual countries and commitment toward joint implementation. RCFs are jointly developed by countries within transboundary landscape programmes through consultative regional meetings of decision makers. It is indispensable for all participating countries to endorse an RCF to allow its full-scale implementation. Strategic collaboration between country partners and third party regional institutions such as ICIMOD and donor partners will also be featured in RCFs, as they influence the pace of the implementation of a given transboundary landscape programme.

7. **Effecting the scope for reflective monitoring:** Both national and regional actions within a transboundary landscape programme require reflective assessment about its effectiveness and usefulness. More than two countries are engaged, and several landscape actors contribute to the outcomes of a given transboundary landscape programme. Each partnership and institutional setup has different objectives depending upon their mandate – such as knowledge development (research and long-term monitoring), natural resource management (biodiversity conservation, wetland management), and livelihood development (value chain and enterprise development). Each action is oriented toward meeting a "shared landscape vision" outlined during

collaborative planning. Reflective monitoring is essential to realign focus and responsibility, and must take place regularly in the form of an annual review or bi-annual progress evaluation. The seven building blocks of a transboundary landscape programme – which stand on regional values that transcend geographic, environmental, economic, and sociocultural boundaries, and essentially target the overall wellbeing of landscape elements and actors – are presented in Figure 2.

2.3 Programme implementation

A collective vision and concept of a transboundary landscape programme as shown in section 2.2 unfolds gradually. However continuous dialogue and discussion as part of "Growing Together" are necessary to ensure it is effectively conceptualized, owned, and implemented by all parties involved. This chapter outlines the strategic procedures through which the building blocks (described in the previous chapter) are gathered. It describes each phase of the relation building process that takes place between countries, institutions and key community stakeholders in the process of agreeing upon a regional agenda and strengthening a regional voice. Four phases that evolve are:

The prestart-up phase or inception is when the scope of a transboundary landscape programme is defined and its implications are weighed and analysed. During this crucial phase, countries collectively decipher the prospects and value of regional cooperation and conceptualize a transboundary programme with limited data and information available. Prerequisites for the preparatory phase include:

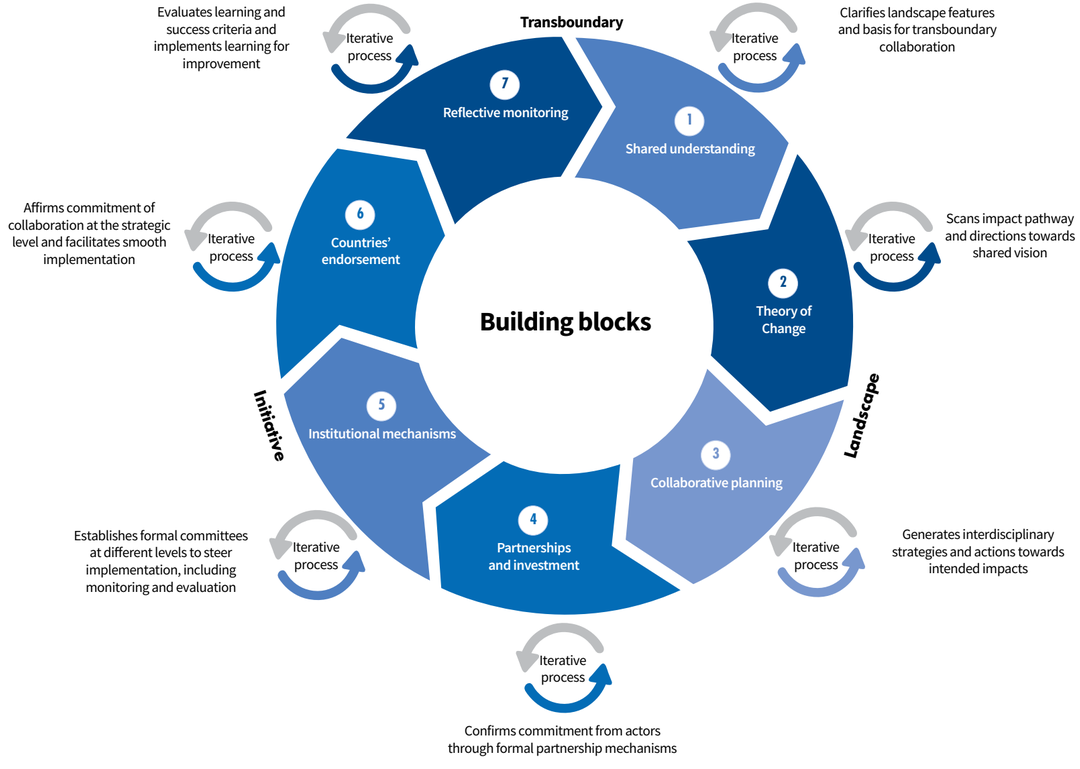
- Identification of nodal institutions in each country to facilitate national/sub-national level coordination and build cross-sectoral partnerships within countries
- Engagement of knowledge-enabling institutions to anchor and steer regional coordination
- Financial resources to support a multi-stakeholder consultative process and early strategic meetings both at the national (within countries) and regional (between countries and other global stakeholders) levels.
- Early engagement with potentially interested donors/programme supporters who show interest for a long term support to such a concept.

Major outputs from the preparatory phase include a broad outline for the transboundary landscape programme, a common framework and guidelines for the next, i.e. start-up phase, and the mapping of multidisciplinary stakeholders to fulfil the integrated objectives of conservation and development.

The preparatory phase enables concerned stakeholders (a majority of representatives from government organizations and later non-governmental organizations, community institutions, private sector, academia, media, global institutions, business institutions, and civil society) to develop a shared understanding of the concerned transboundary landscape (see section 2.2) and to understand the prospects for regional cooperation and joint actions.

The start-up phase details the scope of the transboundary landscape programme, and is the most time- and resource-intensive phase. Tiers of national and regional consultations are required to facilitate preparation of strategic documents and frameworks. National nodal institutions anchor and facilitate multi-stakeholder consultations at the country level involving a wider set of institutions and relevant ministries, whereas a knowledge-enabling institution facilitates regional consultations with all participating countries to consolidate information from all countries and synthesize regional documents.

FIGURE 2 **BUILDING BLOCKS TO DEVELOP AN EFFECTIVE TRANSBOUNDARY LANDSCAPE PROGRAMME**



Major outputs from the start-up phase include the country-specific components:

- Feasibility assessments
- Conservation and development strategies
- Comprehensive long-term environmental and socio-ecological monitoring areas and strategies
- Regional synthesis on scope of working avenues
- Communication and knowledge management strategies
- Gender integration strategies
- Regional Cooperation Framework
- Monitoring and Evaluation Framework
- Regional Implementation Plan
- Country-specific action plans

The start-up phase is crucial in delineating the geographic extent of the transboundary landscape. This entails designation of areas by individual countries, combining areas to outline the regional extent without national boundaries, and endorsement by all countries. However, countries are conscious not to infringing on national sovereignty issues. Agreement and endorsement of a regional programmatic boundary for transboundary landscape sets the stage for the next tier of consultative exercises that may need to evolve bottom-up, when countries develop joint long-term vision and objectives, and prepare collaborative action plans. The Regional Cooperation Framework (RCF) then formalizes the transboundary landscape programme and the process of regional cooperation at the higher decision-making levels in each country. The endorsement of an RCF is not a smooth process as it needs to be approved by several other ministries in addition to the nodal ministry in each country. Often, the nodal ministries want to ensure that win-wins are clear and the early mandate of transboundary concepts do not touch sensitive issues (e.g. water security, water sharing, and illegal trade) and find acceptance at cross-ministerial levels. Nodal ministries provide a good amount of facilitation.

The pre-implementation phase formalizes implementation actions. It begins with the endorsement of the RCF by countries at the strategic level. Partnership investment plans and institutional mechanisms are finalized and partnership engagement documents such as MOUs, LOAs, Letters of Intent (LOI), and Consultative Contracts, together with communication, knowledge management, and reporting mechanisms are agreed upon. Regional information and knowledge-sharing platforms such as web pages, collaborative workspaces, online reporting, and progress monitoring systems are created. Country-specific partnership agreements specify national-level interventions, while regional interventions are jointly planned and collectively implemented, led, and facilitated by the knowledge-enabling anchor institution. This is also the time when potential donors and programme supporters are made part of the conception process generating their understanding and interest for financing such a concept.

The implementation phase involves first steps towards on-the-ground activity in a selected pilot of landscape as per the action plan agreed upon. Collaborative actions happen for different objectives (e.g. livelihoods development, biodiversity conservation, value chain development) at different scale (pilots, national, regional, global), and in different sectors (research, practice, policy, capacity strengthening). The implementation phase involves regular progress review, monitoring, and evaluation of partnerships. A consultative process continues to work towards mitigating major risks (e.g. inadequate ownership by participating country) and incorporating sub-national/national agenda that demands innovation and learning (e.g. cooperation on minimising wildlife trafficking).

We present the case of the Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) as a pioneer of the strategic process (Box 1 below) to shed light on the extent of the effort required to assemble the different building blocks to promote regional cooperation.

Assembling the seven building blocks (see Figure 2) described in the previous chapter is an iterative multi-phase process (Figure 3) below – from the conceptualization of a transboundary landscape programme and the laying down of the foundation for regional cooperation to the institutionalization of actions to achieve a shared vision for the transboundary landscape.

2.4 Integrating the fundamentals

2.4.1 Harmonized frameworks

A) LONG-TERM MONITORING

Once the concept was rolled out in the ground, the tasks of creating and testing long term frameworks, tools, research protocols and working manuals and integrating these in operational plans commenced. It had to be balanced as interplay between the amounts of scientific work we do and triggering of solutions local communities wanted us to provide such as improving their livelihoods and lives. Fundamental to this mode of balancing science and practice was given by the background in HKH that most monitoring efforts to understand ecological processes and drivers of environmental change focus on ecosystems (Figure 4). Lately, however, scholars have realized that human alterations are major drivers of changes (Liu et al., 2007). Management measures must therefore be based on our understanding of social-ecological interactions (Figure 5) (Berkes et al., 2003; Schultz et al., 2007).

Since social-ecological interactions extend beyond political boundaries and hence, a transboundary approach appears appropriate to address them (Dallimer & Strange, 2015). Yet a lack of data on social-ecological systems continues to be a barrier to transboundary cooperation in the HKH (Pasakhala et al., 2017). In this context, long-term social-ecological monitoring following standardized protocols and in partnership with stakeholders at different levels enables the building of trust and the fostering of transboundary cooperation in natural resource management (Spellerberg, 2005). Since long term planning and solutions will also need long term data, the task of establishing monitoring landscape features and changes was unavoidable.

BOX 1

THE KAILASH SACRED LANDSCAPE CONSERVATION AND DEVELOPMENT INITIATIVE

The KSLCDI is a transboundary conservation and development initiative between China, India, and Nepal featuring a multicultural and ecologically fragile transboundary landscape spanning 31,000 km^2.

The pre start-up phase for the Initiative began in 2009 with the following interventions:

- Preliminary meeting with key government agencies in each country to identify nodal partners
- Agreement by nodal institutions from each country – Govind Ballabh Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD)/ Ministry of Environment, Forests and Climate Change (MoEF&CC, India); Institute of Geographic Sciences and Natural Resources Research (IGSNRR)/ Chinese Academy of Science (CAS, China) and Ministry of Forest and Environment (MoFE, Nepal)
- Agreement by the three countries regarding the role of ICIMOD as facilitator and regional coordinator
- Regional inception workshop with nodal and key national partners from all three countries to understand the landscape concept and vision behind the transboundary landscape initiative in the Kailash region
- Development of a common framework and guidelines for feasibility assessments

The start-up phase (2010–2012) led to the following outputs:

- Series of local/national and regional consultations and stakeholder meetings
- Preparation of comprehensive and holistic documents: country level – feasibility reports, conservation and development strategies, comprehensive environmental and socio-ecological monitoring strategies, five year action plan; regional level – regional synthesis of these documents; RCF, Regional Implementation Framework, and Regional Monitoring and Evaluation Framework
- Establishment of KSL website as a regional knowledge-sharing platform (www.icimod.org/ksl)
- Donors/Programme supporters indicate their willingness for financial support

The pre-implementation phase (2012–2013) was when several innovative measures and processes were implemented:

- Endorsement of RCF
- Finalization of institutional and governance mechanisms through the establishment of a regional PSC and National Coordination Committee (NCC)
- Formulation of interdisciplinary teams to facilitate varied thematic objectives – ecosystem management, livelihood development, access and benefit sharing, long-term monitoring, biodiversity conservation, ecotourism, and cultural conservation
- Finalization of country-level plans and regional-level activities for five years
- Prioritization of actions and finalization of pilot sites
- Embedding of the project in national programmes to leverage additional funding for the sustainability of the initiative
- Signing of LOAs and disbursement of funds to national partners
- Preparation of regional communication strategies
- Development and endorsement of a framework to ensure common methodologies across the three countries to ensure that the results are comparable
- Identification and application of participatory process tools and creative knowledge management and communication tools
- Training of partners on the implementation of Monitoring and Evaluation (M&E) Framework
- Establishment of online reporting mechanisms

The implementation phase between 2014–2017 envisaged that after initial years of organizing the inter-country cooperation interventions and investments were at their peak:

- Pilot-based interventions (ecosystems management, value chain development) in three countries
- Annual meeting of regional PSC and meeting of NCCs in each country to review progress and share updates
- Partnership extension involving private sector entities
- Capacity strengthening of partners at different tiers in different thematic areas: gender inclusion, planning, M&E, as well as on specific topics like access and benefit sharing, ecosystem management and planning, value chain approach, ecotourism development, invasive species and wildlife monitoring, institution development, and landscape governance
- Awareness-raising events and promotion of KSLCDI as a culturally sacred site for World Heritage Sites (WHS)
- Dissemination of transboundary learning and foci at all levels – nationally, regionally, and globally
- Use of monitoring tools to review project strategies, objectives, and plans annually to promote effective implementation

FIGURE 3 **TRANSBOUNDARY LANDSCAPE REGIONAL PROGRAMME UNFOLDS OVER TIME THROUGH FOUR PROCEDURAL PHASES**

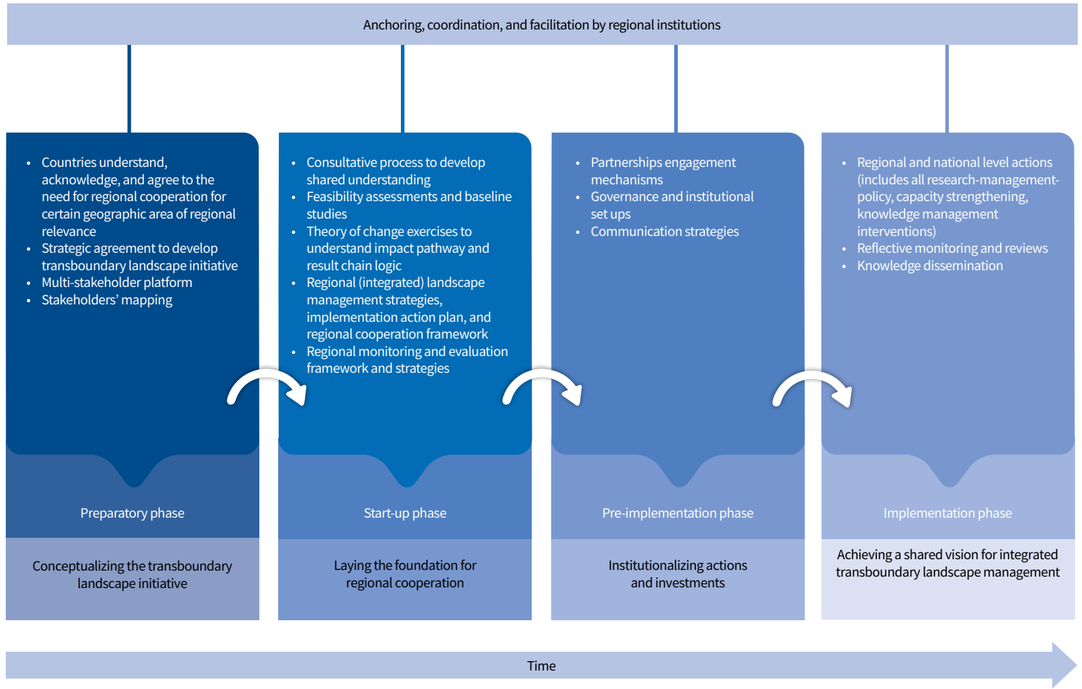
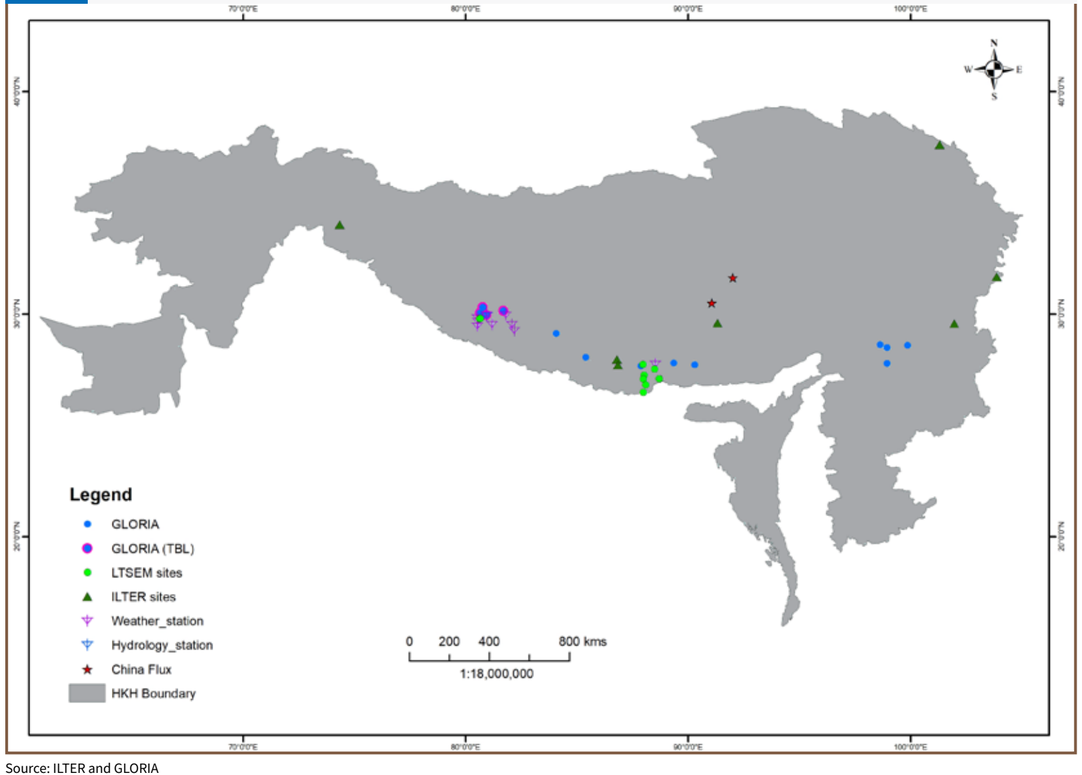
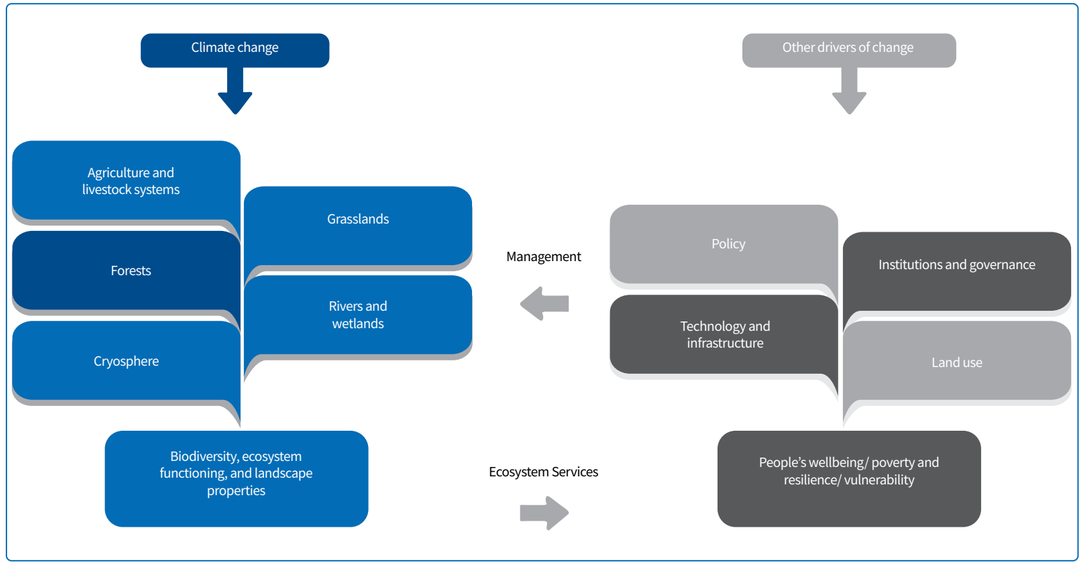


FIGURE 4 LONG-TERM ECOLOGICAL MONITORING STATIONS IN THE HKH



Source: ILTER and GLORIA

FIGURE 5 THE INTERACTIONS BETWEEN SOCIAL AND ECOLOGICAL SYSTEMS



Source: Chettri et al., 2015

Mainstreaming long-term monitoring in transboundary landscapes

The IPCC's Fourth Assessment Report (AR4) (Rosenzweig et al., 2007) was instrumental in conceptualizing the transboundary landscape approach in the HKH, as it identified the region as being data-deficient (Chettri et al., 2012). In 2008, ICIMOD realized that such a valid issue can be used to generate interest for transboundary collaboration for research, monitoring, and implementation of action research projects (Chettri et al., 2009).

In order to address the issue of data-deficiency within the HKH, long-term monitoring needs to be integrated at scale. Mainstreaming the concept of long-term monitoring requires an interdisciplinary implementation framework for Long-Term Environmental and Socio-ecological Monitoring (LTESM) (Chettri et al., 2015). Such a framework identifies key questions which consider the state of the system, drivers of change, and socioeconomic and ecological impacts and responses that ultimately affect human wellbeing. These questions are supported by indicators, data collection methods, frequency of measurement, and the scales at which to measure them.

The LTESM framework was developed and simultaneously used in transboundary landscape programme for planning and collecting data from a range of ecosystems intertwined at the landscape scale (agriculture, forest, rangeland, and wetland) (ICIMOD, 2015; ICIMOD, 2017). To date, four GLORIA plots (Box 2), ten forest monitoring plots, and three rangeland plots have been established in the Kailash Sacred Landscape (Kotru et al., 2017), with plans for additional long-term monitoring plots in other transboundary landscapes (ICIMOD, 2017). Here, long-term impacts on the respective socio-ecological systems through various drivers of change, including climate change, demographic change, and land use and land cover change, are monitored.

Looking ahead for long-term monitoring

Post data-acquisition processes, including data archiving and sharing, are equally important aspects of long-term monitoring programmes. The Regional Database System (RDS) within ICIMOD provides a platform to store and share data acquired from long-term social-ecological programmes that are implemented in the transboundary landscapes and are openly accessible.

Data from long-term monitoring programmes can be used both in the short and the long term. In the former, monitoring data which presents the status of a social-ecological system can be translated into immediate management actions. Such data can also be projected using geospatial and statistical tools to predict future changes (Uddin et al., 2015). In the long term, the information will be particularly important for feeding into policy designing and decision-making processes (Lovett et al., 2007).

Despite the importance of long-term monitoring (Lovett et al., 2007; Addison et al., 2015), designing, funding, and sustaining such programmes in the long term can be severely challenging (Lovett et al., 2007). Collaborative effort and the support from government agencies, in particular, are key to addressing these challenges (Lovett et al., 2007; Lindenmayer & Likens, 2009). This is important as in the long term, socio-ecological monitoring provides researchers and practitioners an excellent opportunity for conducting interdisciplinary research at scale (e.g. cross-border) that can break down barriers between science and society (Fischer et al., 2015).

BOX 2

MONITORING ALPINE ENVIRONMENTS IN THE HKH

Alpine ecosystems are highly sensitive to climate change (Seddon et al., 2016). Building on this sensitivity, the Global Observation Research Initiative in Alpine environments (GLORIA) was instituted to detect changes in alpine plant community structure in relation to climate change (Grabherr et al., 2000). GLORIA uses a multi-summit or single-mountain strategy to establish permanent monitoring plots on which a standardized protocol is followed to collect plant and soil temperature data. Currently, there are GLORIA sites in 80 mountainous regions of the world (Spehn et al., 2010).

In the HKH, GLORIA sites are located in Bhutan, China, India, and Nepal. Several of them are located in two transboundary landscapes: Kailash Sacred Landscape (in India and Nepal) and Kangchenjunga Landscape (in Bhutan and Nepal). The Kailash Sacred Landscape Conservation and Development Initiative supported the establishment of four GLORIA sites: Api Nampa Conservation Area and Chungsa Valley – Humla, Nepal and Chaudans Valley and Byans Valley – Uttarakhand, India. Elevations of the plots range from 3,950 m to 5,010 m in Nepal, and 3,773 m to 4,266 m in India. A total of 188 and 143 species were reported from the two sites in Nepal, and 119 and 63 species from India.

Long-term analysis of alpine environment monitoring in transboundary landscapes will increase our understanding of the impacts of climate change on such environments in the HKH.

B) INTEGRATED ECOSYSTEM MANAGEMENT

Within each country, ecosystem management needs to involve all people and sectors with a stake in the landscape, including the government, local communities, public institutions, and the private sector. The need for transboundary collaboration further adds to the scale and complexity of the stakeholder matrix.

To ensure a harmonized approach to ecosystem management at the landscape scale, ICIMOD and its regional partners jointly developed a Framework for Integrated Ecosystem Management (FIEM) (Yi et al., 2017). This FIEM was developed with the multiple purposes of building the capacities of partners, guiding field-level integrated ecosystem management activities at scale, and facilitating communication among partners at the local, national, and regional levels for a much more coherent decision-making.

While providing flexibility for adaptive management by the users in a specific context, the FIEM evolved a four-stage management cycle

BOX 3

OPERATIONAL MANUAL ON MANAGEMENT FOR ECOSYSTEM SERVICES

Recognizing that there is a lack of operational guidance for development practitioners, natural resources managers, and conservation professionals to put "managing for ecosystem services" into practice, ICIMOD, in collaboration with the UN Environment World Conservation Monitoring Centre (UNEP-WCMC) and ICIMOD's partners in the region, has developed an operational manual on Management for Ecosystem Services Planning. The manual developed through a bottom-up approach supports the integration of the concepts of ecosystem services, and of ecosystem functioning to supply these services, into rural development, providing a practical and science-based approach.

Using established knowledge on ecology and ecosystem sciences, the manual presents six steps for planning management for ecosystem services:

- Define management area and process
- Identify demand for ecosystem services
- Determine the ecosystem services supply
- Determine the ecosystem functioning for the required services
- Consider ecosystem resilience to drivers of change
- Specify management for ecosystem services

Each step is explained in detail with easy-to-understand language so that the practitioners are guided towards the development of a management plan. This manual enables natural resources managers to go beyond conventional empirical and ad hoc approaches to management, to a more systematic and practical understanding and use of ecosystem functioning to manage multiple ecosystem services (Bubb et al., 2017).

(Figure 6): i) outlining the biophysical and socioeconomic contexts of ecosystems, ii) defining goals and objectives based on a shared vision and identification of impact indicators, iii) designing ecosystem management strategies and plans, and iv) implementing and adapting the ecosystem management plan. These four steps follow a cyclic pattern as indicated in the framework diagram, continuously incorporating learning and feedback to strengthen the management framework.

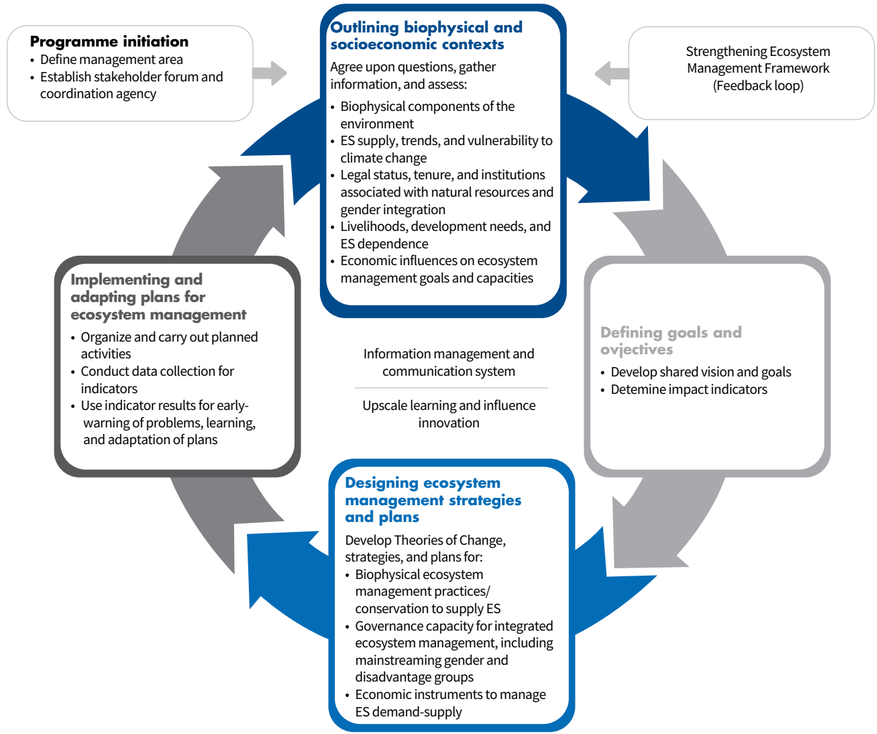
The FIEM highlights management for ecosystem services and emphasizes the principles of multi-stakeholder participation, decentralized management, inter-disciplinary coordination, ecological integrity, adaptive management, and equity and inclusiveness in ecosystem management (Box 3).

The Transboundary Landscape Programme has also developed manuals or guidebooks on Management for Ecosystem Services and Participatory Natural Resources Management Planning (Aryal et al., 2017) and organized trainings to support partners in using the FIEM.

2.4.2 Breaking silos

A major recognizable hurdle to the integration of the social, economic, and environmental dimensions of sustainable development is the prevalence of a "silo" working approach among stakeholders and institutions. Too often, change – from existing processes, systems, work cultures, and mind-sets – is difficult to achieve. While working as a standalone unit may be useful in terms of focus and efficiency, in an increasingly complex and interdependent world, silos represent a flawed business construct. In Chapters 1 and 2 we highlighted the need for inclusion and integration at scale. Breaking silos and helping stakeholders see their contributions to particular goals in an integrated manner is

FIGURE 6 **A SUGGESTED FRAMEWORK FOR ECOSYSTEM MANAGEMENT IN THE HINDU KUSH HIMALAYA**



important. Hence, a 'landscape approach' to working is akin to a collaboration where all participating stakeholders are involved in planning and implementation, among other things.

Breaking silos among participating countries in the HKH meant also bringing a gender perspective to our service delivery and impact level outreach, integrating local people and organizations by identifying the right capacity and support mechanisms that, over the long run, provide a competitive advantage in markets and ensure decision-making and mutual benefits at all levels of production and process stakeholdership. Design and investment in knowledge management and communication also become inevitable as the evidence generated and lessons learnt reach stakeholders through such efforts. Ultimately, this leads to defining decisions on interventions that matter for policy and practice. Similarly, building the capacities of a collaborative set of institutions while keeping the specific needs of a transboundary context in view is important. It is in this context that this sub-chapter elaborates on the fundamentals of transboundary cooperation and capacity building tools.

A) GENDER MAINSTREAMING AND VALUE CHAIN DEVELOPMENT

Gender issues and targets are, however, not limited to SDG 5.[2] They are reflected in other goals – such as those related to poverty, hunger, education and health, water and sanitation, and work.

A gender-responsive approach to integrating and addressing gender issues in all programmes is essential. Discussions in the HKH, including with regard to its transboundary landscape (TBL), are concerned with how to improve the livelihoods of people inclusively while sustaining ecosystem services at the landscape scale in often remotest and harshest areas. A majority of people in the region are engaged in subsistence agriculture. Poor infrastructure and inadequate resource and service institutions (e.g., market) are major issues in this region, leading to high transaction costs and networking failures. Added to this is the feminization of responsibilities, including agriculture, due to youth (mainly male) outmigration in search of better livelihood options, increasing the burden of work for women but not corresponding to decision-making rights. Most of women in the region have only a basic education or are illiterate.

The transboundary landscape programme has identified entrepreneurship building as key entry points for collective rural enterprise enhancement in its pilot sites. While promoting these groups among producers is not a new approach in the region, past interventions have focused on agricultural production, managing and utilizing natural resources, and supporting other women. The TBL programme initiated efforts to help women enhance their market access and entrepreneurial skills, offering better social and economic empowerment opportunities.

Observations in KSL pilot sites have revealed that the engagement of smallholder women in rural enterprises is often either gender blind or gender neutral. Such engagement assumes that men and women will benefit equally from product-based enterprise or simply focuses on forming women-only groups, assuming this will guarantee that benefits are captured by women, without understanding that women face gender-specific as well as more general barriers and constraints in engaging in enterprise. This is in addition to production constraints such as restricted access to land, credit, and inputs. The barriers faced by women include limited mobility outside their villages, restrictive sociocultural norms, limited (or lack of) education and literacy, and time poverty. These barriers are significantly constraining women's access to markets, whether for agriculture or other rural enterprises. Therefore, with the efforts of a multidisciplinary team, KSL attempted to address gender-specific barriers while engaging women in rural enterprise. In this context, collective action institutions such as the Bhumiraj Himalayan Nettle Collection and Processing Centre (KSL-Nepal) enabled smallholder women farmers to overcome these barriers and to increase their engagement in rural enterprise.

Evidence from KSL India shows that collective action presents advantages related to improving the condition of women who are small-scale farmers in rural market systems (Box 4). These include efficiency in the delivery of inputs and training, economies of scale, and increased bargaining power. For many development agencies, including KSLCDI, collective action is a key entry point for rural livelihood interventions for smallholder women farmers. These groups were used as champions and have triggered other groups at scale to be inclusive and proactive to leverage funds and be business oriented in a competitive world.

B) KNOWLEDGE MANAGEMENT AND COMMUNICATION

Evidence-based policy and purposive impact are predicated on generating high-quality knowledge and disseminating it to appropriate audiences at the appropriate time in an appropriate manner. Accomplishing this goal requires a results-oriented, streamlined, and up-to-date internal system that supports and integrates knowledge production and knowledge sharing as

[2] SDG 5 – Achieve gender equality and empower all women and girls – has major implications for economic empowerment. Economic resources as well as technology are among the targets of this goal.

BOX 4

GENDER MAINSTREAMING IN PILOT SITE OF KSL

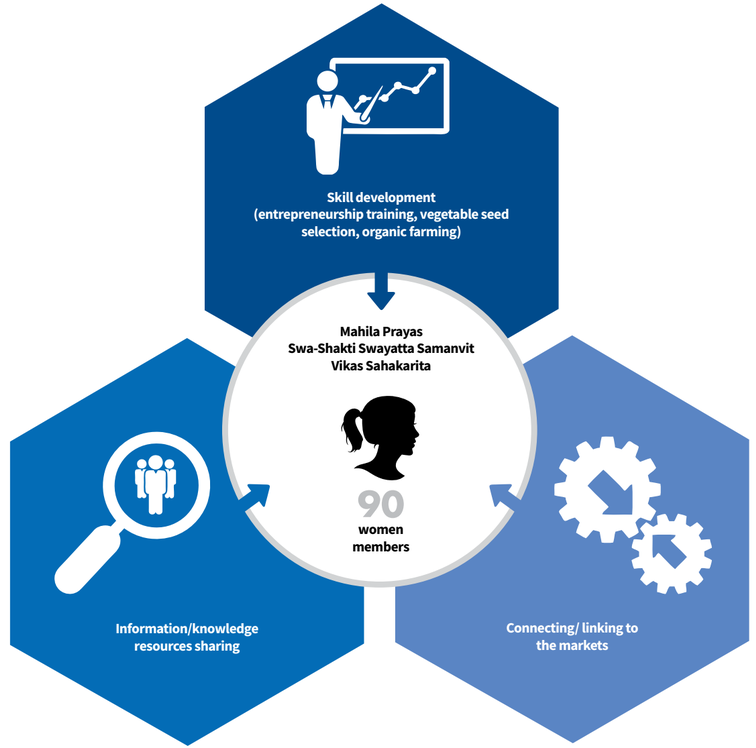
Jajurali village of Pithoragarh district, India, is a Kailash Scared Landscape (KSL) pilot site. In 2005, with the support of Swati, an NGO sponsored by the Indira Mahila Bikash Pariyojana, Government of India, 90 women members from 15 Joint Liability Groups (JLGs) formed a cooperative called Mahila Prayas Swa-Shakti Swayatta Samanvit Vikas Sahakarita (Autonomy of Women Empowerment and Coordinated Development Cooperative). KSLCDI and its partner the Central Himalayan Environment Association (CHEA) adopted the cooperative to strengthen it (Figure 7). Their support included entrepreneurship skill-development training, poly-house construction, vegetable seed distribution, and other inputs and services, including training in organic farming and exposure visits to relevant organizations and initiatives. These services have not only increased the income of women members but have also built their confidence and negotiation skills.

The Government of Uttarakhand has adopted the cooperative, which is currently led by Rekha Bhandari, an entrepreneur from Jajurali village and a role model for other women. The government provides direct support – agricultural tools, poultry units, and cash – to strengthening the spice and diary sectors from its Integrated Livelihood Support Project (ILSP) and agricultural and veterinary departments.

With support from KSLCDI and CHEA, the cooperative has established a collection centre in Jajaurali village to assist the existing market outlet in Pithoragarh district. Group members bring most of their vegetables and dairy products to the collection centre every morning from where they are taken to market outlets in Pithoragarh the same day. Additionally, if there is demand from Pithoragarh or nearby towns for products that are available in the village, group members meet and collectively decide the amount that will be supplied. A few women from poorer households are hired to grade products in the collection centre and are paid INR 1 per kg for the work. The cooperative aims to address social inclusion by giving women from poor households that cannot cultivate vegetables nor afford to keep livestock the chance to work for wages. The cooperative charges each group member INR 0.50 paisa to INR 10.00 per kg depending on their products. This money is deposited in a cooperative fund and used for transportation of the products and for hiring persons for grading.

Vegetable and dairy prices are updated and cooperative members informed of the same by a wholesaler in Pithoragarh. According to group discussions, being a member of this cooperative offers women access to a wider range of services, skills, and sources of information about markets. More importantly, the cooperative addresses women-specific barriers such as household violence (with husband), poverty and constraints in mobility while challenging social norms about women's engagement in markets.

FIGURE 7 LEVERAGING LOCAL INSTITUTIONS FOR COLLECTIVE ACTION



BOX 4A

PRIVATE SECTOR ROLE IN PROMOTING MOUNTAIN VALUE CHAINS

A value chain (VC) approach aligns with transboundary cooperation as it focuses on sectoral development beyond geographical boundaries. Mountain value chain development requires partnerships with multiple stakeholders to link mountain goods and services to national and international markets. Therefore, expertise, network, markets, and investments from the private sector are key for upgrading and scaling up value chains (ValueLink, 2007). Private enterprises bring commercial interest and business principles that help orient the attitudes and mind-sets of local communities towards a sustainable enterprise mode. The TBL programme has adopted a gender sensitive VC approach by systematically ensuring that the dimension of gender equality is integrated to allow women and men to benefit equitably from interventions and improvements in VC performance.

mutually reinforcing processes. This involves coordinating different components of the knowledge production process to align motives and results within the larger institutional vision and mission. However, in a transboundary context, where partner institutions and local communities are culturally, socio-politically, and administratively different, any communication strategy needs a customization that captures each participating country's specific needs and the way governance is delivered.

Hence KMC, as a key component of the public interface, manages external communication and converts process and physical learning into value-added knowledge products accessible to a range of target audiences belonging to different demographics. This activity links knowledge management with knowledge communication, the point at which the outputs of programmes are customized for specific purposes, using different media platforms to reach different constituencies for different purposes, cumulatively enlarging the influence of science and practice among a larger public.

KMC priorities include:

- Contributing knowledge products, including scientific papers and policy briefs, for regional and global coverage to influence policy decisions and behavioural change
- Documenting and communicating impact stories
- Generating more attention for transboundary win-wins in the public domain and international processes
- Engaging sectors, new actors, and wider networks to promote and own the transboundary concept.

Since its inception, KMC for the programme was an integral part of the initiatives vision and work. To that end, KMC aimed to achieve the following objectives:

BOX 4B

CASE OF ALLO VALUE CHAIN

The Himalayan nettle (allo) value chain traditionally involved handloom production by poor, marginal, and women members in the Kailash landscape of western Nepal (Figure 8). The collection, processing, and weaving culminated in local products such as ropes and household items that were sold locally and brought limited income. KSLCDI partnered with the private sector and connected Himalayan nettle producers and weavers, particularly women, with markets to encourage the sustainability of the interventions made in Naugad rural municipality in Darchula district, Nepal. The objective was to strengthen this value chain with a focus on engaging women and men living at the bottom of the economic pyramid in corporate value chains as producers, consumers, and entrepreneurs. The benefits went beyond immediate profits and higher incomes. This connection fostered market linkages locally, nationally, and internationally and enabled branding, well positioning products for the niche market. It also encouraged capacity building across value chain nodes, fostered business knowledge and women's entrepreneurship, and provided financial provisions and buy back guarantees. Partnerships with SAARC Business Association of Home based Workers (SABAH) helped empower over 100 allo group members– Bhumiraj Himalayan Nettle Collection and Processing Centre, who are mostly women, through various capacity building initiatives for finer thread production, stitching, weaving, and knitting. More than 25 women are now running their own enterprise making allo shawls, coats, and bags, which are exported to the USA and Germany. Finer threads fetch around USD 11/kg, while before the intervention, natural bark was sold at USD 1/kg.

Transboundary linkages were delivered through a common branding concept – Kailash–Truly Sacred. The brand focuses on leveraging key elements of the landscape, including its sacredness, cultural richness, and pristine natural state. The three countries came together to launch a common transboundary brand backed by agreed upon standards. Launched by the Prime Minister of Nepal, the brand is jointly owned by private sector partners in India and Nepal. Both the private sector bodies have signed MoUs with each other to promote the brand. The brand hopes to lead to better market prices and resources both nationally and internationally. The Kailash brand promotes handmade and organic products with added value by positioning them in local, regional, and international markets and by promoting them as key souvenir items for tourists who visit the sacred landscape. Today, women are recognized as producers of the Kailash–Truly Sacred brand sold in the SABAH and Revati (KSLCDI private sector partner in India) outlets in Nepal and India respectively. These products focus on high-end niche customers.

This initiative has not only contributed to increased income but also injected confidence, hope, and motivation among local community members. More importantly, promoting women's leadership as local champions has truly contributed to empowering women in the landscape.

- To understand in detail the knowledge and experience relevant to participating countries and partners and share these with them to achieve the initiative's common objectives: i) implementation in the field at scale, ii) inter-country coordination within the initiative, and iii) knowledge exchange with multiple stakeholders (media, donors).
- To understand in detail the communication and knowledge gaps within and amongst country partner institutions.
- To generate systematic knowledge and communication, as well as acceptance of individual responsibilities and regular updates of achievements. To develop an annual list of commitments and revisit knowledge management and communication priorities.
- To strengthen trust amongst participating partners for long-term sustainable cooperation on transboundary knowledge sharing for the betterment of mountain ecology and people.
- To build the capacity of involved partners and beneficiary communities to transform information learning into meaningful and transferable messages.

Treating knowledge management and communication as iterative process, the programme relied on a cycle of information and feedback that helped refocus and revise efforts by parlaying stakeholder response into the creation of new work. This process is highlighted in Figure 9.

FIGURE 8 THE KNOWLEDGE GENERATION AND COMMUNICATION PROCESS

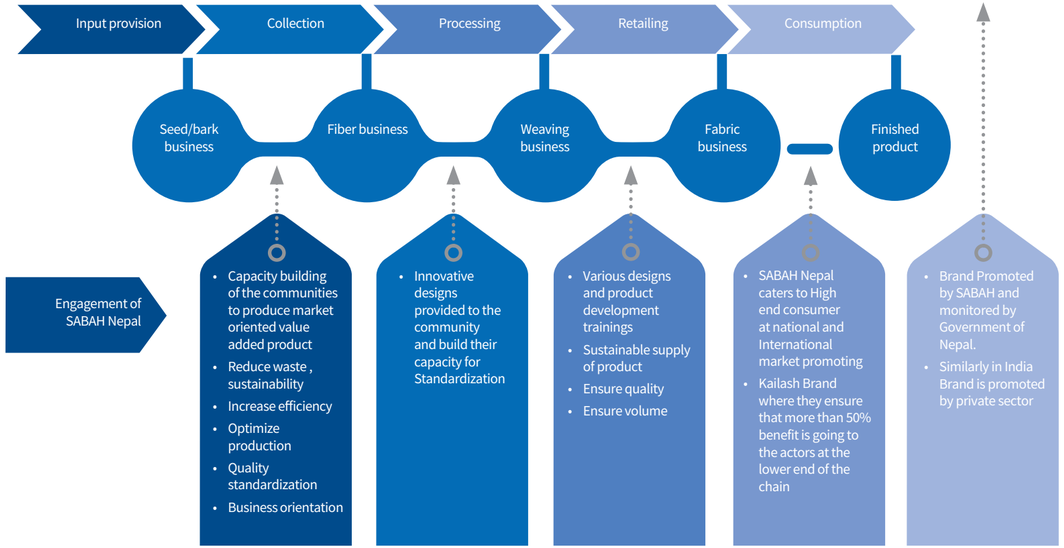
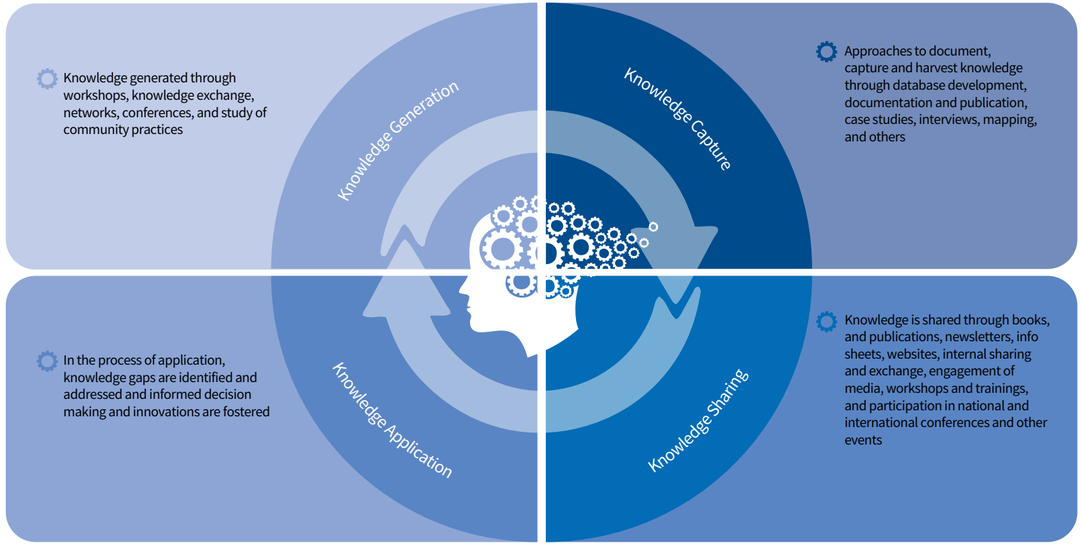


FIGURE 9 THE KNOWLEDGE GENERATION AND COMMUNICATION PROCESS



KMC Products (sample list)

- National knowledge exchange forums and planning workshops
- Communication tools (brochures, flyers, case studies) for lobbying (All initiatives)
- Creative posters about the flora, fauna, and heritage sites of the KL and KSL
- Interactive KSL vegetation map
- Several working papers on value chain development of products from the all initiatives (allo, yak dairy, argeli, trophy hunting, bird watching tourism, and yartsa gunbu)
- Exposure visits for experts and stakeholders
- Brand strategies for KSL products
- Policy briefs (KL and KSL)
- Frameworks, Research Protocols and baseline survey formats

While KSLCDI initiated a long-term communication strategy, all other similar initiatives have mainstreamed a customized communication concept that was built jointly with the implementing and strategic partners so that the cycle of created evidence and learning and its dissemination and adoption is realized.

C) TRANSBOUNDARY GOVERNANCE

In a broader sense, the components of natural resource governance include policies, the institutions formulating and applying these policies, and the use of practices indicative of ecological, economic, and social values of a community. These components are context- and scale-specific. Thus, their understanding and cross-scale stakeholder engagement are vital to developing a mechanism that delivers the aspired outcome, as illustrated in Figure 10.

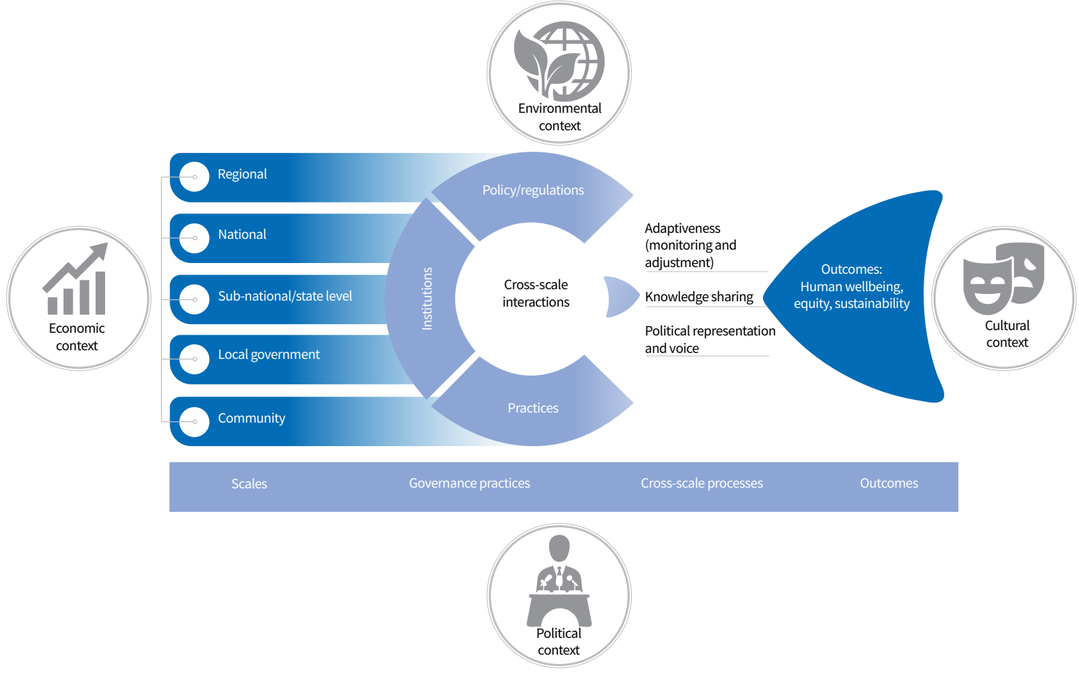
In landscape management, natural resource governance entails institutions, multiple ecosystems and practices, varied land uses, and finally, diverse stakeholder interests. Adding transboundary requirements increases the complexity of natural resource governance as issues of national sovereignty and countries' strategies for national conservation and development are often not aligned. Despite the complexity, there is a need to foster transboundary governance. First, because the implications of environmental problems and the impacts of climate change extend beyond administrative jurisdictions. Second, transboundary cooperation is inevitable for addressing the imperative issues of landscape, such as illegal wildlife trafficking and cross-border movement of flagship species (Ahern & Cole, 2012; Kark et al., 2015). Third, all the countries in the region have committed to global conservation agenda and targets such as the CBD and SDGs, and have prepared actions plans such as their respective National Biodiversity Strategies and Action Plans (NBSAs). Transboundary cooperation is essential for achieving the targets of these conventions and action plans at scale. Both, the 4th IPBES Report (IPBES, 2018) and the HIMAP Report (Wester et al., 2019) based on biodiversity and climate assessments recommend regional scale cooperation to counter biodiversity degradation and climate related vulnerabilities.

Recognizing the significance of transboundary cooperation, affected countries are attempting the use of different governance mechanisms for natural resources management. For instance, globally, the number of transboundary conservation and protected areas has increased (Lysenko et al., 2007). Similarly, regional intergovernmental organizations such as the Southern African Development Community (SADC) or conventions (Alpine, Carpathian) are engaged in improving and implementing policies for natural resources management and environmental protection at regional scale.

Transboundary landscape (TBL) initiatives have adopted a participatory approach, engaging inter-country stakeholders at different levels to design, implement, and monitor the outcomes of interventions. The initiatives have supported the preparation ANCA biodiversity profile and implementation of the management plans of local institutions such as the Api Nampa Conservation Area (ANCA) Management Council and strengthened their institutional capacity through cross-country exposure visits and training.

Considering the challenges transhumance herders in the landscapes face, the initiatives have made efforts to reduce their drudgery by initiating dialogues between conflicting parties and designing institutional mechanisms for sharing fodder resources in the Kailash landscape. Sharing knowledge amongst stakeholders across sectors and at different national and regional levels has been an effective entry point for initiating transboundary collaboration in the region. Researchers from three countries of the KSL collaborated to produce

FIGURE 10 **CONCEPTUAL FRAMEWORK OF TRANSBOUNDARY GOVERNANCE**



Source: Ojha et al., in Wester et al., (2019)

a harmonized vegetation classification scheme and vegetation map for the landscape. These jointly-produced knowledge products have opened avenues to collaborate further by putting research into practice to achieve common management objectives.

TBL initiatives have provided platforms, such as the landscape journey workshops, exchange/exposure visits, and bilateral meetings for local communities, researchers, policy makers, and other stakeholders at different national and regional levels to share experiences and lessons learnt. These platforms have facilitated the strengthening of existing governance mechanisms (such as meetings between government officials of bordering countries) and helped forge new ones. TBL initiatives have organized the Askot-ANCA border meetings in KSL India and Nepal (refer to section 3.4, Box 5), the Zero festival[3] bringing a common cross-border festival between Pakistan and China to the fore, and Sino-Nepal meetings to foster communication and collaboration between stakeholders from different countries at different levels. Unlike regular border meetings, non-governmental stakeholders and government officials from numerous agencies have attended these programmes. These have been conducive to increasing understanding of common issues and concerns related to tourism opportunities and developing and reinforcing control measures to curb illegal wildlife trade (refer to section 3.4, Box 5). Partners from protected areas in four countries along the ancient Silk Route – Afghanistan, China, Pakistan, and Tajikistan with international conservation agencies have formed the 'Bam-e-Dunya'[4] network and signed a joint declaration with the aim to promote long-term conservation and sustainable mountain development in the Hindu Kush Karakoram Pamir Landscape (HKPL). Lastly, the first ever Landscape Journey to understand human-wildlife interface in KL (2018) has brought forward several management issues that can be addressed if natural resource governance across Bhutan-India-Nepal could be interfaced by common management objectives.

Trust building is essential to ensuring effective functioning of any governance mechanism. Transboundary cooperation for capacity building helps build trust amongst cross-border stakeholders. Cross-boundary exchange visits between stakeholders in China and Pakistan have made them aware of local best practices and the need for harmonizing transboundary-related policies. In KSLCDI, exchange visits of Chinese and Nepali officials to India have provided a learning platform for understanding access to genetic resources and benefit sharing. The exchange learning visit was helpful in ratifying the Nagoya Protocol and the drafting of the Access and Benefit Bill of Nepal. Similarly, the exchange of best practices on sustainable Yartsa gunbu (*Ophiocordyceps sinensis*) management in Bhutan led to the formulation of national-level guidelines in Nepal and generated keen interest in Pithoragarh, India. Further, mentorship programmes for country partners in Germany and other Alpine countries enhanced understanding of the opportunities and challenge presented by transboundary cooperation, helping inter-country institutions to grow together and own the idea. Similarly, forging of a transboundary Yak Network in KL, could be mentored to effect local development authorities taking ownership of such a concept (e.g. by hosting and financing fairs and exhibitions).

Transboundary cooperation is essential for dealing with climatic and non-climatic challenges in the HKH as highlighted in Wester et

[3] Zero point is festival organized to express culture, products and community potential at Khunjerab top China Pakistan border with the engagement of respective governments and communities. Please refer for more information http://www.icimod.org/?q=1985

[4] Bam-e-Dunya is a learning network consisting of protected areas from China, Pakistan, Tajikistan and Afghanistan to harmonize and strengthen integrated landscape management for long-term conservation and sustainable mountain development. Please refer for more information: http://www.icimod.org/?q=32750

BOX 5

BUILDING CAPACITIES IN LANDSCAPE GOVERNANCE: A CASE STUDY

The HKH is bio culturally rich. Linkages in this landscape are as old as its historic silk, spice and salt trade routes. However, in the last few decades, transboundary links between people and places have dwindled as borders have closed up due to geopolitical reasons. As a consequence, practices such as pastoralism – a mode of natural resource use that depends on mobility across space and periodical time, making optimal use of resources a landscape with harsh geo-climatic conditions and limited biomass – have suffered. All along the Himalaya, many groups that were previously involved in a complex cross-border network of social, cultural, and economic relations have, in the past few decades, witnessed a decline in cross-border networks and cultural linkages (Pandey et al., 2017).

Why landscape governance:

- To address multiple objectives simultaneously and build bridges between institutions to integrate different policy fields
- To build stakeholder coalitions and networks beyond administrative and jurisdiction boundaries
- To develop core capacities for landscape planners, policy makers, and academia
- To ensure that the landscape governance capacities framework is applied in the HKH region

This capacity development process is based on the belief that transboundary social networks are at the core of the ICIMOD programmes being implemented in its regional member countries (Afghanistan, Pakistan, China, India, Nepal, Bhutan, and Myanmar) in a cross-sectoral and participatory manner.

Building landscape governance core capacities:

- Development of a learning trajectory on landscape governance

STEP 1: INTRODUCTORY WORKSHOP ON LANDSCAPE GOVERNANCE

Participants:

- Professionals working on transboundary issues
- Planners, policy makers, practitioners and scientists

Outcome: Core capacities that professionals need to facilitate landscape governance on the ground were identified, forming the basis of a capacity development framework and setting the stage to reinvigorate work on landscape governance

STEP 2: VALIDATE AND ADJUST THE LANDSCAPE GOVERNANCE FRAMEWORK

Participants:

- Professionals, planners, policy makers, practitioners, and scientists

Outcome: Wider range of landscape professionals validated the framework, and suggested future steps to build a tailor-made landscape governance curriculum for the region

STEP 3: Design curriculum and conduct Training of Trainers in given Landscape (Bhutan)

Participants:

- Professionals, planners, policy makers, practitioners, and scientists

Outcome: Trained future generation conservation and development and environmental leaders, practitioners, and academics through the Ugyen Wangchuk Institute for Conservation and Environment (UWICE), Bhutan's premier institute contributing to and mainstreaming science and knowledge into environmental policy and decision making.

The framework is not a blueprint or a recipe, it is rather a guide for landscape facilitators

The framework needs to be further developed, tested, and validated in practice

The framework has helped landscape professionals to get grip on the concept of landscape governance, and identify the core capacities that are needed to make it work

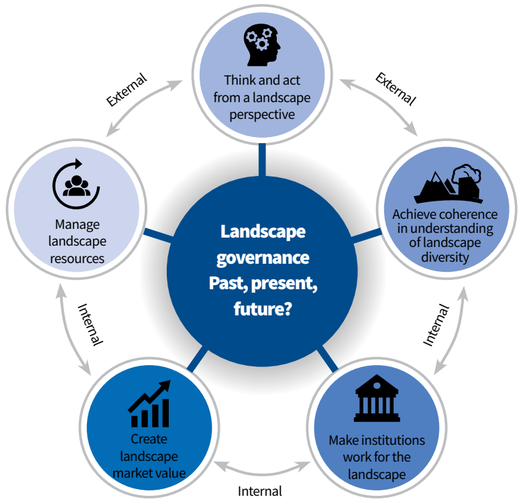
The framework has enabled landscape facilitators to assess the qualities of landscape governance in their own landscape and to be capable of enhancing and improving landscape governance on the ground

The framework has formed the foundation of a professional landscape governance curriculum, to train a new generation of landscape professionals who are able to think and act in an inter-sectoral and participatory manner.

al., (2019). Considering these issues and the concerns of participating countries, governance mechanisms necessary for building transboundary cooperation in natural resources management will vary. The future of transboundary governance depends upon innovative institutional arrangements and platforms to facilitate intergovernmental dialogues for agreeing on common policy and management objectives. Such institutional arrangements could be also strengthened by working with existing governmental and non-governmental mechanisms at bilateral as well as multilateral levels (such as border districts). These agencies need to coordinate to develop and implement national- and local-level action plans, keeping in mind common transborder issues and linking them to common policy and management objectives.

The Landscape Governance Capacities Framework, as developed by ICIMOD and the Wageningen Centre for Development Innovation, is based on the "capability approach" of Amartya Sen (1999), which claims that a person's capability to live a good life depends on a set of valuable "beings and doings" referred to as capabilities, while "development" is understood as an expansion of these capabilities. Building on this, Baser & Morgan (2008) developed the Five Capabilities Framework (Figure 11), which claims that it is "the emergent combination of individual competencies, collective capabilities, assets, and relationships that enables a complex system to create value". Assuming that a landscape can be considered a complex system, the Five Capabilities Framework was considered appropriate, if combined with the frequently quoted Ten Principles of an Adaptive Landscape Approach, which is a set of design principles that guide landscape-level decision-making processes in an inclusive, democratic, and transparent way (Sayer et al., 2013). Additionally, the most recent frameworks have been used for measuring governance capacities (Termeer et al., 2015; Dang et al., 2016).

FIGURE 11 **FIVE MODULES FOR BUILDING LANDSCAPE GOVERNANCE CAPACITIES**



Feedback

Bhutan UWIEC – Mainstreaming a Landscape Governance Curriculum and Framework would help Bhutan as a nation to embrace greater inclusiveness in the development of its 12th Five Year Plan by engaging all stakeholders to ensure that each of them can identify with and see the plan as a National Development Plan and not a government plan (GNHC, 2017).

LEAD India Landscape Governance Training in Ladakh: Rigzin Chorol (Ladakh, India)- This was a new concept for me. But I know I understand how important it can be for the work I do in Ladakh. The concept has opened me to new possibilities even in undertaking the community conservation work I do. This session was certainly one of the highlights

Susan Mathew – Cuts International: Overall, the sessions on Landscape Governance featured many interactive exercises with activities like making landscape maps, playing out negotiation scenarios, and indulging in critical thinking scenarios pertaining to one's own expertise. One particular action that is worth noting is the trainer made us 'check in' and 'check out' at the start and end of the training programme. As the day progressed, I realized that if we are talking about transboundary negotiations, the first step is to be positive and accepting of the various stakeholders in a landscape in order to enable appropriate governance.

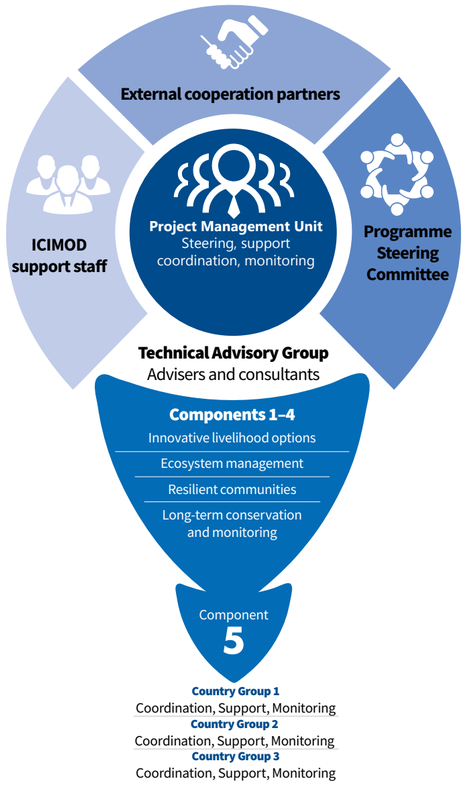
D) STEERING PROGRAMMES AND MANAGING PARTNERSHIPS

Programme management and steering strategy

The transformation of a programme idea from inception to implementation is a complex process that demands careful and inclusive planning. An overarching programme management strategy under a larger results framework with clear roles and responsibilities was required to simplify the complex process and successfully execute a transboundary programme. In addition, a programme implementation strategy should be developed along with a regular monitoring and evaluation system in place.

The management and steering of a transboundary programme brings additional complexity with the engagement of two or more participating countries (Figure 12). Differences in the sectoral, geopolitical, economic, political, and cultural spheres of participating countries result in varied interests. Moreover,

FIGURE 12 **ORGANIZATIONAL CHART**



these differences, often manifested in different understandings, motivations, and capacities among partnering institutes, lead to variations in the pace of implementation. To overcome such challenges, the programme needs to be steered towards investment in resources and time to increase the capacities of stakeholders. Within the same framework, developing institutional champions, who are often strongly connected with the programme, paves the way for successful uptake of a programme.

Programme management with respect to transboundary landscape work is different compared to other programmes as political uncertainties, geopolitical scenarios, and differentials toward national and global commitments demand process-flexibility and quick responses to day-to-day challenges. Often, political support for programme execution depends on national policies and development strategies that can sometimes change on short notice. Hence, transboundary concepts are challenging to work within border regions and quick adjustments in programme delivery are necessary.

To ensure smooth programme steering, institutional partnerships are integral to improving cooperation among regional member countries. The common objective of sustainable and inclusive ecosystem management in identified landscapes – to ensure enhanced and equitable livelihood benefits and contribution to global conservation agenda – provide ready avenues for cooperation. To achieve this, programme management needs to adopt a results-based management modality. Needless to say, monitoring and evaluation is an ongoing and rigorous process that is part of the management strategy. A dedicated unit is needed to steer programme implementation against set targets and operational plans.

Skilled and experienced human resources and a dynamic team are pivotal to any programme's success. The management team need to have good content knowledge and must be able to consistently oversee the time-bound programme management cycle. Content experts who observe the quality of achieved set targets and steer the technical content of the programme are also vital to programme management. An additional task is that of financial management that must address the programme supporters "due diligence" and contractual obligations. The latter often can be a challenge as implementation on the ground can have several disabling conditions as well (e.g. no scope of auditing community institutions, incomplete event records and inadequate quality of information).

For any programme, robust but collective planning is key to achieving desired results. Partners need to develop and endorse coherent long- and medium-term action plans. Based on these, annual targets are developed, implemented, and course-corrected.

Any strategy adopted needs to allow for necessary adjustments to be made based on unforeseen challenges that emerge during programme implementation. For example, a flood-related disaster that occurred in KSL Nepal (Darchula) in 2013 reduced accessibility in the Tibet Autonomous Region of China and part of Nepal for several weeks. Similarly, the massive earthquake in Nepal in 2015 challenged the programme management while humanitarian and restorative work had the priority despite not on the programme agenda.

Three key lessons from managing and steering the transboundary landscape programme at ICIMOD

Participating countries should develop specific action plans under a harmonized monitoring and evaluation framework.

- Intensive engagement with partners in pilots is key to complementing local capacities and understanding and hence crucial for generating strong momentum for implementation. Risk and mitigation strategies need to be designed with partners and carefully calibrated
- Transparent two-way communication builds trust among partners and generates scope for flexibility that leads to resilience of the programme
- Smart and timely communication increases programme outreach and its efficiency

2.4.3 Partnership engagement strategy

A partnership that follows the planning process and management tasks as underlined in the preceding chapter, is the basis for achieving common objectives and targets. It is unbundled as an ongoing working relationship to achieve long term set goals where risks and benefits have to be shared. Given the multifaceted nature of environment management and conservation in today's age, the competency of an individual or individual institution alone is not enough to ensure successful outcome. Purely conservation programmes in landscapes can be affected by the conflicting demands of conservation and development regularly. Such a scenario demands the mapping of existing expertise and institutional spheres of influence. A successful transboundary programme is incomplete without a network of multi-layered partnerships. Working in isolation is impossible.

A strong partnership strategy is crucial as a follow up to a robust programme management strategy. The modality of engagement could be summed up by viewing collaborative and transactional partnerships in relation to each other. Collaborative efforts demand time and require greater engagement among partners. On the other hand, transactional partnerships are need-based and are often established for short durations. In alignment with ICIMOD's Partnership Strategy, transboundary landscapes initiatives selected and forged a long term partnership with several of such country

partners keeping country specific political and governance systems in view.

However, the success of a programme lies in meaningful and accountable partner engagement, which should begin with the inception of programme ideas. Potential partners who meet programme demands and have adequate capacities and institutional standards in place are often the first to be brought on board. The project modality is augmented to fit ideas that match the long-term goal of the programme, allowing for greater ownership among partner organizations. The fundamental principle of partnership accounts for the necessity of transparency, mutual respect, and trust. Due diligence is needed to ensure that the right partners – in terms of both technical and financial aspects – are brought on board. Additionally, each partner is involved in co-creating purpose and activities, contributing different resources, and committing to shared accountability. A partnership engagement cycle typically spans: i) scoping and building, ii) managing and maintaining, iii) reviewing and revising, and iv) sustaining outcomes.

A participatory approach to engagement is proven to be most rewarding in each phase of implementing a transboundary concept (see section 2.3) as it builds relationships and commitments towards the agreed upon cause. Despite sharing many common features, no two partnerships are alike. A good partnership is one that allows for what needs to be done, fits the purpose given the context, and adds value to a project.

The essence of partnership engagement lies in handling the balance of power – equity must always supersede power. Hidden interests that usually never surface in the beginning of partnerships often lead to challenges later. To counter this, bringing all hidden interests to the discussion table at the very start helps ensure transparency and is usually a good principle that is also effective. Partnerships go a long way in turning competing demands into mutual benefits.

Common drivers for partnering that can apply to all sectors include:

- Access to more resources
- Ability to secure greater reach/scale and impact
- Willingness to ensure greater legitimacy
- Willingness to build reputation
- Commitment to sharing risks and gaining opportunities
- Ability to adhere to increasing expectations of transparency and accountability worldwide

Key lessons

1. Conceptual clarity regarding expectations from partnerships is necessary
2. The right person should be engaged in the right place at the right time to ensure the effectiveness of a programme delivery
3. Openness is essential from the start
4. Once hidden interests surface, they can be turned into mutual benefits
5. Important to be flexible and empathetic, and always find options to accommodate unforeseen challenges
6. Active listening is needed to find timely resolutions to brewing issues and conflicts
7. (Re)focus on long-term gains and set mutually agreed goals than individual goals

2.4.4 Tools and methods

A) REGIONAL DATABASE AND INFORMATION SYSTEMS PROMOTE BETTER COOPERATION

Partnerships as elaborated above (section 2.4.3) are also akin to creating collaborative workspaces that ensure better sharing of ideas, datasets, and frameworks among not only networks of partners but also a wider audience. They form a crucial component in transboundary cooperation by providing users a chance to collaborate effectively for research that potentially targets policy decisions (Reichman et al., 2011). Various web-based platforms have been developed during the last decade that support open access data and information free of cost, and allow users to reach out to a wider network of researchers and/or practitioners with their ideas, findings, and solutions.

Some key global databases related to ecology and biodiversity at the scale of landscapes are:

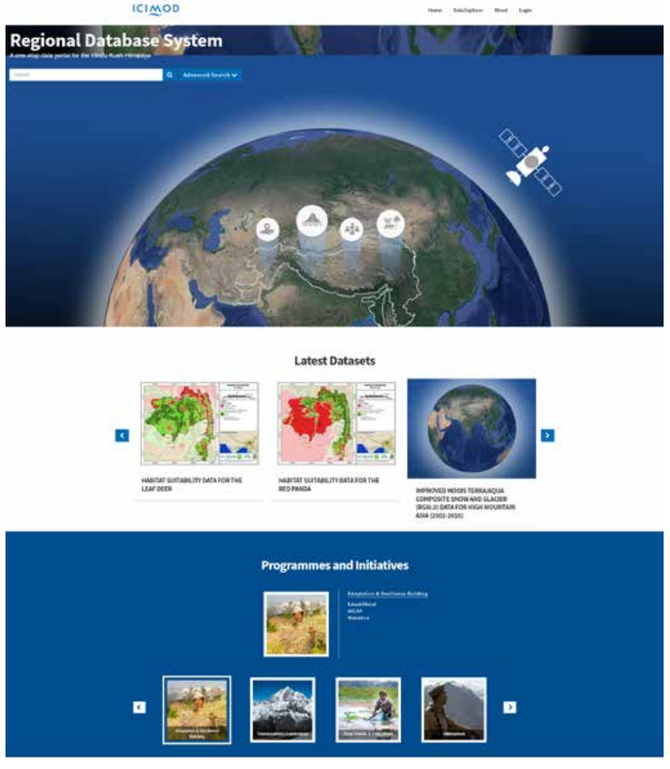
- The Global biodiversity Information Facility (GBIF, http://www.gbif.org/) is one of the leading databases, allowing anyone, anywhere to access data about all types of life on Earth
- Intermittent River Biodiversity Analysis and Synthesis (IRBAS, http://irbas.cesab.org/irbas) is an online database that collates, analyzes, and synthesizes data on the biodiversity and ecology of intermittent rivers worldwide
- Projecting Responses of Ecological Diversity In Changing Terrestrial Systems (PREDICTS) database (http://www.predicts.org.uk) provides data describing drivers of anthropogenic pressure
- Biodiversity responses to habitat degradation & fragmentation (BIOFRAG) is another such global database (http://biofrag.wordpress.com/) for analysing biodiversity responses to forest fragmentation.

Regional platforms are equally important as they allow researchers within a region to share their data through avenues that are better known among peers within the same region. The Regional Database System (RDS) hosted by ICIMOD is one such regional database in the HKH (Figure 13). It ensures the integrated management of centre-wide data and information incorporating geospatial, socioeconomic, and multi-thematic data at different levels. The aim is to forge partnerships with a range of institutions and with other ICIMOD Regional Programmes and Initiatives for the development and operationalization of information systems; promote common approaches and methodologies for the generation, management, and dissemination of data on different thematic areas; and develop institution-wide policies and operational guidelines for the facilitation and promotion of data sharing in consultation with national institutions and stakeholders.

Currently, RDS hosts a wide range of datasets generated by different programmes at ICIMOD, which include ecology, biodiversity, forests, river basins, snow and glaciers, disasters, and socioeconomic aspects. This includes datasets from all initiatives working under the Transboundary Landscapes programme (http://rds.icimod.org/).

For instance, the Kangchenjunga Landscape Conservation and Development Initiative (KLCDI) has documented and shared a lot of data through RDS for regional dissemination. Biodiversity data from the Kangchenjunga landscape that is shared through RDS includes 5,181 species of angiosperm, 23 species of gymnosperm, 42 species of rhododendron, 732 species of non-timber forest products (NTFPs), 190 species of mammals, 194 species of fish, 121 species of reptiles, 52 species of amphibian, 304 species of butterfly, 586 species of bird, and 17 species of invasive alien plants. Among these, 71 species recorded are threatened. Similarly, many maps of the Kangchenjunga landscape – including maps of location and boundary, proposed corridors and protected areas, ecoregions, elevations, slope, land use

FIGURE 13 ICIMOD'S REGIONAL DATABASE SYSTEM



and land cover, forest fire incident locations and important bird areas – are also shared through RDS.

Various datasets from transboundary landscapes within the HKH region are available for free download through RDS and have been used by students, researchers, decision makers, and policy makers, mostly but not only from within the region.

2.4.5 Process tools

A) REGIONAL AND NATIONAL CONSULTATIONS

With agreed set of partners and targeted data and information requirements as shown above it is a good basis to bring inter-country partners to a discourse and delivery on sustainable outcomes at landscape scale. Hence, regional consultations are processes where all countries engaged in a transboundary landscape initiative meet and share national interests and updates, and discuss regional content and courses of action. Regional consultations are jointly organized by all countries involved but ideally needs to be anchored by certain regional institutions. For transboundary landscapes in the HKH region, the anchoring regional institution is ICIMOD. Outcomes of the regional consultations reflect upon regional understanding and regional directions but still based on national interests. Nodal institutions from each country are responsible for sharing the outputs of regional consultation with other national partners.

National consultations are designed to enable engagement with a wide range of national partners, including local-level stakeholders. These are led by nodal institutions and can be jointly organized by one or many national institutions. Again, the nodal institutions are responsible for sharing outputs with regional-level partners. National consultations play an important role in connecting mandates and the works of different institutions for outcomes at the landscape level.

A major step to building basis for wilful consultation amongst diverse set of stakeholders is getting to common understanding and ownership of the applied process. In this context, the Landscape Journey is a participatory process tool that brings together multi-disciplinary and inter-sectoral team(s) from a given landscape to develop holistic appreciation and understanding of landscape elements, the multiple stakeholders involved at different scales, and their mutual interactions in shaping it. It is meant to build connections and convergence among actors at different scales to develop shared understanding, visions, and actions.

It is a process that facilitates connectedness through:

- Landscape elements (nature, people, culture, economy, traditions)
- Sectoral perspectives (forests, water, agriculture, livestock)
- Different disciplines (social, physical and biological sciences)
- Science–practice–policy

The Landscape Journey draws upon a range of participatory tools and methods including stakeholder mapping, resource mapping,

This Initiative promotes collaboration with national, regional, and global partners for product development and dissemination using emerging technologies with the following objectives:

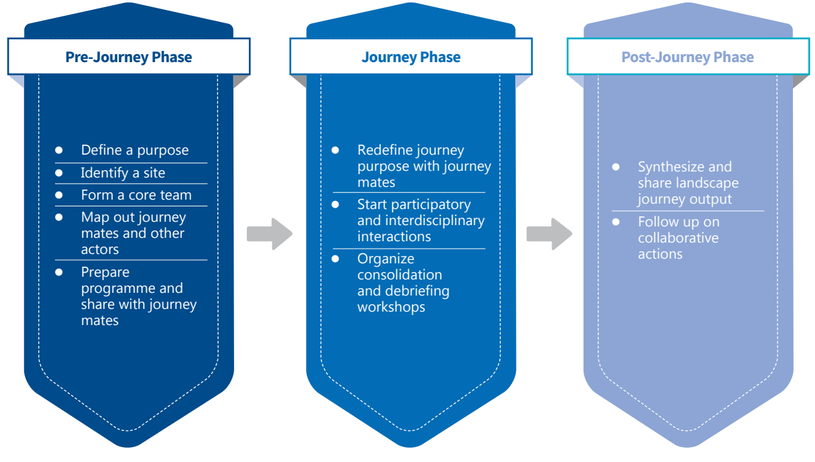
- Synergize coordinated development and consolidate regional cooperation on data and information sharing
- Develop an integrated information management framework to maintain database standards, format, and quality
- Design and develop information systems for enhanced access and usability of regional databases
- Develop operational information services including metadata services, multi-senso

transect walks, ethnography, team meetings/reflections, partnerships brokering, and stakeholder dialogues etc. at different scales. In term of organization, a Landscape Journey can be divided into three phases: pre-journey, journey and post-journey. Each phase may have varying time frames depending on the purpose.

The Landcape Journey fits well with the principles of a landscape approach (Sayer et al., 2008). Both include multi-stakeholder engagement at multiple scales for developing a shared understanding and vision rooted in the shared common perspective of diverse stakeholders valuing a set of ecosystem services and managing associated trade-offs. The clarification of rights and responsibilities, improved capacity of stakeholders, and continual learning and adaptive management are other elements that lend the Landscape Journey usefulness as a process tool for integrated landscape planning and management as well as implementation and monitoring.

Simplified steps to facilitate a Landscape Journey are illustrated in Figure 14.

FIGURE 14 **SIMPLIFIED STEPS OF LANDSCAPE JOURNEY**



Recent landscape Journeys undertaken by the ICIMOD team and its partners have contributed to:

- Better understanding of the interface and transitions of systems (natural, cultural, economic, political)
- Shared understanding of key transboundary issues
- Prioritizing entry level activities for facilitating wider stakeholder/ social engagement
- Assessing of successful interventions and locally adapted technologies and their potential replication in other parts of the landscape
- Identifying opportunities for building synergy with the local governance system and convergence with ongoing programmes and schemes
- Bringing greater connectedness/access among senior government officials and communities and practitioners, thus building relationships and trust, and ensuring commitment to positive change
- Setting up multi-stakeholders platform for synergy and joint future actions.

While the landscape journey calls for multidisciplinary understanding and joint actions, practical reinforcement needs good planning for synergizing efforts at different scales and levels of interventions through a range of collaborative partnerships. This calls for good planning in the pre-journey phase and stronger post journey follow up action.

B) BRIDGING BOUNDARIES

The ultimate test and evidence of a cross-border cooperation is very much rooted to the ground between people and their cultures. One such piece of evidence on "Bridging Boundaries" is reflected in Transboundary fairs that aim to create cooperation networks both at the local and regional levels by providing a platform for open trade and cultural exchange on both sides of a country's border. Historically, annual cross-border festivals were promoted in different parts of the HKH in the form of dance and music, food, exchange of local agricultural products, handicrafts, traditional rites, and rituals. These events, not only provide opportunities for cultural exchange, but also provide a platform for people to people connect, extend social relationships, and create a sense of kinship among people from across borders. Furthermore, such fairs also provide an opportunity for local entrepreneurs that operate at cross-border areas to expand their business.

However, conducting such events in cross border regions presents many challenges. Security is a major concerns and the HKH region lacks coordination to jointly promote, reinforce, and further develop such local fairs even if countries may have a good bilateral relationship (e.g. China-Pakistan or India-Bhutan). Additionally, the demarcation of international borders restricts free movement and trade.

Transboundary fairs provide an opportunity to enhance cooperation in the cross-border region and further promote tourism by using these events as key tourist attractions. Collaboration and cooperation are crucial elements for successfully conducting such events in cross border areas. ICIMOD's transboundary landscape programmes have been instrumental in creating an enabling policy environment, and coordinating and facilitating events to promote traditional forms of cross-border activities such as joint marketing of agricultural products, cultural exchange programmes, and promoting rural tourism (Box 6).

BOX 6:

CROSS-BORDER ACTIVITIES WITHIN TRANSBOUNDARY LANDSCAPE INITIATIVES

Promoting cultural and economic exchange

The HKPL facilitated the Khunjerab Pamir Cultural Festival in 2015. The event was organized for the first time at an altitude of 4,693 masl in Khunjerab Pass, at the border town of Sost, Gojal in Hunza, Gilgit-Baltistan. Initially, the main challenge was to bring stakeholders together, including government officials from China and Pakistan, to discuss a common platform for organizing the event. The festival not only brought together the two governments in collaboration, including high-level officials, but also engaged people of the transboundary area in cultural exchange while showcasing indigenous products. The festival was able to raise awareness about diverse and endangered mountain cultures while fostering economic ties between China's Xinjiang province and Pakistan's Hunza district. Both these regions share historical cultural and economic ties, dating back to the time of the ancient Silk Route. The festival aimed to revitalize and strengthen those ties. Large numbers of participants from both sides of the border came to witness the festival. The event was successful and taken up by the regional government as a regular annual calendar event.

Cross-border trading of regional and local products

KSLCDI has been supporting partner organizations, local entrepreneurs and farmers every year since 2014 to participate in existing fairs (mela) within the border area showcasing local products – handicrafts and food items – produced in the landscape by local people. One such event is the Jeoljibi Mela, which occurs in India at the confluence of the Mahakali and Gori rivers during the third week of November. This mela has historically drawn merchants and traders from India, Nepal, and the Tibet Autonomous Region, China. A similar fair, the Gokuleshwor Mela, is organized during the third week of February in Nepal. These are important events for promoting local products in the cross-border area with positive effects on the local economy.

Promoting sustainable tourism in cross-border areas

KLCDI co-sponsored a cross-border event in Bahundangi, Jhapa, Nepal for the implementation of various activities, including community-based tourism as an option for improving local livelihoods. The programme was organized by the Asian Tourism Society in collaboration with the Asian Rural Tourism Festival Committee and Elephant Resort, Bahundangi. This transboundary event was successful in strengthening the relationship between India and Nepal, and also in encouraging between people residing very close to each other to exchange their cultures and traditions while contributing to the local economy through tourism.

Here we bring some details on why border meetings and events are potential ways for strengthening existing cross-border institutional mechanisms and why we did cross-border events: We used Festivals, Human-wildlife issues, Yartsa gunbu, Tourism etc. as entry point cases (See Box 6).

Lessons learnt from cross-border interfaces

- To build confidence among participating countries and people during such festivals, efforts such as opening borders to all for one day could be encouraged
- To address problems such as natural calamities, disease outbreak, climate change, crop failure, and overharvesting of medicinal plants, closeness and togetherness among adjacent dwelling communities can be fostered
- To approach policy makers and show programme awareness, progress and success, such festivals can be promoted as platforms
- Festivals provide easy ways to attract the mass media to highlight a given area and its importance in the national and as well as in the international media
- Festivals present a good opportunity to monitor programme performance since people can tell organizers informally about their programme's progress

C) SOUTH-SOUTH COOPERATION AND LEARNING PLATFORM IN REDD+

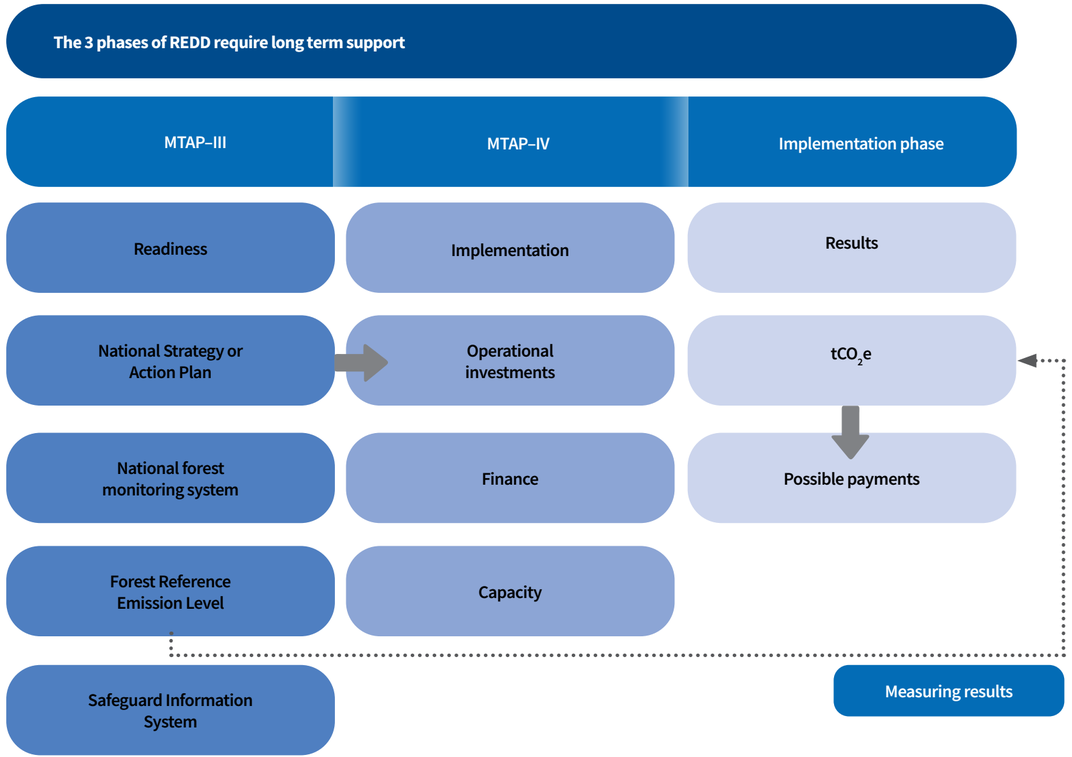
While conservation and development activities of four transboundary landscapes (HI-LIFE, HKPL, KL and KSL) are bringing participating countries together in science, practice and policy, REDD+ initiative fosters a South-South cooperation output which enables countries to mutually learn and benefit from each other given their similar geographical conditions, bottlenecks, and opportunities for development. It is emerging as a powerful regional cooperation tool to complement above initiative's package of actions making landscapes and their development more holistic (Figure 15).

It is defined as a broader framework for collaboration among countries of the South in the political, economic, social, cultural, environmental, and technical domains. Involving two or more developing countries, it can take place on a bilateral, regional, sub-regional, or interregional basis. Its purpose is also for developing countries to share knowledge, skills, expertise, and resources to meet their development goals through concerted efforts.

The United Nations Office for South-South Cooperation sets forth the following objectives, among others, as primary for this cooperation (UNDP, 2017:

- Foster the self-reliance of developing countries by enhancing their creative capacity to find solutions to their development problems in keeping with their own aspirations, values, and special needs
- Promote and strengthen collective self-reliance among developing countries through the exchange of experiences; the pooling, sharing, and use of their technical and other resources; and the development of their complementary capacities
- Strengthen the capacity of developing countries to identify and analyse together their main development issues and formulate the requisite strategies to address them
- Increase the quantity and enhance the quality of international development cooperation through the pooling of capacities to improve the effectiveness of the resources devoted to such cooperation
- Create and strengthen existing technological capacities in developing countries in order to improve the effectiveness with which such capacities are used and to improve the capacity of developing countries to absorb and adapt technology and skills to meet their specific developmental needs

FIGURE 15 REDD+ HIMALAYA PACKAGE OF ACTIONS



- Increase and improve communications among developing countries leading to a greater awareness of common problems and wider access to available knowledge and experience, as well as the creation of new knowledge in tackling development problems
- Recognize and respond to the problems and requirements of least developed countries, land-locked developing countries, small island developing states, and countries most seriously affected by, for example, natural disasters and other crises.

Given the advantage of the above platform to bring researchers and policy related stakeholders together it was used to further evolve the understanding of "landscape approach' and the opportunities it provides to see ecosystem services including carbon and biodiversity, as integrated set of outputs that cannot be seen in isolation but across and between the wide ranging interventions that happen in a landscape. Accordingly, by bringing in science the idea was to influence REDD+ country focal points, partners and other institutions to build the basis for strategizing long term National REDD mechanism and influence global fora.

D) INCENTIVES FOR ECOSYSTEM SERVICES

Implementation of REDD+ in the region with ICIMOD playing a pioneering role as facilitator, does promise future incentivization of those who perform on forest carbon fixing and storage. Though transactions, which can be termed as payments are yet to happen, Payment for ecosystem services (PES) (Box 7) is increasingly being discussed as an instrument that can be used and recognized as a tool for ensuring sustaining ecosystem services flow (adapted after Goldman-Benner et al., 2012), while also contributing to the local livelihoods of resource-dependent communities (Hubermann, 2009).

"PES like" schemes in the Hindu Kush Himalaya

Hence, apart from valuation of selected ecosystem services (e.g. under KL, KSL) Transboundary landscapes initiatives took the cue from "PES-like" schemes already operational in the HKH, ensuring both or either of the financial and non-financial benefits (in the form of development projects) to local communities through an established institutional mechanism (Bhatta et al., 2014; Bhatta & Kotru, 2012). A few of the many such schemes include, for example, i) *markhor* (*Capra falconeri*) and Siberian ibex (*Capra sibirica*) hunting in Pakistan, where 80% of the total hunting revenues go back to local communities, ii) incentives to buffer zone communities around the protected areas of Nepal, where 30–50% of the total generated revenue is by law set aside for local communities, iii) sharing of hydropower revenue with local communities through Druk Holding, Inc. (DHI), in which the Bhutan government supports local development projects through hydropower revenue, iv) municipal support to local communities living in the upstream water source at Palampur town of Himachal Pradesh state in India, and v) the compensation scheme for ecological restoration in China, in which the government provides compensation to local communities for wetland restoration.

In KSL-Nepal, after valuation of cultural and provisioning ecosystem services (drinking water) from the landscape, an initial process on bringing upstream-downstream stakeholders together for an outcome oriented dialogue and resultant institutional arrangements for applying PES as instrument of water security was done. Apart from this ICIMOD was involved in several projects in the region related to valuation of ecosystem services as well as compiling existing learning of such institutional arrangements (Patterson et al., 2017).

BOX 7

PAYMENT FOR ECOSYSTEM SERVICES

Wunder (2005) described PES as a free market-based approach to conservation in which the ecosystem service consumers pay the producers/managers with a set of five relatively simple criteria for a "true" PES scheme. The criteria in his definition include: i) a voluntary transaction, where ii) a well-defined land use securing particular services, iii) is being bought by at least one ecosystem services buyer, iv) from the provider or seller of the services, v) only if the agreed conditionality is fulfilled. However, a "true" PES that is based on a free market is either difficult to establish (Fletcher et al., 2016) or hardly exists in practice (Bhatta et al., 2014). There are further arguments against purely market-based PES schemes, describing the commoditization of ecosystems or nature under neoliberalism that does not necessarily benefit the poor segments of the population (Corbera et al., 2007; Proctor et al., 2008; McAfee & Shapiro, 2010). Thus, moving from a purely market-based financial instrument, some scholars have considered PES as an incentive to local communities, which ensures and recognizes their efforts towards conservation through the redistribution of resources and financial support (Gutman, 2007; Kumar & Managi, 2009).

2.5 Conclusion

Based on a comprehensive account of the processes and tools used for designing the transboundary landscape concept, the following key conclusions can be drawn:

- A transboundary landscape programme relies on key building blocks to support common regional/bilateral and subsequent regional agenda – developing a collective vision for the landscape, people-centred collaborative planning and monitoring, partnership development, and strategic endorsement by participating countries.
- Engagement of stakeholders at different levels and across international boundaries in knowledge sharing and policy dialogue platforms is essential to brokering a transboundary governance mechanism that foster regional cooperation and collaboration.
- Long-term monitoring programmes that are well-designed and implemented in an inter-disciplinary manner are crucial for acquiring data that can fed into decision-making processes.
- Collective actions for gender mainstreaming must be reflected in project plans and M&E frameworks and finally in performance assessments of LoAs.
- A combination of tools and methods including national/sub-national and regional consultations used in tandem with the innovative Landscape Journey process tool can help bring shared understanding and ownership of a transboundary landscape initiative's focus.
- A programme management strategy and mechanism is important to bring all participating stakeholders/or country institutions together for an efficient and effective programme management setup that ensures the smooth implementation of the intended plan by making all stakeholders grow together for accountable execution and impact of a given programme.
- Open-access knowledge hubs such as ICIMOD's Regional Database System for the HKH is a contribution to integrated management of data and information incorporating geospatial, socioeconomic, and multi-thematic data at cross-border spatial scales.
- Transboundary events such as border meetings between officials and local communities and or festivals have potential to foster cross-exchange of knowledge, promotion of tourism, marketing of local products, cultural exchange and general rapport between cross-border communities for future cooperation.
- In the HKH, a South-South Cooperation (REDD+) and Inter-governmental Learning Platform enhances creative capacity to find solutions to development problems at scale while keeping up with the pace and aspirations of countries to contribute to regional cooperation.

CHAPTER 3

Delivery – growing together

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Chapters 1 and 2 detail the concept of transboundary cooperation and describe the preparatory and consultative design processes, tools, and methodologies that have led to the evolution of a transboundary landscape focus involving a variety of actors and sectors. Chapter 3 is about the implementation of this concept on the ground. Analyses of the present situation as well as related problems from the past provide the information necessary to formulate an intervention strategy and five-year plans for respective country partners that converge and are owned at the landscape level with relevant activities, outputs, and outcomes. This chapter is about "Growing Together" as implementation takes off in all participating countries and between country partners who have together set long term goals as well as plans.

Planning and implementation processes adopted were instrumental for achieving intended objectives and results needed to reach 20-Year goal that the programme has set. These were systematic sequences of activities, with clear responsibilities at the interface of strategy and implementation. Processes were categorized into core processes (producing outputs, cooperation, learning), such as steering processes, and support processes (Project Document KSLCDI by Koch, 2013). This was important as programme supporters (Donors) accountable to their governments demand careful planning that enhances efficiency and effectiveness, defines responsibilities and procedures, and ensures management through a well-structured steering mechanism (PMU at ICIMOD) that optimizes quality, stability, process-flow logic, reliability, and controllability so that the knowledge produced and lessons learnt have potential for transfer to new opportunities and learning processes. This was the basis for adopted "Theory of Change". To do things right, professional handling of relevant management methods and tools – such as decision-making, planning, coordination, and controlling and monitoring activities for the various steps of each project – was an ideal consequence of oft long drawn preparatory consultative process supported by external experts (mostly the initial 2 to 3 Years).

This chapter therefore provides details regarding the institutionalization of the transboundary concept while exemplifying an overarching governance mechanism that is rooted in government decision-making at the top. It elaborates on capacity building and mentorship inputs that are necessary for inter-country teams to "think and grow together". The scope of collaborative work is based on the related RCF (see section 2.2 Point 6). The creation of regional platforms help messages and lessons derived from the application of conservation and development strategies gain traction. Based on common gains, such strategies deliberate on choices regarding the sustainable financing of such concepts. To round it up, it touches base on creative evidence from the ground and contributing the same to influencing of policy platforms and related dialogues to secure long-term social and political acceptance.

3.1 Institutionalizing transboundary cooperation

The evolution of a Regional Cooperation Framework (RCF) is a process that matures with time. Designated institutions from participating countries find common areas of focus while ensuring safeguards for national sovereignty and paying heed to cross-border conflict situations that already exist or may emerge as the project progresses. Therefore, most landscape initiatives do not find it difficult to link transboundary cooperation to greater global good – the CBD is one example. Enhancing biodiversity and cultural conservation, ecosystem management, sustainable development, and climate change adaptation through common efforts often finds resonance and affirmation even among non-nodal institutions – the ministries of foreign or defence affairs in respective countries, for instance. An RCF also deliberately highlights transboundary biodiversity and environmental and cultural conservation through scientific and technical cooperation. Its objective then relates to enhancing information exchange among member countries and helping the development and management of a knowledge base. It works to ensure that principles of transparency and participatory management with mutual benefits – equitability, sustainability, partnerships, ecosystem management, and national sovereignty, among others – are maintained in the framework document.

Evidence from the past five years has shown that RCFs – built around institutional agreements between organizations nominated by individual governments to participate in the preparation and implementation of an initiative – can kick-off a transboundary programme. Flexible arrangements can be made to play down national sovereignty and integrity issues which several ministries in each country might raise once we get to ground level activities and outputs that may or may not have transboundary connect. Hence, in its early stages, transboundary cooperation is about transparently and accountably building confidence in each country that plans are being made for commonly agreed upon collaborative activities.

The preparatory phase delivers a long-term plan, outlining the project's design and focus, in the implementation phase, individual participating countries identify institutions – which have ties to respective national governments – to engage within the envisaged collaboration. The consultation process during the preparatory phase also proposes an overarching governance mechanism that binds participating inter-country focal ministries and steers the project towards the joint idea. However, expecting all partnering countries to jointly push for the same goal might not be possible at the onset of long term journey of "Thinking and Growing Together". Facilitating institutions such as ICIMOD become vital in creating such "push factor" through participating countries (e.g. taking lead

on World Heritage Nomination related work for KSL owned by the country partners in India) while a third party such as ICIMOD or any other relevant institution is ultimately best suited to function as the "pull factor" (to galvanize targeted actions for laying down the process pathway ahead). Getting such an overarching governance mechanism in place is significant as it signifies that participating countries are interested in working with each other. It is only subsequently and after early implementation that the terms and tasks of such a mechanism are defined, fleshed out and agreed through an iterative consultation and learning process.

Similarly, it is only when countries see the utility of such a mechanism – in KSLCDI, for instance, the PSC fulfils this function – that further consolidation commenced allowing for the incubation of collated learning into national-level ownership and mainstreaming.

However, imaginative leadership in terms of providing the pull factor remained with the facilitator, in this context, ICIMOD. As the process of implementation unfolded with the Centre's transboundary initiative, country focal ministries expressed that scientific research for biodiversity conservation or cultural services are suitable areas for transboundary collaboration as these interests cannot be questioned by other national ministries that keep a close watch on the transboundary activities being conducted.

Transparency and mutual benefits are at the core of cooperation. Early evidence that the concept can deliver on transboundary cooperation depends on country participation which as a catalyst, ensure and enable, among other things, timely clearances and approvals for travel to inter-country events and pilots, permission to engage with local NGOs, country-owned profiling of the project. On the other hand, multiple sets of partners – with different institutional cultures, mandates, and capacities chosen on the basis of their role during the preparatory phase – may own the idea of transboundary cooperation but often had very limited actual experience delivering on the ground or gathering evidence for the multiple benefits of transboundary conservation and development. Further, especially government agencies partnered with are conscious on whether the RCF has undergone official government endorsement. The RCF plays a big role in communicating the concept to local communities and other landscape stakeholders (e.g., border police, customs and sub-national line agencies and NGOs) who were not part of the conceptualization process.

RCFs that are not endorsed at official government levels – at the ministry level, for instance – can still have practical value. For instance, they help initiate common demand-oriented practices between inter-country partners and gather policy evidence for sharing with decision-makers and the general public to enable greater ownership subsequently at the sub-national and national government level. Relevant local themes such as springshed management and spring recharge, and fair and equitable benefit sharing of natural resources directly interest both decision-makers and the general public and any progress on these generates greater interest to endorse RCFs.

Key programme supporters who provide funds for transboundary landscape initiatives need formal collaborative mechanisms to justify the investments they are making and to understand how common win-wins can be achieved at scale while minimizing risks of non-achievement of project results and impacts. An agreed upon RCF is attestation of the willingness of partners in participating countries to cooperate and collaborate. It is only when implementation progresses at the sub-national level that the significance of explaining the RCF diminishes as inter-country teams get together and work in sync with each other to deliver programme milestones.

3.2 Integrated interventions beyond borders

3.2.1 Sharpening capacities

Give the pioneering nature of a transboundary concept in the HKH, the sharpening of customised set of capacities of stakeholders and their institutions was the key to the effectiveness and sustainability of the landscape approach. This means in practical terms, whether or not capacity-building investments are made for making participating countries to grow and think together. Countries in the HKH face significant capacity challenges that undermine their ability to carry out conservation efforts effectively that are of transboundary nature. These challenges range from a lack of public awareness, a fragmentation of information, limited expertise, and traditional stand-alone research-focused institutions, and a lack of concerted efforts in building and retaining skills and institutional capacity to a lack of effective policies, systems, and processes for biodiversity conservation and sustainable use of natural resources.

Furthermore, up until the early 2010s, capacity-building work in the HKH was largely supply-driven and target-oriented ways of strengthening capacity that reach beyond protected areas within national boundaries was largely missing. Lastly, there was no understanding of key deficits in the existing institutional mechanism. Promoting the implementation of a transboundary concept attuned to the needs of border areas required a completely different approach to show to stakeholders that transboundary cooperation is possible and can be lasting – section 3.2.2 illustrated how this was done for transboundary landscape programmes at ICIMOD through mentorship guided by field visits to transboundary landscapes in the Alps and other landscapes.

Despite the common challenges they face (e.g. illegal NTFP trade, Wildlife poaching), HKH countries and their national and sub-national institutions (including local communities) are at different levels in terms of capabilities and their understanding of functional transboundary cooperation institutional mechanisms. While capacity-deficit was a crosscutting issue, there is no coherent process shared by relevant bodies, initiatives, and funding entities working toward a common goal.

Following the landscape approach and identified capacity gaps and needs in each of the participating countries, capacity-strengthening work was carried out at three levels: local, intermediate (subnational and national), and high level (national and regional). At the local level, district and sectoral department officials and selected NGOs received training in planning, implementation, and monitoring and evaluation. This led to the initial understanding on why in the longer run transboundary cooperation could be useful. This

BOX 8

REGIONAL EXPERTS' WORKSHOP ON ACCESS TO GENETIC RESOURCES AND BENEFIT SHARING (ABS), NOVEMBER 2014

The broad objective of the regional workshop was to exchange and share experiences of ratifying and implementing the Nagoya Protocol on ABS, raising awareness of the protocol, and building the capacity of participating countries. More than 70 representatives from government institutions, ICIMOD lead institutions, and academic institutions from Bhutan, China, India, Nepal, and Myanmar participated in the workshop.

The Nagoya Protocol (NP) on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilization was agreed upon in 2010 at the Tenth Meeting of the Conference of the Parties (COP 10). Various topics discussed during the regional experts' workshop focused on how all RMCs in the HKH can ratify the protocol and on the legal dimensions, instruments, and institutional mechanisms that can help the ratification. One of the main points highlighted was the need and importance of capacity building for local-level institutions in order to implement ABS mechanisms and benefit from them. Following the event, in September 2017, the Government of Nepal ratified the Nagoya Protocol and Access and Benefit Sharing Act, which is a supplementary agreement to the Convention on Biological Diversity, becoming the 101th state to ratify it. The endorsement of the protocol helps Nepal establish rights over genetic resources, protect biodiversity, increase local communities' access to natural resources and build agreements on sharing benefits.

BOX 9

REGIONAL WORKSHOP ON TRACKING OPTIONS FOR SUSTAINABLE MANAGEMENT AND TRADE OF YARTSA GUNBU IN THE KAILASH LANDSCAPE, AUGUST 2015

Yartsa gunbu (*Cordyceps sinensis*) is a highly prized Himalayan fungus that grows naturally at altitudes within 3,000–5,000 masl in the northern alpine grasslands of Bhutan, India, Nepal, and the Tibetan plateau of China.

The workshop was attended by government representatives from Bhutan, China, India, and Nepal to discuss existing policies, legal status, and experiences regarding grading, quality control, and value addition for Yartsa gunbu. Experiences from different countries in terms of selecting best practices suitable for the region and bringing them into policy intervention were shared among participants. This triggered processes of forming guidelines for the sustainable management and trade of Yartsa gunbu in India and Nepal.

was complemented with gender mainstreaming processes and actions which become inevitable as the partner institutions have very limited to no human resource that can mobilise on this very important subject (SDG 5). In one of the key initiatives (KSL) it did facilitate for a broader awareness of donors/programme supporters and its PSC while also interacting with local communities on the challenges and opportunities that exist simultaneously in this vast landscape for a balanced conservation and development. At the intermediate level, all the initiatives had several regional events that allowed mutual learning and exchange of learning with the host country and transboudnary stakeholders (see also section 3.2.2). As KSLCDI was the first project to be implemented on the ground, the efforts were demand-driven and action-oriented (Box 8). At the highest level, ToRs for both the Regional Programme Steering Committee and the National Steering Committee were defined, ensuring effective coordination across countries and government bodies for successful implementation of the programme. This also provided the basis for assessing "who will do what" and at "which level and which capacities" need to be upgraded. Few examples for "Growing Together" aspects are given in the boxes below (8–10). At the local level, the workshop, Tracking Options for Sustainable Management and Trade of Yartsa gunbu in the Kailash Landscape organized in 2015, is an example of coordinated efforts engaging local government and communities in ensuring sustainable use of natural resource while improving livelihoods (Box 9). As a generic example, building research capacity of early career professionals can be also an important intervention, through which researchers and faculty members of universities that are part of the Himalayan University Consortium (HUC) are updated with current knowledge on disaster risk and water management in the region (Box 10).

A common feature across these interventions is transboundary participation and perspectives. Sharing governance experiences across Bhutan, China, India, and Nepal yielded effective policy interventions for better conservation and management of Yartsa gunbu. Likewise, an aspect of institutional capacity involved the enhancement of ability to collect relevant information needed for effective policy implementation in line with internationally accepted standards, as understood and endorsed by participating countries. Such cooperation resulted in the Vegetation Map of the KSL (Box 13) (section 3.3.1), which has proved crucial for better communication between and among scientists and policy makers. Similarly, the participants of the HUC Academy 2017 participants can serve as key links in a network of HUC fellows conducting collaborative research and promoting concerted efforts in biodiversity conservation across the region.

As we grow together and start thinking together, it is central to the success of the landscape approach that it is of evolving nature: instead of following an a priori set of assumptions and pre-cast templates of implementation, it is crucial for capacity strengthening work to evolve from continuous multi-stakeholder dialogues that proceed according to field-emergent demands and address concerns and needs of specific target groups across all levels of engagement.

3.2.2 Mentorship programme

Ongoing mentoring process was important here, not only because successful practices embody knowledge, attitudes, and skills that can be emulated, but also because mentoring provided professional socialization and personal support to facilitate success. The mentorship programme envisaged for the transboundary landscape programme at ICIMOD provided an opportunity for cross-learning through exposure trips and interactions with professionals who have worked with successful models of transboundary cooperation. This was to ensure better coordination and cooperation for regional

BOX 10

HUC ACADEMY 2017 ON DISASTER RISK AND WATER MANAGEMENT, JULY 2017

Twenty-two early career faculty members, researchers, and professionals from 19 universities and research institutions in eight HKH countries took part in a ten-day Academy in Kathmandu. The Academy included 12 modules covering a wide range of issues related to disaster risk and water management in the region, led by more than 20 resource persons from ICIMOD and seven invited speakers from Switzerland, Austria, India, China, and Nepal. Apart from intensive discussions on common water resource management issues faced by HKH countries, participants were also exposed to a global perspective through examples from the Alps, the Andes, and Australia. The four highlighted features of the HUC Academy were mountain focus, interdisciplinary, field-based research, and leadership building. The event was aimed at a new generation of transformational leaders committed to mountain research, innovative policies, and environmentally responsible business practices in and for the HKH while working across countries and at regional scale.

BOX 11

MENTORSHIP PROGRAMME OF COUNTRY PARTNERS TO GERMANY AND NEIGHBOURING ALPINE COUNTRIES, 2013

The main objective of the mentorship programme was to provide an opportunity for cross learning through exposure to the Alpine landscape and interact with professionals from Germany. The objectives of the programme were:

- To understand the management of the Alpine landscape in the Bavarian Alps in Germany
- To understanding the transboundary cooperation process between protected areas located in the Bavarian Alps in Germany and neighbouring Alpine countries – Austria and the Czech Republic
- To identifying replicable scientific, technological, and management innovations to enhance cooperation among participating countries of all initiatives.

The participants learned about and discussed some crucial aspects related to tourism infrastructure, environmental education, technological innovations, nature conservation and planning, transboundary cooperation, and the scope of engaging with the private sector in conservation and development.

Key takeaways of the mentorship programme were:

- Lessons regarding the opportunities and challenges of long-term transboundary landscape management
- Improved understanding of responsible tourism and its integration in transboundary landscape conservation and development
- Enhanced understanding of environmental, social, and cultural norms and their implementation under a conservation and development focus (e.g., waste management, water and energy conservation)
- Possibility of a long-term research collaboration with the renowned forestry faculty of the Technical University of Munich

activities and achievement of outcomes as expected by partners to help them think and grow together as a team. Such growth was found important for long-term cooperation as it helped partners move beyond country-specific institutional features to better understanding of local contexts (Box 11).

Hence, selected key stakeholders of landscape initiatives were exposed to other examples of landscape management in the world and within the region. It was an innovative capacity-building intervention that led to cross-project, cross-disciplinary, and cross-cultural learning. Visits to an 'away from home' landscape scenario provided participants the opportunity to broaden their perspectives and gain knowledge through personal interaction.

Further, exposure visits within and between inter-country landscapes of HKH encouraged participants to compare and analyse different scenarios and situations and reflect upon their own perceptions and landscape development concepts. In real terms, such visits led to gain knowledge on innovative technologies, management, financing, and institutional set-ups and effective cooperation strategies of landscape development within a certain area and across national boundaries. On the other hand, such visits brought stakeholders of landscape development programmes together to build mutual trust, team-spirit, and partnership for better cooperation and coordination within their own programmes and at the transboundary landscape scale.

However, across all landscapes cultural services have proven to be a common denominator to bring participating countries together. Hence, exposure visits were also dedicated to different value systems, cultures, and traditions that have persisted but have a transboundary connect.

As an example, the programme allowed landscape stakeholders – government representatives, researchers, administrators, and development practitioners from the HKH – to learn more about examples of transboundary cooperation in the Alps of Central Europe – a landscape that was conflict-ridden seven decades ago. To ensure that such visits are successful, relevant subjects were chosen that facilitate debates and arguments based on the contents of the lectures given and suggestions made during practical demonstrations. Visits to different locations in different countries in the Alpine region gave participants great insight into landscape planning and regional collaboration, nature conservation, tourism development, private sector engagement, partnerships, and technological innovations (Figure 16).

While exposure visits with mentoring objectives can be enriching exercise that contribute to deeper understanding of situations and issues of transboundary concern, they can also be unsatisfying investments if social learning, knowledge intake, and knowledge integration are not well facilitated. Our learning shows that several challenges can arise during mentorship-oriented exposure visit (e.g. in the Alps) and we highlight measures that can optimize the outcomes of such exposure visits (Box 11), enhancing regional cooperation among countries for transboundary landscapes. These challenges are:

Right participation

For our mentorship programmes, we carefully included strategic partners (those who make decisions), key implementing partners (those who bring-on-the-ground outcomes); and key knowledge partners (those who attend to science and evidence generation) from our transboundary landscape countries with the hope of strengthening both strategic and technical collaboration among countries sharing a given landscape. However, the selection could not be made as per our plan for many reasons. Particularly, when working within government systems, timely travel approvals and sanctions are not guaranteed. Key individuals may not show up on the day of the trip or individuals nominated by government offices may turn out to have hardly any link to the project focus. Seldom, organizers receive last-minute notice, especially when the nomination of senior government authorities is concerned. Also, it is extremely difficult to balance the interdisciplinary strength or expertise of participants, including equitable participation of women and men. Such complications can be countered if the roles and responsibilities of participants prior, during and after the exposure visit are clarified and agreed upon well before the exposure visit. A simple Terms of Reference (ToR) can help avoid random selection of participants.

Right objective

Transboundary landscape management is a broad discourse, and the objective of one mentorship programme cannot cover all aspects. Given the investment, one is often tempted to include all possible issues or areas of collaboration. This somehow dilutes the optimization process of transboundary cooperation. It is essential therefore to narrow down the objective of an exposure visit based on areas of interest or gaps in knowledge and skills. Such fixed objectives would help gain answers to how transboundary concepts can best be designed, country ownership encouraged, and the concept implemented in a flawless manner. The learning process is enhanced if participants are aware of the broad frame of what it is they are expected to learn and understand during the trip, and how the knowledge gained can be used to strengthen transboundary collaboration afterwards.

Right best practice

While selecting the right participants and setting the right objective is crucial, identifying sites of greatest relevance and value for

FIGURE 16 OUTLINE OF THEMES AND CONCEPTS DISCUSSED DURING EXPOSURE VISITS TO THE ALPS

Theme	Nature conservation and natural resource management	Tourism and Livelihoods	Environment education	Transboundary cooperation
Concepts discussed	• Long term monitoring • Production forests management • National park management	• Bio-hotels and ecofriendly technologies • Alpine trails • National park management	• National park information sharing	• Research collaboration • Systematic cultural exchange and communication
Key messages transferred	Understanding multifunctional aspect of natural ecosystems and their existence value is crucial for nature conservation	Planned tourism offer significant livelihoods opportunities linked to nature conservation	Public education, awareness, participation, and engaement is key to nature conservation and park management	Identification of common set of challenge or programme sets the state for regional collaboration; and people to people contact on the ground level fosters greater transboundary cooperation
Suitable sites	Black forest in Germany (*Schwarzwald*); Switzerland (*Parc Naziunal Svizzer/Grischun*)	Dry zones in Northern Italy (*Regione Alto-Adige/Trentino*), *Neue Traunsteiner Huette, Bavaria*	Education centres of the national parks in Bavaria (*Berchtesgaden National Park Interpretation Centre*)	Bayerischer Wald National Park, Bavaria and adjoining Narodni Sumava Park, Czech Republic

the exposure visit group is equally fundamental. It is organizers' responsibility to carefully analyse what sort of information, practices, examples, or exposures can help stakeholders sharpen their understanding of regional cooperation. Often, organizers tend to target sites related to major discourses such as biodiversity management, protected area management, and sustainable tourism and miss out on subtle cultural, traditional, historic and institutional connections that shape landscape governance and influence transboundary decisions. A mixture of interactions with scientific, societal, and normative institutions has to be explored and included within the exposure visit programme.

Right knowledge integration mechanism

Exposure visits are informal learning mechanisms and not leisurely touristic activity. Such exposure trips should not only end with trip reports and follow-up plans by participants but instead facilitating of a knowledge integration process has to be collectively structured and delivered. A day has to be separated for the consolidation exercise during the trip, when ways to incorporate the lessons learnt are built into a regional cooperation implementation mechanism for a given landscape. Such integration efforts can be formalized through Letters of Agreements (LOAs) with partners immediately after the formal conclusion of a trip. Having the right participant makes the approval process and the design of country-specific action plans defined in the LOAs for effective implementation of transboundary landscape programme much easier. Though participants can set individual and institutional milestones for targeted changes and adaptation upon receiving mentorship input, regular follow-up is needed to ascertain what is implemented or has changed with regard to their attitudes and skills (Box 12).

The points discussed earlier reflected on several shortfalls of such capacity and awareness building events. These can be overcome

BOX 12

TRANSFER AND APPLICATION OF KNOWLEDGE AFTER COMPLETION OF MENTORSHIP PROGRAMME

Presented here is an example where knowledge from an exposure visit to Europe was quickly transferred and applied in Pakistan. The Secretary of the Forest Wildlife and Environment Department (FWED) of Gilgit-Baltistan (GB) was impressed by what he saw during exposure visits to different national parks in Europe, particularly the national park information centres and their role in transferring park values to visiting children and the wider public. After his return, he established two information centres: one at the headquarters of the GB Forest, Wildlife and Environment department, and another at the Khunjerab National Park (KNP).

KNP is a well-managed national park, particularly when compared to the other five national parks in the four countries (Afghanistan, China, Pakistan and Tajikistan) of the HKPL. The information centre facility at the KNP could also serve as a training centre or a model facility to scale up learning in other protected areas. Currently, a training package for national park authorities on the role of information technology and conservation education is underway.

through regular partner visits and regular field meetings at the country level or through regional meetings during which all participating country partners come together. However, limitations of such capacity-building investments remain as country specificities such as socio-political systems and enabling governance mechanisms can be both, a challenge and an opportunity. Ultimately, it is about whether the individual skills and attitudes are changed based on the need to create a conducive atmosphere for a transboundary concept to grow and flourish.

3.2.3 Collaborative research

As shown in sections 3.2.1 and 3.2.2 above, the implementation of a transboundary concept apart from doing an early capacity-need assessment builds on the emerging needs as piloting progresses. As most of the landscape initiatives forged partnerships with country scientific institutions, collaborative research as transdisciplinary approach formed a key component of sustainability related science. Achieving sustainability requires understanding and management of unprecedented and interconnected challenges. However, there were multiple barriers to implementing collaborative research and transdisciplinary projects. When multiple institutions came to work together with their specific institutional culture and focus, such a cooperation had to reach to common understanding and ownership of the idea of transboundary work. Each participating country has different political and administrative systems under which its institutions grow. Hence, researchers are often focusing on particular aspects of a complex reality, such as the dynamics of an ecological subsystem or the economic value of marketable natural resources (Figure 17).

In this context, it is important to note that large research programmes usually have an administrative group that designs the collection system and management of the flow of information. Such a group may also handle the scientific coordination of the individual studies (Eppink, 2012). A review by Barndt et al., (2013) here is guiding as it is based on a transdisciplinary case study papers concluded that transdisciplinary research must be clearly framed, including the use of common terminology and the development of a broad suite of appropriate methods. Despite the challenges, science needs to move beyond classical disciplinary approaches and should consider interdisciplinary work that engages with practitioners to achieve sustainable transitions.

Transboundary landscapes idea at ICIMOD exactly attempts to bring common inter-country research focus and the associated and unavoidable inter-disciplinarity.

ELEMENTS OF COLLABORATIVE RESEARCH

Transboundary agreements

- Overcoming legal and governmental differences such as joint declarations in the context of an HKH Regional Cooperation Framework (RCF) and MoUs that can facilitate commitment to transboundary goals and leverage funding and legitimacy
- PSC and governance structure to monitor joint progress and provide a structured platform
- Cross-border landscape journeys and specific agenda such as Yak and human-wildlife interface providing fresh scope of joint scientific and conservation cooperation.

Inter-governmental and international institutions

- In the case of the HKH, ICIMOD facilitates eight countries and provide forums for knowledge exchange, agreements, and management decisions

FIGURE 17 **GLOBAL EXAMPLES: BEST PRACTICES AND KEY LESSONS FROM TRANSBOUNDARY COLLABORATIVE RESEARCH**

Transboundary collaboration

- SASCHA – Sustainable Land Management and Adaptation Strategies to Climate Change for the Western Siberian Corn-belt
- TFO – Scientific Support for Sustainable Land and Resource Management in the Okavango Basin
- Transboundary collaboration in the Greater Virunga Landscape
- Cordillera del Cóndor Transboundary Protected area
- Red River Basin Board
- Bothnian Arc Project: Transboundary Collaboration in Tourism
- The Heart of Borneo (HoB)

- The International Joint Commission facilitates environmental cooperation between the USA and Canada

Scientific collaboration

- Thorough scientific knowledge and assessments or focal species can help demonstrating that the resources of a transboundary region are valuable and are worth protecting collaboratively.

Knowledge management and communication

- Facilitating communication through knowledge platforms and communications channels (interpersonal contact, conferences, mentorships and exchange visits, public engagement)
- Overcoming social and cultural barriers, capitalizing on the landscape' shared history and sense of community

Cases of collaborative research from the HKH (Boxes 13 and 14)

3.3 Regional policy dialogues

A) INTER-GOVERNMENTAL FORUMS

True to its regional mandate as demonstrated by REDD+ initiative, ICIMOD brought together stakeholders and government officials from its regional member countries in the HKH to share common platforms and discuss transboundary and regional cooperation on biodiversity conservation. Several previous and ongoing experiences in the Mount Everest Ecosystem (Sherpa et al., 2003), the Hkakabo Razi Complex (Chen, 2002), and the Kangchenjunga landscape (Sharma & Chettri, 2003; Chettri et al., 2008) have highlighted the value of regional cooperation in facilitating transboundary landscape and ecosystem management approaches to conserve biodiversity in the HKH. As an essential first step in natural resource conservation, it put people – especially poor, marginalized, and ethnic communities,

BOX 13

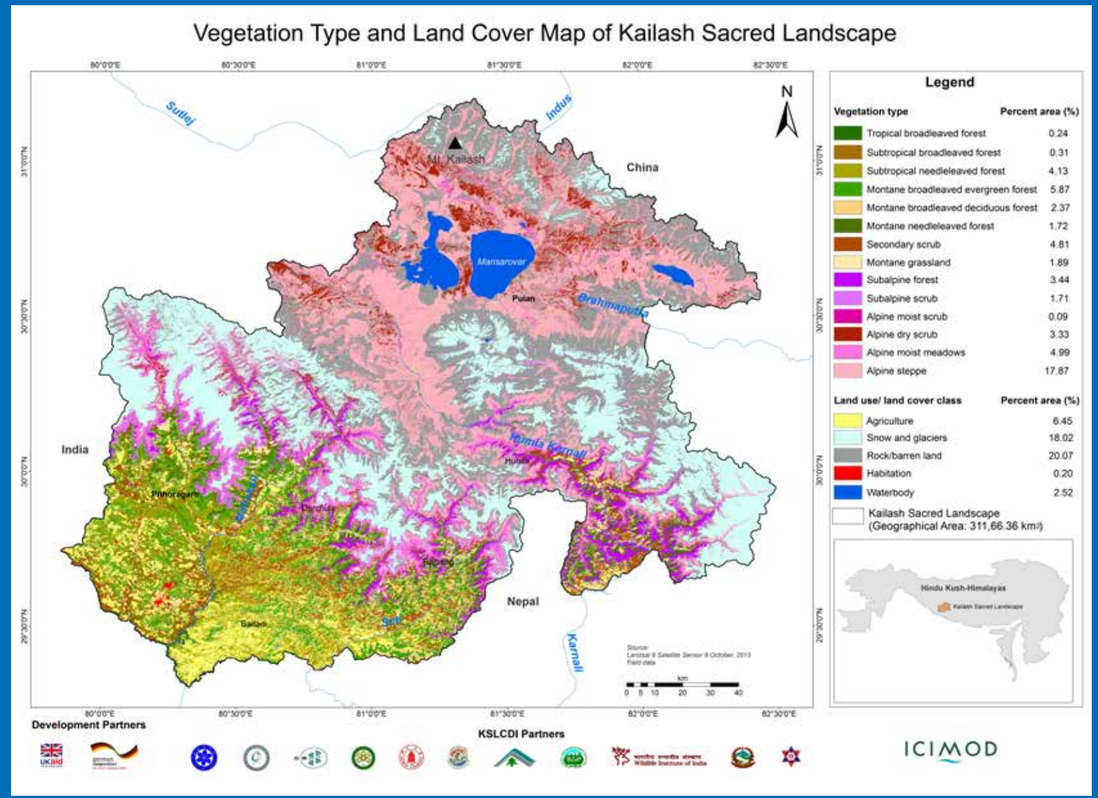
COLLABORATIVE RESEARCH FILLING SCIENTIFIC GAPS AND BRIDGING TRANSBOUNDARY COOPERATION: A CASE FROM THE KAILASH SACRED LANDSCAPE

The KSL vegetation type and land cover map forms the basis to plan for and manage ecological conservation, tourism, enhancement of livelihood value chains, climate change studies, biomass and carbon studies, study of ecosystem services, and many other practical uses. However, for co-management of resources across the transboundary region, it is paramount that each object on the map be referred to by the same name.

Issue: Lack of common classification system gives rise to challenges in managing transboundary land use owing to differential scales, names, and sources.

Actions taken:

- Kick-started collaborative research to harmonize a classification system for the vegetation map with seven scientific institutes and subject specialists from China, India, and Nepal with facilitation from the KSLCDI
- Consultative and participatory approach applied to come up with unified and harmonized vegetation classification system
- Secured endorsement from focal ministries and organizations in each country along with utility parameters enlisted so as to secured mainstreaming pathways for on-the-ground land use management decisions
- First of its kind transboundary vegetation map of the KSL developed using common satellite images and geospatial techniques in two years; map shows percentage distribution of 14 vegetation classes



BOX 14

USING YAK AND HUMAN WILDLIFE CONFLICT FOR FORGING RESEARCH COOPERATION

For instance, in KLCDI, the initiative has sensitized partners to work on Yak issue. Yak is increasingly becoming popular as an identity of third pole (i.e. HKH). However, declining Yak productivity through inbreeding and lack of conducive rangeland environment are threats for its population decline. To tackle these challenges innovative solutions are identified (exchange of gene-pools, handing over the defined forest patches to Yak herders as leasehold forest). The consensus between stakeholders to work on Yak issues and form a regional network is agreed by all partner countries.

In addition, Human Wildlife Conflict is a regional issue as border areas are protected areas and more than often bio-corridors have trans-border aspects. KLCDI, in order to reduce the vulnerability of its people has brought all the partner countries to a platform to discuss common solutions. The partner countries having understood the transboundary dimensions of finding joint innovative solutions agreed to work together. In the ground also, the initiative has executed alternative livelihood programmes to minimize the conflict and increase income of the people.

and women – and their sociocultural resources at the centre of environmental planning that included cultural conservation. It is done with the premise that good resource conservation translates into sustainable and equitable development and, by working at the landscape level, it also addresses national concerns and the livelihood benefits of people upstream and downstream.

The adopted consultative approach as elaborated in Chapters 1 and 2 – to establish institutional networks, a policy-enabling environment, and a knowledge base for regional collaboration – laid basis for the needed inevitable strong interface between partner countries of a transboundary landscape. As a core component of all landscapes, the preparation of a conservation and development strategy at both regional and national levels by national partners formed the basis for future biodiversity conservation and management, livelihood improvement, sustainable development, and climate change adaptation (ICIMOD, 2010a) at scale. Initially, these strategies were envisaged to set up mechanisms to promote and facilitate collaboration among various actors and stakeholders, and to augment and improve regional knowledge and information exchange networks.

As highlighted in Chapter 3, intensive engagement, mediation, and conclusive agreement with regard to cooperation between country partners while designing a transboundary landscapes programme converged into a Regional Cooperation Framework (ICIMOD, 2010c). Each RCF set out the vision, goals, objectives, processes, principles, and mechanisms for transboundary cooperation for a particular landscape. However, ground piloting and related learning is the basis for enabling a policy environment in the HKH region, for which effective partner coordination and strong institutional support is a must. A regional platform for scientific information exchange, policy cross-learning, and programme steering mechanisms needs to be demonstrated. This out of the fact that transboundary landscapes, inter alia, involve issues such as national sovereignty and a national conservation and development agenda, and sub-national agencies having jurisdiction in the management and governance of land with a cross-border context. Therefore, as per institutional arrangements, key state representatives needed to be part of an overarching governance mechanism/body that facilitates the functions and functionality of such a forum. For instance, the three countries participating in the KSLCDI at ICIMOD agreed to a Programme Steering Committee, which, at the regional level, was carved out as the highest body for policy guidance on programme implementation. In keeping with the principles of coordination and facilitation, the forum:

Provided strategic guidance and advice to the programme

Overseeing/steering the requisite level of country participation and inputs by focal ministries of the three countries that support the regional collaboration mechanisms in place for the implementation of activities at the landscape level. Liaising and providing advice to any other Technical Advisory Committee and Programme Management Unit (PMU) as required to facilitate harmonizing of activities within and between countries and regional cooperation at policy and technical levels.

Reviewed and monitored annual work plans and budgets

Reviewing programme planning and implementation activities/initiatives and progress, including financial monitoring from the perspectives of efficiency and qualitatively addressing climate change, land degradation, biodiversity conservation, and other environmental and livelihoods concerns, alongside ecosystem productivity, food security, gender, and poverty alleviation.

Reviewed annual progress and suggested corrective measures, if necessary, to achieve programme objectives

Establishing and suggesting mechanisms for actively liaising within and among concerned countries and different actors – national, regional and global environmental policies and development strategies, conventions, and commitments, specifically those related to climate change, biodiversity conservation, and combating desertification.

Reviewed and advised on the programme's risk management strategy

Liaising special action-oriented programmes to facilitate collaboration and leverage in-country policy support and public/private schemes for ground activities. It does so through a functional interface with any nationally designated/agreed upon body based on shared objectives. The focus is on preventive and innovative measures to address threats and competing demands on a transboundary landscape approach based on conservation and development amongst the three participating countries. Enhancing conservation, development, culture, and economic harmony between participating countries by suggesting and screening supranational processes and initiatives stimulating transboundary cooperation.

Promoted regional networking through thematic platforms and regional exchange

Supporting programme visibility and sharing its learning at regional and global levels while promoting mechanisms for regional networking and database and website development and maintenance, in consultation with PMUs and National Coordination Committees (NCCs). It should make suggestions on more open and inclusive processes, where transboundary sociocultural learning

can grow into transboundary landscape management practice, and the integration of information and a plurality of perspectives are all important attributes.

Provided other demand-based decision making and support

As implementation intensity and pilot lessons emerge attempted regional and transboundary cooperation can challenge national sovereignty and need compatible decision making in resource governance to provide win-wins to participating countries as well as within participating country. For instance, a decision on whether a particular cultural site could attempt to obtain world heritage site status, or an effort to find common management objectives to counter wildlife cross-border crimes, have implications for intergovernmental cooperation. Similarly, an issue of data sharing or the adoption of a common research methodology tests whether inter-governmental cooperation is optimal. The above transboundary institutional mechanism is serving as a prototype for larger regional cooperation, setting the pace for enabling decision-making amongst participating countries.

3.4 Testing conservation and development interventions in pilots

Implementation strategy

Transboundary landscape initiatives in the HKH have implemented interventions at pilot sites following three steps (See Figure 18). It began with a participatory assessment of the social and ecological aspects of the landscape to identify key issues related to livelihoods and ecosystem features in the HKH (Yi et al., 2017). Based on learning from the assessments, the coordinators of the initiatives consulted with stakeholders from various disciplines, levels, and sectors

FIGURE 18 **IMPLEMENTATION STRATEGY OF INTEGRATED LANDSCAPE MANAGEMENT IN TRANSBOUNDARY LANDSCAPES**

Scaling up and scaling out from pilot sites to landscape	• Integrated landscape learning into policies • Established partnerships and financing mechanisms • Linked interventions with markets, private sector, and government schemes
Planning, implementing, and monitoring	• Facilitated cooperation among stakeholders across sectors at local, national, and transboundary levels • Built capacities of individuals and institutions • Enhanced gender equality and social inclusion • Empowered local communities • Designed and implemented interventions in a participatory manner, linking socioeconomic and ecological aspects
Assessing	• Assessed social and ecological aspects of pilot sites using scientific and participatory tools

while designing the interventions. This facilitated cooperation and partnership among stakeholders across sectors at the local, national, and transboundary levels. Attention was given to ensuring gender equity and inclusiveness at each step, particularly while designing and implementing interventions. Capacity building of individuals and local institutions on technological innovations, management systems, market/enterprise development, and good governance empowered local communities and encouraged ownership. As shown in previous sections (3.2.1, 3.2.2, 3.3.1, 3.3.2.) dialogues and exchanges between social groups, countries, cultures, and sectors provided a good learning platform for building synergies and coherence among different interests. Monitoring of the interventions was an important part of plans to steer the processes and keep the interventions on track.

The last step included the scaling up of best practices and methodologies, as appropriate, from pilot sites to the landscape level. The incorporation of landscape learning into policies contributed to the scaling out of interventions to larger areas. Similarly, linkages of the interventions with government schemes and the establishment of market linkages through partnerships with the private sector in value chain development were vital for leveraging funds and sustenance of interventions in the long run.

Interventions in HKH transboundary landscapes

Interventions were implemented in four transboundary landscapes across the HKH based on government priorities and key identified issues within each specific landscape. KSLCDI partner organizations conducted the feasibility assessment from 2009 through 2011, culminating in the preparation of the Feasibility Assessment Report (Zomer & Oli, 2011), the Conservation Strategy, the Comprehensive Environmental Monitoring Strategic Plan, the Regional Cooperation Framework, and, finally, the Regional Programme Implementation Plan 2012–2017[5] . The implementation phase for the Kailash Initiative started in 2012, while the other three transboundary landscape initiatives began assessing their feasibility from 2012 onwards (Table 1). Other landscape initiatives followed the suit based on deficits of KSL as it was realised that people's participation is a priority. Hence all other initiatives termed the conservation strategy to conservation and development strategy.

Some notable examples of integrated landscape management in key pilot sites are illustrated in Table 2 and Box 15.

The scaling out of good practices from pilots to the landscape level is essential to building socio-ecological resilience at the landscape level. Noting the complexity of socio-ecological systems and their contextual nature, the scaling out process includes the tailoring of interventions to fit the context of specific landscapes.

3.5 Sustainable financing

A) NEPAL'S RESULT-BASED PAYMENT FOR THE REDD+ PROGRAMME

As a road map to sustainable financing by means of carbon and biodiversity services, REDD concept (Given in section 2.4.5 c) evolved to an advanced stage of implementation and Nepalese experience was transferred to other HKH countries.

The Government of Nepal has developed an Emission Reduction Programme covering 12 contiguous districts in the Terai Arc Landscape. This area covers 2.2 million hectares that constitutes nearly 15% of the country's land area, 20% of the total forest area,

[5] The Conservation and Development Strategy, Comprehensive Environmental Monitoring Strategic Plan, and Regional Programme Implementation Plan 2012–2017 are unpublished documents

TABLE 1 DEVELOPMENT OF TRANSBOUNDARY LANDSCAPE INITIATIVES IN THE HINDU KUSH HIMALAYA

Initiative	2009	2010	2011	2012	2013	2014	2015	2016	2017
Kailash	Feasibility Phase			Implementation Phase I					
Kangchenjunga				Feasibility Phase		Pre-implementation Phase		Implementation Phase I	
HI-LIFE									
HKPL									

TABLE 2 NOTABLE INTERVENTIONS IN TRANSBOUNDARY LANDSCAPE INITIATIVES

Priority interventions	Eco-system management	Livelihoods benefits	Transboundary features
KAILASH SACRED LANDSCAPE			
Greening of selected value chains	Resource mapping Sustainable harvesting/farming practices Management guidelines Energy-water dynamics	Product design and development Standardization, certification, branding, and marketing	Joint branding across the region Knowledge exchange Market interface
Yartsa gunbu management	Management of habitat and collection sites Sustainable harvesting practices	Transparent governance structures of collection sites	Knowledge exchange Transparent markets
Traditional knowledge on biodiversity and natural resource management	Development of standard frameworks and protocols	Different needs of natural resource management by gender	Collecting comparable datasets across nations
KANGCHENJUNGA LANDSCAPE			
Responsible tourism	Local stewardships Science-based management plan	Home stays Community-based tourism	Exchange of best practices Institutionalization of cross border meetings
LANDSCAPE INITIATIVE FOR FAR EASTERN HIMALAYA (HI-LIFE)			
Managing informal cross-border trade of wildlife, timber, and NTFPs	Reduce poaching Joint monitoring	Harmonizing trade rules	Institutionalization of cross-border meetings Joint management
HINDU KUSH KARAKORAM PAMIR LANDSCAPE			
Zero Point festival	Awareness of ecological challenges across borders	Fair with locally-available products	Festival and fair across borders

BOX 15

SUSTAINABLE YARTSA GUNBU MANAGEMENT

Yartsa gunbu (*Ophiocordyceps sinensis*) is a high-value medicinal species found in grassland areas between 3,400 and 5,000 masl in the Himalaya and on the Tibetan Plateau. In Nepal, it occurs widely in the upper reaches of Himalayan districts, and in India, it is mainly found in the Kumaon and Garhwal regions of Uttarakhand state. At the collection sites, one piece of yartsa gunbu fetches between USD 2 to 10 while one kg fetches between USD 10,000 and 17,000, (2017 field survey). Over the years, its collection has become one of the main livelihood sources for households living in high Himalayan regions. However, issues of over-harvesting, environmental degradation, and social conflict are of serious concern.

The Api Nampa Conservation Area (ANCA) in Darchula District, far-western Nepal is a major habitat of yartsa gunbu. The development of local guidelines on sustainable yartsa gunbu management for ANCA was conducted through a participatory approach, bringing together relevant stakeholders at the local level to negotiate local solutions and forge partnerships. Combining species conservation and habitat management with sustainable development through measures like transparent distribution of collection fees ensures species sustainability and contributes to people's livelihoods. Lessons learnt at the local level – exchange of good practices and production of relevant knowledge products – were the basis for scaling up to the national level, culminating in the promulgation of the 'Yartsa gunbu [sic] Management (Collection and Transportation) Directive' for Himalayan protected areas in Nepal by the Government of Nepal's Department of National Parks and Wildlife Conservation (DNPWC).

A similar process was adopted in Pithoragarh, India, where the Uttarakhand Government enforced a directive on harvesting, storage and royalty collection of yartsa gunbu on October 2018. The government policies are further manifested through transboundary community-to-community cooperation as evidenced in their declaration of December 2018.

and 25% of the country's population. Under this proposed landscape, the country intends to reduce emission by 35.6 million tCO_2e over a period of 10 years. This programme is estimated to cost USD 177.1 million and so the national government will leverage co-investment from the federal government, private sector, and local communities to co-finance the implementation of REDD+. The government is negotiating a cost sharing basis through co-financing. According to estimates, the federal government may contribute up to USD 70 million, and additional contribution could from community forest user groups (USD 25 million) and rural energy programmes (USD 26 million). This leaves Nepal to negotiate around USD 70 million from result-based payments. Nepal has recently managed to leverage USD 35 million as concessional finance from the Forest Invest Programme and International Development Association.

Transboundary Landscape Programme contributed to the international agenda while conforming to global commitments and maintaining internationally accepted standards. ICIMOD further partnered with RMCs to facilitate the implementation of REDD+ in the region, adhering to the relevant decisions of Article 5 of the Paris Agreement, the Warsaw Framework for REDD+, and the Cancun Agreement for financing landscapes. This was done to facilitate a long term performance–based RBP for local communities and local governments while addressing the drivers of deforestation and forest degradation and enhancement of carbon potential by designing suitable intervention packages. While using landscape based provisioning services as manifested in REDD concept and realisation that sustainable landscape management needs ong term financing, a broader concept of incentives for ecosystem services was envisaged while programme evolved through ground learning. As science of valuation of ecosystem services got evolved in KSL and KL, it brought improved learning on why incentives for ecosystem services could be the next paradigm at landscape scale management.

B) LEARNING FROM PES

In this context, ICIMOD, through various initiatives and in collaboration with other partners, conducted several action research projects to identify and understand possible PES schemes across the HKH, and came to the following conclusions:

Payment vs incentives: With the majority of smallholder farmers in the region, there is the willingness to pay (WTP) by ecosystem services users to manage upstream ecosystems (Rai et al., 2016; Bhatta et al., 2017). Since upstream management activities depend on support provided by ecosystem service users, payment is usually based on the improved quantity and/or quality of particular ecosystem services under the agreement. In many cases there is no clear linkage between ecosystem management activities and improved quantity of particular ecosystem services. In other words, determining how much particular ecosystem services can be increased by particular activities is complex. In such cases, resource managers, who are comparatively poor, may be at risk as their inputs may not be able to produce expected outcomes. As a result, resource managers may receive less payment than expected. Based on these findings, those cases concluded that input-based payment may encourage resource managers to participate in ecosystem management which maintains and/or improves the condition of the ecosystem in order to enhance the supply of ecosystem services. Therefore, the payment made to resource managers is an incentive rather than a payment based on the quantity or quality of services improved, and it would be better to rename the scheme as Incentive Payment for Ecosystem Services (I/PES).

Cash vs in-kind: The issue of governance is crucial to sustaining a I/PES scheme, particularly in the HKH. Ecosystem service users have a genuine concern about whether their payment will be spent on specified activities. Similarly, many ecosystem managers also have a similar concern about whether they will benefit from the payment made by service users. Considering this issue, cases in Nepal have explored how funds should be mobilized. The majority of service managers indicate that in-kind payment, as per the planned activities, would be better than cash payment.

Policy options: Existing policy provisions on I/PES were analysed in the selected four countries – Bhutan, China, India and Nepal in the HKH. The research findings indicated that a concrete umbrella policy or legislative instrument in HKH countries is lacking. However, there are a number of existing policy provisions and legislative instruments supporting the incentive-based mechanism (Bhatta et al., 2014; Rai et al., 2016). These studies suggest that an umbrella policy on payment or incentive-based mechanism would help to bridge the conservation gaps at the local and regional levels.

Institutional arrangements: Incentive-based mechanisms for ecosystem services follow a multi-sectoral, multidimensional, and an integrated approach in which coordination among various stakeholders, including government line departments, is crucial. There are different institutional arrangements in place, though not in a systematic way (except for China on the wetland compensation programme). Therefore, engaging local governments (such as the municipal authority) as a subsidiary organization to improve the effectiveness of PES or incentive-based schemes in the region is important. Further, a tripartite agreement including local governments, upstream communities (providers of ecosystem services), and downstream communities (consumers of services) is recommended. In Baitadi, Dhankuta, and Dharan in Nepal, such a tripartite model is well accepted by stakeholders in KSL.

Integrate I/PES schemes as part of environment impact assessment: Water – particularly for hydropower, irrigation, and drinking water supply – has become a crucial issue in the HKH. Research focusing on drinking water and hydropower projects suggest that if incentives for ecosystem services schemes are embedded within development planning, then the environmental impact assessment of development projects could be an effective way to incentivize local communities in the long run. In addition, this may contribute to minimizing conflicts between local communities and development agencies. As explored in KSL-Nepal, a tripartite institutional mechanism among upstream communities (producers), downstream communities (consumers), and local governments can help effective implementation of incentive schemes.

In general, research and experiences from the HKH showed a promising possibility for an incentive-based mechanism to encourage and acknowledge mountain communities for their efforts in conserving the ecosystem to maintain and/or improve the mountain ecosystem. However, to make I/PES schemes successful, clarity and transparency on conditionality, land tenure rights, contracting provisions supported by the legislative instruments, equitable benefit sharing mechanisms, and monitoring frameworks are key and essential elements.

Existing studies strongly suggest focusing on incentives rather than only payment based on improved quality and/or quantity of ecosystem services in the HKH. This mechanism not only improves ecosystem management but also increases transparency and accountability. Since I/PES schemes need to be designed based on local context, culture, and priority, a one-size-fits-all approach may not fit in the region. Accordingly, an overarching institutional framework might be helpful in streamlining such schemes at the national or transboundary level. Operationalization of I/PES is still in a very early stage and will need further evolvement in all initiatives.

3.6 Policy Influencing

The context

As countries that are still rich in natural resources continue to develop economically, the cross-border effects of global trade become an increasingly relevant issue during the implementation phase. The science of ecosystem services as shown above could be a useful basis for the design of land management policies. Tagging a value to ecosystem services as shown by research studies (section 3.5) can create compelling scientific evidence, which could help define a problem and bringing out probable solutions that policy makers may be interested in. However, it implied highlighting and reducing of the differences between ecosystem services studies in all their aspects. Only then can syntheses yield meaningful results that may help ecosystem services studies guide local land management, lead to better insight into policy transfer, and help address non-local effects of new policies where necessary.

BOX 16

PROTECTION OF 150 SACRED SITES FINDS A PLACE IN THE 13TH FIVE YEAR PLAN OF PULAN COUNTY, TAR, CHINA

The 13th Five Year Plan in Pulan County in the Tibet Autonomous Region, China, could build upon the responsible tourism guidelines developed around field assessment and the need for communication to multi-stakeholders. It also benefitted from the assessment of how cultural services can be valued, leading to incentivization of the local communities for preserving such sites. The partners realized that the overall tourism plan of the county could be made far more inclusive if cultural services/sites were included. Cultural services and responsible tourism for building incentives could be integral as these proved to be the policy ideas that met the expectations of Pulan county.

The policy options that can be suggested for better land management are co-determined by institutions. In hierarchical societies, it is unlikely that policy changes can be implemented if the groups in power oppose them (Eppink et al., 2012). The pathways for change (Stachowiak, 2013) detail 10 theories of change to provide useful insight into how the influencing of policy can happen and where institutions need to emphasize more.

Significance of policy influencing for transboundary landscapes

Recognising that transboundary cooperation at regional scale can benefit only if national level discourse on customised policies to enable such mechanism are achieved, policy engagement and influencing were seen as critical for scaling up and scaling out lessons learnt from pilot sites. ICIMOD's TBL approach has demonstrated the potential to promote sustainable development by securing ecosystem services for local to global benefits. It did demand, however, for enhanced policy and institutional coherence to make it happen on a "scale". SDGs articulate that policy and institutional coherence need to be achieved while respecting each country's policy space and leadership to establish and implement policies for sustainable development.

TBL initiatives have helped reinforce that the policy process is non-linear, dynamic, complex, and often long and drawn-out. The policy process also built on an understanding of the policy system in terms of "stated priorities, regulatory measures and laws, planning process, and investment decisions concerning a given issue" (ICMOD, 2016). TBL initiatives have took an iterative route to achieve key policy results, some of which are elaborated in the following section.

The key policy results (Boxes 16, 17, 18, and 19)

DISCUSSION AND ANALYSIS

In the case of yartsa gunbu, KSLCDI has brought two streams together – the way the problem is defined by focusing on the unsustainable management practices of collection and by bringing in a policy solution to the problem in terms of common guidelines on management, research, and markets. This fits well with the Policy Window or Agenda Setting theory. Change of Policy can happen during a window of opportunity when advocates can connect two or more components of the policy process (Kingdon, 2013). In fact, in this case, the initiative has attempted to create a policy window by focusing on the problem, building strong communication around it, and bringing it to the notice of multiple stakeholders, including policy makers.

It was found useful to understand many other instances of policy influencing in the TBL that have been built around the Power Elite Theory of Change (Mills, 1956). Those holding influential positions on the policy-making ladder have been cultivated with credible information, relationship building, and effective communication. Much of the work related to NTFP policy, springs, and the ABS bill falls into this category. Overall, key tools/processes for policy influencing under the TBL have relied on developing networks of partners, cultivating policy champions, collecting scientific evidence backed by results from pilots, key messages communicated in a manner the concerned stakeholders can relate to, and proactively seeking institutional engagement in the key committees. The TBL policy narrative also reiterates that policy influencing/uptake is as important at the local programmatic level as at the subnational, national, regional, and international levels.

THE WAY FORWARD

Through multiple iterations, TBL initiatives have made impressive gains in influencing the policy arena. Theories of change did help

BOX 17

REVISION OF THE NTFP POLICY BY NEPAL'S MINISTRY OF FOREST AND SOIL CONSERVATION

KSLCDI has generated regional learning that has assisted policy-making processes in Nepal. The country's NTFP policy is a case in point. It was important that support for policy-related work was rendered when sought by the Ministry. The expertise emanating from the landscape initiative conformed to the requirements of the country. However, given the fact that policy making is a long, drawn-out process, it was useful that ICIMOD had the opportunity to be part of the institutional arrangement to contribute to the process on a regular basis.

Learning made on access and benefit sharing from the Kailash landscape in Pithoragarh in India contributed to the drafting of the Access and Benefit Sharing (ABS) bill currently being considered by the Nepal Government. In this case again, the requirement of international protocol, in sync with the need of the national government, made the facilitation/communication easier.

As per the landscape assessment, the one need that was high on the priority of stakeholders was to generate compelling evidence to feed into the policy process.

Sustainable management of yartsa gunbu

The transboundary Kailash initiative has led to development of key recommendations for common research protocols, common management guidelines, and learning networks for Yartsa gunbu (*Ophiocordyceps sinensis*), for China, India, and Nepal with good ownership from the three countries.

It was designed to first build a shared perspective at the local landscape/national level. Policy, practice, and research issues and their transboundary bearing was then worked out. In a way, this fit well with demands from policymakers and management practitioners in the respective countries. Finally, at the regional level, key institutions and stakeholder communities provided common agenda points for policy, research, management practice, and markets. The national/provincial government and local-level institution are now in the process of mainstreaming regional protocols.

BOX 18

SPRINGS ON THE NATIONAL AGENDA IN INDIA

Piloting springshed management through ICIMOD and its partners in India and Nepal has led to recognition from the Planning Commission in India, the NITI Aayog, of springs and their significance for future water security for millions of mountain and hill populations in the Himalaya. A consortium or institutions and organizations have come together to address a lack of knowledge about the drying or springs, limited scientific attention, and inadequate attention in public policy across the Himalaya. The consortium of partners will also suggest the mainstreaming of springshed management into national plans and policies and to have these implemented through state and line agencies at the local level.

clear identification of strategies to influence policies as process route from converting outputs to outcomes and impacts identified stakeholders that need to be influenced with the evidence that was generated.

ICIMOD used a range of tools and methods for engaging with policy processes in its regional member countries. This also led to packaging of scientific evidence to help concerned stakeholders in the policy arena to easily relate to it is clearly necessary (e.g. Springsheds, Responsible Tourism). Transboundary landscape initiatives have driven home the need for harmonization of key sectoral policies in respective member countries to achieve the overall goal of transboundary landscape conservation and development initiatives. It can only get bigger and better from here.

3.7 Improving learning and accountability of transboundary landscape programmes

The Participatory Planning, Monitoring, and Evaluation (PPM&E) approaches applied provided better tools for improving learning and accountability for transboundary landscape conservation and development programmes. Participatory approaches bring together multiple partners from participating countries to reach a common understanding and agreement on win-wins by stimulating discussions around issues and challenges of common concern among multiple stakeholders across landscapes (Kusters et al., 2016). Doing so helped develop a common understanding around conservation and development issues involving these countries and agreement on institutional coordination and delivery mechanisms. It enabled discussions, negotiations, and joint planning between stakeholders from different sectors. At the same time, this approach potentially increased ownership of the programmes by stakeholders involved from various countries.

BOX 19

NATIONAL COORDINATION COMMITTEE (NCC)[6] AS COMMON NATIONAL FORUM/PLATFORM FOR POLICY INFLUENCING IN INDIA

At the national level it was our endeavour to have a common monitoring platform that converges the learning that emerges from above initiatives. This platform should facilitate the preparation of inputs to future policy and practice changes as requirement to counter climatic and non-climatic challenges as well as contribute data to national and global commitments (CBD, Paris Agreement). Therefore, the role of the National Coordination Committee is to ensure that above and new programme initiatives are efficiently implemented and are progressing effectively in accordance with the set outputs and outcomes, that balance and integrate different stakeholders priorities, keeping gender, equity and poverty in view, both vertically and horizontally (nodal ministries and departments, state/province, and community). NCC will be responsible for the supervision on timely execution of the programme at the country level with strong decision-making linkage with the state government of IHR and any facilitation on risk management that may be needed to ensure smooth operationalization. In particular, NCC tasks include:

1) Oversee the technical execution of the programme initiatives at country level with a focus on its organization and timely execution based on agreed principles and equitable and inclusive outcomes set in programme implementation document.
2) Liaise with other relevant ministries, national bodies and other ongoing country programmes and relevant peers with a view to link to national level networking with other national development strategic and knowledge forums
3) Guide and support in leveraging complementary other national funding resources to match programme funds.
4) Review annual progress reports and approve country programme annual plans and associated budgets.
5) Facilitate programme interaction with other relevant conservation and development related policy-science-practice players at different levels (nodal ministries, state/provinces, and community) through cross exchange on programme learning.
6) Assist in the conduct of the needs assessment regarding new approaches, in monitoring and planning processes and in integrated landscape management with multiple stakeholders for the identification, development and validation of improved land use/management techniques /practices.
7) Liaise with the other national or regional inter country overarching institutional mechanisms (e.g. Regional Steering Committees) and on-demand peers on consolidation of framework conditions for national and regional cooperation on conservation and development at scale of landscapes including at transboundary scale.

[6] The Government of Nepal's Ministry of Forest and Environment was the first focal ministry to create a National Coordination Committee. Other countries have followed suit as this national platform provides an interface to other such programmes and enhances mutual learning and, ultimately, policy influence.

A formative assessment of the use of Theory of Change (ToC) and Impact Pathways at ICIMOD suggests that the use of ToC is well institutionalized. The staff reflection taken during the assessment also suggests a strong positive sentiment towards the continued use of ToC. Part of the evidence of the high degree of institutionalization comes from the sophistication in understanding of the benefits of developing ToC and Impact Pathways by staff; their identification of issues in need of resolution; and the ideas and emerging practices to tackle these issues. What the staff who participated in the formative assessment liked about PIPA and the use of Impact Pathways were:

- The way of thinking – that it brings about impact
- The participatory process to develop impact pathways with stakeholders – that it gives purpose
- That it clarifies the output to immediate outcome linkages
- That it reminds us of deliverables and help clarify strategies
- That it highlights risks and assumptions and the non-linear aspects of the ToC

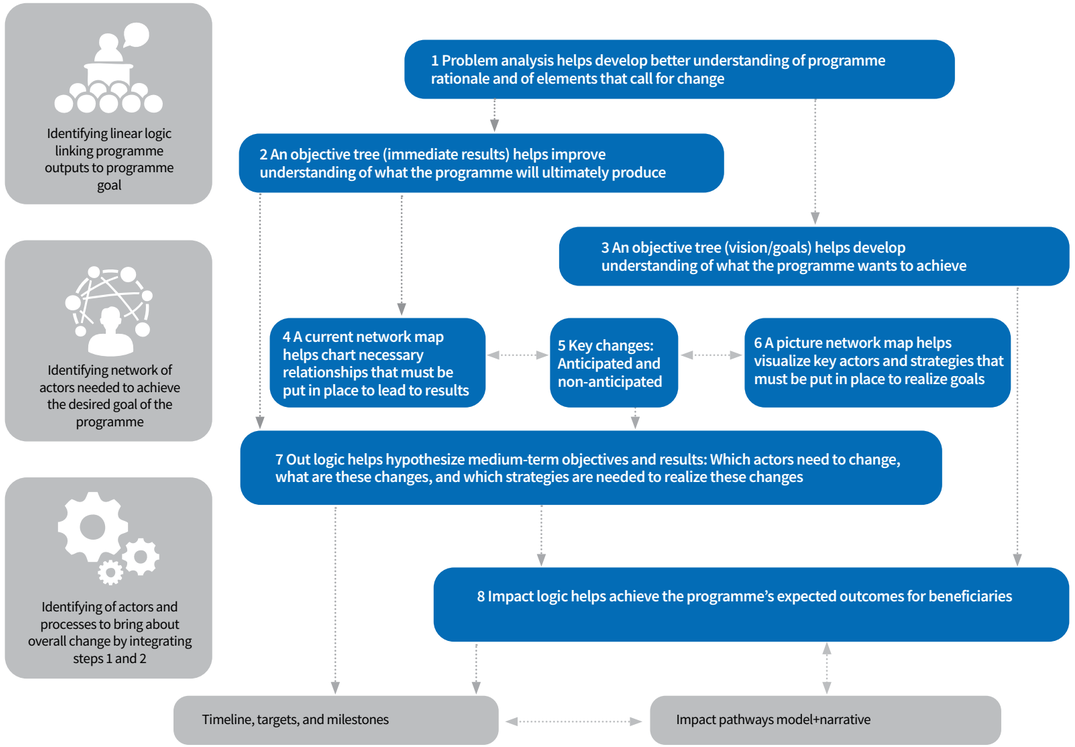
After the application of key principles and different country institutional contexts that challenge the broad understanding and actions related to ToC a mid-term assessment revealed that improvements can be made:

- Make the process of developing Impact Pathways simpler and more pragmatic
- Guard against the overly simplifying Impact Pathway diagrams
- Try not to plan that which cannot be planned
- Question the usefulness of planning beyond immediate outcomes in short duration projects
- Keep the Impact Pathways alive after the workshop to develop it further by revisiting it in future

This suggests that Theory of Change and Impact Pathways remain relevant as well as valid when revisited at specific intervals of programme implementation e.g. at least in the middle of programme implementation. Revisiting the Theory of Change was key to harnessing complexity because it allows for the early identification of outcome trajectories to which the project is contributing, which, if stabilized and amplified, can lever large-scale change. As a learning during the implementation, ICIMOD developed a five-step approach to doing this which successfully identified outcome trajectories that could not have been predicted at the start. The outcome trajectories added detail to the original project impact pathway without contradicting it – they helped identify, flesh out, and understand real, underlying processes and mechanisms with the potential to achieve the type of change envisioned in the original impact pathway.

Logical frameworks put more emphasis on outputs but also on risks, losing sight of the connection to their broader Impact Pathways developed at the start. Revisiting the Theory of Change lead to changes in action plans, logical frameworks, and performance indicators. Interactions and discussions during this process provide a great learning opportunity for the individual participants in general and for partner organizations in particular to better understand issues, challenges, and opportunities of common concern and common interest in the landscape. For instance, engagement on gender and inclusiveness was not a priority for majority of our country partners but could be built in as the programme progressed and ground issues emerged. Hence, critical reflection around fundamental questions while revisiting of the Theory of Change and Impact Pathways also helped improve learning and accountability of transboundary landscape conservation and development programmes (Figure 19). Thus, PIPA worked best in creating an appreciative space in which staff and stakeholders could agree on a common vision for their project and the overarching pathways

FIGURE 19 **SCHEMATIC REPRESENTATION OF PIPA PROCESSES ADOPTED FOR TRANSBOUNDARY LANDSCAPE PROGRAMME**



to achieve it, and see their respective contribution within them. This helped motivate action and build trust. PIPA also provided complexity-aware metaphors (pathways and networks) to help participants think about how programmes will contribute to change. Key to the successful use of the Theory of Change lied in differentiating between ex ante outcome pathways that predict future project outcomes and ex post outcome trajectories on how outcomes have been achieved.

However, instant understanding among country partners and success are not guaranteed simply by the application of these monitoring and evaluation tools and instruments. Each country partner has its own specific system of controlling and correcting implementing pathways. The project mode of transboundary initiatives is simply yet another project for partners with a limited project cycle. Huge adjustments are therefore avoided by them. Often very few elements of the monitoring instruments described in this chapter are mainstreamed. Most country partners, for instance, have been unable to mainstream changes related to gender sensitization as women staff are few in number and local community contexts need to be taken into account to see how much influence is possible. All this becomes a challenge when programme supporters only allow for a limited project cycle to measure impacts achieved. In the case of KSLCDI, the longest implemented transboundary project initiative, it was evident that country specific partners (BMZ, 2017) have updated their knowledge, attitudes, and skills promising more attention to and application of M&E concepts.

Theories of Change and Impact Pathways for each initiative were revisited based on feedback received from participants during regional events and building upon lessons learnt during country-level assessments. These revisions were guided by answers to fundamental questions such as:

- Is the programme doing well in terms of achieving its intended results?
- How has each programme's Theory of Change and Impact Pathway helped it achieve its intended results?
- What is going on well in terms of programme implementation and what can be improved?
- Which programme strategies have worked well?
- Are the assumptions unpinning the programme design relevant?
- What other factors influence the programme in terms of implementation and achieving results?
- What unintended results, if any, has the programme seen?
- Is there a need to revisit the programme implementation strategy?

3.8 Conclusion

- Regional Cooperation Frameworks are a good basis for officially creating a collaborative atmosphere which, with the growth of an initiative, can address the reservations cross-sectoral government agencies often have while building ongoing trust between the country partners.
- Exposure visits of interdisciplinary teams from landscape initiatives to best practices can be seen as an effective learning means of mentoring participants' for common vision and knowledge for ownership and dissemination of the concept.
- Harmonized approaches are important for effective communication among partners from different countries and meaningful comparison of outcomes in transboundary collaboration.
- The development and dissemination of best practices learning through fostered regional cooperation has improved the retention of capacity at national and regional levels in the HKH region.
- Keeping on board the diverse perspectives and capacities, the success of capacity strengthening work owes itself to continuous multi-stakeholder dialogues, prompt response to field emergent demands, and effective addressing of the concerns of specific target groups across all levels of engagement.
- Integration of ecosystem management with livelihood development interventions is essential for the success of conservation and development objectives in the context of HKH landscapes.
- Achieving coherence and synergies across sectors and stakeholders across boundaries as well as linking landscape learning to policies and government schemes enables scaling up of pilot interventions to the landscape level.
- Result-based Payment (RBP) has the potential to globally finance landscapes founded on the principle of performance-based incentives for changing behaviour that addresses drivers of deforestation and forest degradation.
- Policy messaging using innovative communication and other appropriate tools is key to helping stakeholders in the policy arena easily relate to policy messages.
- Involving the right stakeholders who would be the end users of scientific output is necessary to arrive at meaningful results (a win-win situation).
- Collaborative partnership for science requires the engagement of the academic community with its own sets of assumptions and risks in order to develop shared objectives at the beginning with clear and specific expected contributions from each partner.
- Participatory Planning, Monitoring, and Evaluation approaches better help manage impact(s) and improve accountability and learning for transboundary landscape conservation and development programmes in complex settings.

CHAPTER 4

Key lessons and narratives for staying together

Rajan Kotru, Nawraj Pradhan, Bandana Shakya

4.1 Key lessons

The distillation of the evolving process of a transboundary concept and its outputs so far from the preceding three chapters show that a "landscape approach" can trigger opportunities for common management of shared ecosystems within a particular landscape enhancing understanding of upstream-downstream linkages and thereby resulting in common actions. It can thus help mainstream standardized frameworks, protocols, and capacity-building packages and lay the foundation for effective and accepted transboundary cooperation arenas for the future. It is also evident that if cross-border consultative processes and probable joint solutions are backed-up, it is possible for countries to come together even in a tense geopolitical atmosphere. This is very much endorsed by the work of Ecopeace (www.ecopeace.org) a unique organization in the Middle East that brings together Jordanian, Palestinian, and Israeli environmentalists and civil societies. It uses the argument of protecting shared environmental heritage between these countries as basis for cooperation.

The achievements made over the course of the long-term utilization of funds, sharing of experiences and associated lessons at decision-making forums all strengthen future programme narratives and actions for the transboundary Landscapes in the HKH– to reach the envisaged 20-year goals. Lessons learnt at each stage of the design, planning, and implementation processes associated with transboundary landscape initiatives were given in the individual main Chapter. Here consolidated categorization of all conclusions and messages is broadly put under policy, science and practice emerging from the learning sequel of coming and growing together:

Process

- Transboundary cooperation built on consultative and iterative dialogues – where sovereign nations have a mutual understanding of the landscape approach – has the potential to foster trust to help nations overcome cultural and historical barriers, tackle common challenges over natural resources, and promote human wellbeing.
- Landscape Journey – a process tool enables live observations and interactions within landscapes and with stakeholders. Landscape journeys (yatra) are proven as effective means of reaching out to a maximum number of inter-disciplinary stakeholders within a short time and with minimum resource investment on the ground.
- Landscape-level stakeholder interfaces are viable platforms for profiling projects and creating local understanding of the same. These are instrumental in: (i) promoting partner synergy and ownership of a project; (ii) engaging with youth in a given landscape; (iii) motivating local stewardship for judicious resource management; (iv) strengthening integrated bottom-up and participatory planning; and (iv) influencing demand-oriented policy change.
- Identifying individuals and champions committed to the long-term process helps deliver better results for successful implementation beyond the log frame of a given transboundary Landscape programme.
- Strategies to encourage wider adoption of a landscape approach by engaging with local people and to enable development service agencies better implement the concept of intertwined ecosystems at scale should sync with the integration of multi-stakeholder priorities backed by scientific data so that trade-offs between conservation and development can be assessed, and public and private investments mobilized accordingly.
- Proactive platforms, networks, and units that support regional programmes orientated to transboundary cooperation drive national and sub-national processes. Such inter-country learning and planning networks supported by in-country partner institutions must have at least half yearly interface so that these remain networked, functional and focused.
- Customized communication strategies are necessary. Communication strategies designed with and customized to the needs of specific stakeholders are essential to capture process outcomes and identify innovative measures at different levels of decision-making, thus enhancing partnerships and commitments for long-term transboundary cooperation.
- Transboundary cooperation takes time and evolves gradually. Scientific and technical cooperation can set the foundation (for example filling data deficits on climate change, ecosystem services). Such cooperation are built on non-political thematic priorities in the landscape as well as societal priorities on livelihoods and development.

Practice

- The landscape approach aims to balance community development and conservation priorities at scale. It takes into account the results of ecosystem services vulnerability assessments and its own amenability to being incorporated into existing state/local government intervention and investment plans. It strengthens cross-border institutional arrangements and with the result on-the-ground governance.
- The transboundary landscape approach, although intervention-wise often location-specific, but its outcomes and impacts encompass a range of geographies and cultures, and types of actors, institutions. (e.g. Regional water security is a wider objective achieved through sustenance of springsheds in different countries).

- Stakeholder ownership can be increased by taking into consideration stakeholder priorities and the availability of public and private funds. For instance, targeted discussions on seeking UNESCO World Heritage Status should include related ministries and institutions that will derive potential benefits as a result of such a status being conferred.
- The strengthening of existing mechanisms for cross-border institutional interactions helps identify conducive areas for bilateral cooperation – transboundary tourism and product branding opportunities, for instance – as ways forward to achieve greater regional cooperation and policy influence.
- The adoption of common frameworks and methodologies that provide comparable long-term learning, research and monitoring data and information at scale are able to generate evidence to influence policy-science-practice and shape future national and regional programmatic interventions.
- Ownership of the transboundary concept is ensured if local communities feel that related programmes improve their livelihoods and wellbeing. Partner organizations should prioritize working towards better ecosystem management, delivering goods and services, and learning, while adding value to existing goods and services portals in alignment with community needs.
- Complementary learning from the field on common cultural legacies being non-conflictory (heritage sites/their value, cultural festivals, etc.) deserves more attention as it can brings participating countries together and contribute to long term building of peace and stability in the HKH. This can be supported by international or bilateral agreements that member countries commonly agree upon.
- Livelihood and value chain analyses, product selection, and value addition efforts that are transboundary in nature heighten the scope of involving the private sector from the start of a project and can lead to self-driven processes and needed investments that forge long-term cooperation between private sector entities across boundaries.
- Data and findings from transboundary landscape initiatives, REDD+ pilots, and associated studies as well as HIMAP Report show that patterns of environmental change around the HKH make it more vulnerable to climate change than other regions. Therefore, climate-resilience building efforts need to be integrated into the adopted landscape approach.
- In the context of the HKH, hand-holding by ICIMOD (as regional knowledge enabling and intergovernmental organization) and professional partners complemented regular interaction and mutual exchange between country partners. Such institutional efforts are vital for better and long term team coordination and communication among country partners and for strengthening linkages with pilot communities and wider stakeholders.
- In order to ensure sustainable investment for landscape conservation, efforts to leverage funds should continue long before a project cycle is to end. This applies for country nodal agencies also to explore for potential funding options nationally even as the first project investments are carried out.

Policy

- Communication with strategic, implementation, and development partners for effective coordination lends efficiency to transboundary initiatives, while demand-based research findings and their proactive communication drive uptake at the policy and practice levels.
- Comparable and disaggregated data are required for planning and implementation purposes. Generating and using such data should be the focus of transboundary initiatives from their very inception and built into partnership agreements.

- Monitoring and Evaluation (M&E) needs to be strengthened to focus on improving delivery and shared understanding from partners regarding how activities deliver outputs and in turn how outputs are converted into outcomes. Quantitative and qualitative disaggregated data emerging from regular monitoring according to set targets in the M&E plan need regular follow-up for efficient course correction.
- Achievements, lessons, and risks that are regularly monitored and supported by in-depth end-line and impact assessments are very useful in taking evidence to decision makers in relation to policy and practice at all levels – local, sub-national, and national.
- Valuation baseline data on ecosystem services can provide the basis for discourse on incentives for ecosystem services, thus paving the opportunities for financing landscapes according to their performance in terms of mitigation and adaptation (e.g., carbon sequestration, water security).
- Transboundary landscape programmes need to identify strategic forums to share their experiences and lessons at the national and global levels. Simultaneously, engagement with country partners in the field can ensure that country ownership for regional cooperation is further strengthened and national level policy and strategic avenues are influenced to pay attention to transboundary learning.
- South-South dialogue platforms, existing mechanisms for cross-border institutional interactions, and areas conducive to bilateral cooperation (e.g., wildlife management, transboundary tourism) provide ways forward to achieve greater regional cooperation and policy influence across RMCs.
- Transboundary cooperation built around mutual areas of interest (e.g., Aichi Targets, access and benefit sharing under Nagoya Protocol[7] , SDGs) can trigger cross-exchange of policy learning and its adoption at national level.
- A transboundary specific "landscape approach" presents a viable opportunity to contribute to joint capacity building of regional countries to meet the milestones set for national and international agendas (e.g. NDC) while conforming to global commitments and mainstreaming internationally accepted standards. Thus, it can also influence the contributions made by RMCs in global forums.

4.2 ICIMOD's contributions to transboundary cooperation

As demonstrated by numerous lessons and key messages Transboundary cooperation is a concept for the future – one that bridges nations for peace and stability based on balancing conservation and development at scale with common understanding and acceptance. Based on the key policy-science-practice lessons, it then becomes incumbent to get established collaborative processes and ownership going and what can be done to make country stakeholders "Stay Together" so that the argument of more win-wins than losses gains currency. This implies that once countries or country partners came together to conceptualise a transboundary concept it needs to evolve as a long term "Coming together-Growing together-Staying together" kind of practice and partnership concept. In other words, right from the pre-feasibility or preparatory phase a process of "Thinking Together" is casted. This is elaborated further as under:

[7] The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) is a supplementary agreement to the Convention on Biological Diversity. It provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources.
The Nagoya Protocol on ABS was adopted on 29 October 2010 in Nagoya, Japan and entered into force on 12 October 2014, 90 days after the deposit of the fiftieth instrument of ratification. Its objective is the fair and equitable sharing of benefits arising from the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity.

Our coming together

At the outset, ICIMOD's transboundary landscapes conservation and development initiatives dedicated their attention towards developing of feasibility studies, country conservation and development strategies and long term action plans, dominated by biodiversity conservation tenets with link to CBD, Aichi Targets, Nagoya Protocol, and Environmental Monitoring. Science around conservation had been an entry point for carving out a transboundary landscape concept specific to the HKH context. The planned science focus tended to be supply driven (e.g. number of species of the landscape, new species identified) as it had to be linked to national level conservation specific priorities mainly reinforced through countries' commitments under CBD and SDG. Only a few departments and line agencies cooperated. This is the norm as each institution has its specific sectorial, research or development focus, its own way of working, and allocated funds for planned interventions. Further, the scientific institutions (as recommended by country focal ministries) that were part of the conceptualisation phase did not have the mandate to touch cross-border themes upfront as sovereignty issues would raise queries of country governments.

During the conceptualization phase, ICIMOD brought together scientists from diverse fields to devise a joint five-year action plans defining common scientific avenues to focus on. Assessments of ecosystem services vulnerabilities, invasive species, and adapted livelihoods were some of the areas identified. The preliminary years were spent preparing scientific frameworks and methodologies. It took a while for the focus to shift from the science to the people. Ground-level stakeholders' interaction were still limited.

At the landscape level, it was clear to scientists, researchers, and implementers that all aspects of conservation and management of ecosystem services at landscape scale are intensively intertwined with human needs and have associated impacts.

An integral part of the stakeholder process was the pro-activeness with stakeholders – ranging from low- to high-level personnel involved in decision-making at the province/state and national levels, for instance. The level of cooperation depended on either building an institutional mechanism (a national coordination committee) or linking to an existing institutional mechanism (district/Gewog/prefecture authorities or local forest departments) that takes the learning higher up through formal channels. Cooperation at the highest national levels was strongly linked to the innovative knowledge that the landscape approach brought to the table and was connected to global commitments each participating country was party to such as the Aichi Targets, the Nagoya Protocol, the SDGs, and the Paris Agreement. Based on local and national interests, transboundary issues started receiving attention as the implementation phase of a project progressed. This enabled national partners to justify engagement with transboundary institutions – e.g., by building awareness of the benefits of transboundary cooperation to wildlife trafficking and bio-corridor restoration in neighbouring protected areas.

Framing of inter-country "regional cooperation framework' helped participating countries set a 'soft' guideline for facilitating long-term transboundary cooperation. Inter-country cooperation helped build a framework through which participating countries can identify issues with transboundary relevance. Such relevance ranged from science to practice and policy. The Indian Wildlife Action Plan, which has been informed by transboundary learning, for instance, proposes strong transboundary cooperation and knowledge sharing.

A cross-border Human Wildlife Interface related workshop in Kangchenjunga Landscape (in December 2018) was guiding to set up a road map to counter the challenges related to transboundary conflicts (e.g. due to disturbance of Elephant cross-border corridors between Bhutan, India and Nepal).

As the piloting process progressed and a stronger interface developed with the local communities and other stakeholders – all pursuing sustainable development concepts – the need for the vision to be connected to realities on the ground become more apparent. Poverty, inequity, cultural degradation, climate change, and vulnerable livelihoods emerged as persisting primary environmental and social challenges faced by local communities. The use of Landscape journeys process tool helped consolidate preliminary knowledge on how strongly numerous stakeholders and their activities and interests are intertwined within a landscape and how policies and strategies are unfolding on the ground. Most of the feasibility studies conducted in pre-project phase did not touch upon the in-depth cross-border aspects of conservation and development pertaining to cultural links, informal trade, and conflicts, and hence, not much was planned with regard to how to make the best out of existing cross-border institutional mechanisms. The ground level information used along with information presented by socio-demographic and economic baselines helped identify socially relevant livelihood promotion opportunities– e.g., tourism, culture, and product value chains, including areas that require long-term functional transboundary cooperation.

Since piloting of groundwork happened at the sub-national/ national levels, it was important to establish cooperation among participating countries by paying attention to their respective existing administrative, natural resource governance, and political contexts. Hence, cooperation at the sub-national level, where issues such as migration, livelihood vulnerability, and human-wildlife conflict are part of stakeholder interests was built around finding trade-offs in conservation and development (linkage with public schemes of biogas or rocket stoves for energy-use efficiency and promotion of markets). Essentially, this meant clearer articulation of local needs and of how using research data and livelihoods as entry points, initiatives can forge cooperation between actors and sectors at scale (e.g., at the district administration level, complementing public schemes mutually). Hence, coming together of country partners was also about narrowing down on conservation and development avenues around which transboundary concept could be built.

Our growing together

There was growing acknowledgement that conventional sectorial or science-based approaches to address often inter-connected social, environmental, economic, and political challenges are insufficient. Though a focus on integrated solutions at landscape scales – a landscape approach – was the paradigm, but in reality, work was being done in smaller pilots and often not in a real transboundary context. This did not do justice to the overarching concept of coming and growing together. On the other hand, experience has shown that such a concept needs to be contextualized and local specificities need to be captured for planning and implementation. Getting spaces within the local development platform – as provided by the district administration, Gram panchayats (village councils), and prefectures – presented opportunities to lay the ground for balancing conservation and development priorities, and associated interventions and investments in the long term. These acknowledgements helped collaborating scientific institutions to adjust the common vision for the landscape that also took into account the priorities of landscape stakeholders.

The programme adopted practices that would help achieve multiple objectives. Integrated strategies were devised to manage spatial and seasonal interactions across different land uses and users, linking interdisciplinary institutions and establishing transdisciplinary mechanisms for stakeholder dialogue and networking, negotiation and action, the shaping of value chain markets, and the planning of frameworks and policies to support outcomes envisaged in planned projects. However, these institutions still worked in silos and more than often with a specific research focus that did not necessarily adopt a real participatory approach that could drive research and development interventions.

Over the first five years of implementation, the programme saw remarkable growth with regard to integrating landscape management activities on the ground and saw increased support by policymakers, political leaders, and businesses. The potential of working at scale was recognized in terms of how it leads to sustainable development as well as sustained business (Scherr et al., 2012). To achieve this, regular and multifaceted capacity-building and mentoring inputs were introduced and their outcomes regularly followed up in terms of changes in institutional knowledge, attitudes and skills. In the field, hand-holding complemented partner efforts.

This move from a purely conservation-oriented approach to a people-oriented mode of planning and implementation was also triggered by questions from local and political stakeholders who repeatedly asked what landscape-level interventions would change for people. However, the focus of landscape initiatives on livelihoods, ecosystem management for sustaining services, biodiversity conservation, the

establishment of environmental and socio-ecological monitoring, and regional cooperation on enabling policies and knowledge management did not resonate with participating institutions. This meant that to make them converge towards common belief in the concept leading to common outcomes in a given pilot was not straightforward. Such a convergence was not possible at the onset of implementation because:

- The focus areas identified were entrusted through formal agreements to different institutions that were not actually placed in the landscape.
- Institutions were used to maintaining status-quos of their existing institutional culture, which meant also that adaptation to change is often very difficult or very slow.
- Within individual countries, partnering institutions were often located in different locations. Additionally, there was no sweeping institutional orientation. Instead, only a few individuals across partnering institutions that were part of conceptual phase were able to support the concept.
- Long-term monitoring was not necessarily seen as a needing participatory approach and the high costs associated with working in remote areas limited institutional activities.
- Most of the partner institutions were pursuing academic research through young scientists (Msc, PhD) so that flexibility of sharing data initially even within country partner institutions was a hindrance to convergence.

Hence, thinking and growing together was a major process-outcome from the early five years as all participating countries could anticipate and address the needs for adapting their individual institutional culture. Joint mentorship (Handholding in the field, Exposure to other landscapes, capacity building events, joint review meetings etc.) lent consolidating the team spirit at the inter-country scale.

Our staying together

Multi-sectoral and integrated landscape approaches are being adopted by resource users and managers to sustainably manage resources by considering, reconciling, and synergizing their various interest and activities (Frost et al., 2006). Approaches to integrated landscape management are currently garnering new interests as scientists, policymakers, and local stakeholders recognize the need to increase the multi-functionality of ecosystems for livelihood improvement and ecosystem conservation (Freeman et al., 2015). As momentum was built for landscape thinking, planning, and management, there was clear articulation of core landscape terms and concepts necessary to advancing communication and understanding among stakeholders at scale. This is important as effective inter-sectoral coordination in an advanced stage requires that stakeholders share evidence, information, and best practices, and that planning, implementation, and monitoring processes are harmonized at the landscape level (Scherr et al., 2013).

A landscape approach, whether at a national or transnational scale, is an evolving one. The basic concept is regularly challenged by different stakeholders whose interest and mandate can change on a very short notice (e.g. postponing of some key cross-border joint events if there are government to government disagreements) but can be forthcoming in the long run. Landscape-level bottom-up planning involving local populations clearly illustrates this. Local populations are found to prioritize issues and opportunities that need multi-scale and multi-level analyses so that demand-oriented research – for finding human-wildlife hotspots and recharge zones for dying springs, for instance – need regular calibration and demonstrated complementarity of public and private investments that utilize local resources and attend to local priorities. The options and opportunities to stay together are categorized as follows:

A) BY LINKING TO SUB-NATIONAL DELIVERY SYSTEMS

ICIMOD's experience showed that local development authorities and associated line agencies who manage public investments are often appropriate partners. Inter-sectorial partnerships often work in sub-national landscape pilots where implementing agencies can find resonance with each other at the planning and investment levels (e.g., if the initiative has prepared a local level participatory micro-plan that can be basis for other line agencies to invest their public programmes thus avoiding duplicity) rather than in the policy domain. In the latter, sectorial policies are made for long periods and are often not aligned to each other (e.g., a forest policy may not be in sync with an industrial policy or a tourism policy that proposes mass tourism). However, cooperation must not be restricted to information sharing and selective consultation but include the incorporation of lessons learnt from pilots into planning and policies. But, creating evidence that is demand-driven in a transboundary context needs a time frame of 5 to 10 years to bring early scientific findings to policy and practice influencing forums. Proactive engagement is integral to influencing policy and practice. In the Kailash Sacred Landscape, getting the governments of the Tibet Autonomous Region of China and Nepal to agree on matters of bilateral tourism cooperation is its endorsement at the highest level. Similarly, countries in the Kangchenjunga landscape agreeing to work on the promotion of regional tourism and on developing a joint set of guidelines for the landscape reflects a growing sense of cooperation and recognition of common win-wins.

B) BY FURTHER LINKING SCIENCE TO POLICY NEEDS

Scientific cooperation and early implementation of lessons learnt grow organically when country partner teams think, implement, and reflect together and are also mentored together in the use of best practices. Cooperation among country partners can be strengthened through jointly prepared annual plans, mentorship and capacity building inputs, annual planning and review events, and common knowledge products. The NITI Aayog in India adopted national action agendas on tourism, springsheds, and data management in 2018. The working groups involved in these important policy-level documents substantially utilized, inter alia, lessons and experiences from ICIMOD's transboundary landscape initiatives, as compiled and analysed over the past five years. Similarly, work on yartsa gunbu has found space in new management directives in India (Uttarakhand state, MoEF&CC) and Nepal (MoFE). In the context of Nepal, the country's recent engagement with the Subsidiary Body for Scientific and Technological Advice (SBSTA) had a big part to play in its achievements. In a major SBSTA Meeting conducted by the CBD Secretariat in 2018, Nepal appreciated the efforts of the Secretariat and, based on relevant learning from ICIMOD's transboundary programme, welcomed Agenda Item 9 with voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction (UNFCCC, 2018). Thus, concrete science inputs going into decision-making at the global level needs ongoing effort.

C) BY LINKING TO BIODIVERSITY CONSERVATION AND ECOSYSTEMS

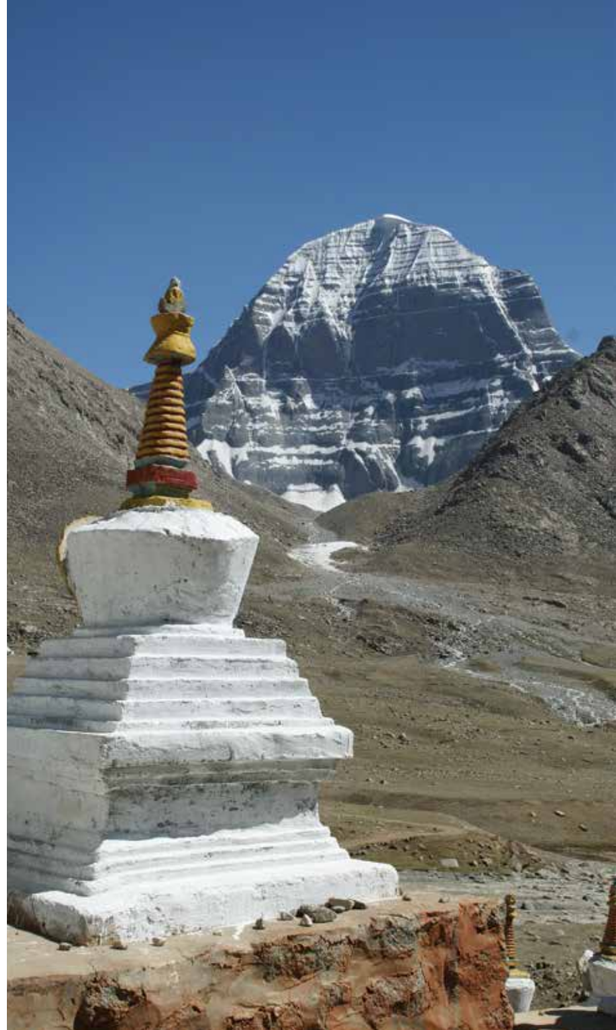
Biodiversity resources in a mountainous country such as Nepal has seriously suffered from climate change effects and the effects of natural disasters. It is therefore recommended that the adoption of ecosystem-based approaches and disaster risk reduction approaches be done in collaboration with countries at the regional, transboundary level. It is also imperative that upstream-downstream linkages among transboundary countries be maintained and their pristine ecosystems conserved and restored. Among other things, Nepal has been engaged in North-South landscape-level biodiversity conservation in KSL and KL along the Nepal-China and Nepal-India borders respectively. Nepal's experience was recommended to "Enhance and strengthen transboundary approaches at the regional level and adopt ecosystem-based approaches to climate change adaptation and disaster risk reduction". In capacity-building arenas at the academic level, landscape learning has been provided to all key curricula being framed for Master of Science (MSc) courses on environment management (e.g., at Tribhuvan University and Kathmandu University in Nepal). As climatic and governance challenges become more complex there need to be further efforts for converging knowledge.

D) BY LINKING TO SUB-NATIONAL AND NATIONAL PLATFORMS

The landscape approach faces the continual task of harmonizing new issues (e.g., resilience building due to impending climate change) or provide credible solutions that need to be understood and delivered. It was felt that a functional institutional mechanism that served like an electric circuit with a diverse set of interconnected nodes that may work both ways was necessary – such as establishing of National Coordination Committee on Landscape in India needed a demand from the state of Uttarakhand: sub-national to National Level and vice-versa. However, this required the quantum and quality of evidence from ground level to trigger a national level institutional response for long term owning of the concept. ICIMOD thus adopted an evolving landscape approach (refer section 1.1) to conserving biodiversity and sustaining ecosystem services as effecting convergence and integrated planning and implementation to reinforce a long term agenda of inter-sectoral /regional cooperation in a traditionally stand-alone culture of institutions. As Horn and Meijer (2015) conclude, in an ideal landscape all stakeholders would have access to the same information, knowledge and technology for making optimal decisions on land use and be able to monitor the effects and progress, and institutions would create a level playing field for all parties involved. The testimony of strengthening transboundary cooperation is manifested by events like the Zero-Point Festival in the HKPL (refer section 2); Askot-ANCA, Pulan County and Humla district interfaces in KSL (refer to section 3.4, Box 15); and ABS transfer of knowledge through inter-country learning exchanges in KSL; and common interest in regional tourism and bio-corridor planning in KL. Common areas of cooperation and mutual benefits (examples as above) are acceptable to all key ministries and hence the right areas of interventions finding ownership at cross-border level.

E) BY LINKING TO CLIMATE CHANGE CHALLENGES

Given the findings of Wester et al., (2019), it is self-explanatory that new challenges will need updated and inclusive solutions and hence lead to further evolving of the transboundary landscapes concept. The real test of transboundary cooperation in conservation and development is at the national level where focal ministerial level learning and experiences spread amongst other ministries that are mandatorily sensitive to sovereignty and geo-political issues such as Ministries of Foreign Affairs, Ministry of Defence). An early inter-sectoral Wide buy-in is particularly advantageous when negotiating with powerful ministries such as agriculture, energy, planning or finance. In other words, a multi-stakeholder engagement and consideration of their aspirations in a policy document should lay basis for a multi-sectoral partnership in the design and delivery of planning and programme implementation. ICIMOD's experience



has shown that unitedly, partners are able to influence policy and practice forums not only at the national level but also at the global level – the UNFCCC, the GLF, the CBD, the CoP, and the IPBES. Such united efforts can help ensure that experiences garnered and lessons learnt at the sub-national level can find articulation and ownership at higher levels of decision-making. Interactions with country focal points for the CBD and the UNFCCC, for instance, can go a long way in taking such experiences to higher levels. Such efforts facilitate cooperation as demonstrated by the Programme Steering Committee of the KSLCDI, which provides space for the governments of China, India, and Nepal to jointly evaluate progress at the transboundary scale, approve the initiative's annual plan, and strategically guide the way forward regional actions.

Project supporters/funders are interested in learning how transboundary cooperation can contribute to the greater regional cooperation agenda and how it represents a wider canvas of opportunities to be explored – trade, cultural connectedness, and tourism rather than only science and biodiversity conservation. However, there are national as well as development aid angles to be considered with long-term investments, and the two are not always compatible with each other. Experience has shown national public investments start flowing in once regional countries are convinced about a concept and the first set of lessons learnt show opportunities for enhancing local pilot landscape programmes. An example would be regional tourism circuits as opportunity or international tourism cooperation zone (NITI Aayog, 2018). However, investments in a volatile atmosphere mean that global problems and politics often demand a change of focus from a project even within the agreed implementing phase. This has serious repercussions for securing long-term partner commitment and confuses local communities as to why goal-posts seem to be shifting. Such experiences make a case for the need to tailor sustainable landscape programmes to the specific goods and services they provide in order to ensure investment flow.

F) BY LINKING TO STAKEHOLDER DEMANDS AND OPPORTUNITIES THEY PROVIDE

In the context of the evolution of a transboundary concept, it is obvious that partnerships need customization. This is necessary not only for common understanding and intervention logic, or on financial sources for promoting such a concept, but also on branding of the evidence as per the stakeholders needs whom we want to reach (from practice to policy). In the KSL, for instance, the sacredness of the landscape and its cultural values could not have been understood if the local wisdom had not been collected in books (Kapur and Adhikari, 2017) and an inventory of all sacred sites in all three participating countries was not effected on the scale of the whole landscape. In other context, the Zero-Point festival in the HKPL has shown that a common cultural interface and shared festivals and markets can bind a landscape together so that participating countries can explore new avenues for transboundary cooperation (e.g. Bam-e-Dunya learning network (section 2.4.2) in the HKPL is one example). In China, the decision taken by Pulan County to elaborate on the International Tourism Cooperation Zone after four years of implementation by the KSLCDI on responsible tourism (e.g., hospitality, waste management) is a good example of long term economic relevance that is attractive for Nepal and India as tourism is not necessarily a conflictive subject. Hence, in an evolving landscape approach, multi-sectoral partnerships for common benefits at scale will grow organically, and a continual process- and focus-adjustments will be part and parcel of staying together for all the regional cooperation outcomes to bring transboundary landscape benefits.

CHAPTER 5

Opportunities for the future

Rajan Kotru, Nawraj Pradhan

It is amply demonstrated that transboundary cooperation is contingent on the implementation of an evolving landscape approach. This chapter lists opportunities that allow countries to explore common future areas of work– the areas for fostering regional cooperation and strategic partnerships. Wester et al., (2019) emphasize that any region with interconnected landscape resources, must innovate science-practice-policy processes that goes beyond the level of individual countries. It reiterates that:

- The mountain ecosystems of the HKH need an integrated and transboundary conservation approach at the landscape scale for sustainable development.
- Regional efforts will enhance the resilience of HKH ecosystems to climate related extreme events while conserving biodiversity and promoting human wellbeing.
- Investments in mountains should be made where they are most needed to conserve biodiversity, sustain ecosystem services, alleviate poverty, and provide sustainable livelihood opportunities (Wester et al., 2019; Pg 127).
- Science-policy-practice interface must be in place for decision making, learning, and effective implementation of programmes for managing connected landscapes.

Future interventions such as collaborative leadership and trust for deriving and strengthening novel partnerships between science, government, business, finance and civil society, thereafter, reinforcing collective commitments to actions would be crucial (adapted after GLF, 2019).

In the HKH, due to impending climate change threats and national commitments to global agendas, all RMCs have begun a review of their policies and national strategies (e.g., climate, forest, rangelands, tourism) by taking transboundary and regional cooperation perspectives on board (e.g. Draft Indian Forest Policy, China's Biodiversity Action Strategy 2030, revised forests policy and legislative Act of Nepal, in process MoU between Nepal and India on Biodiversity Conservation). This presents a prime opportunity to prepare evidence at transboundary scales and contribute to transformative change processes in the region. Therefore, transboundary cooperation at scale can help implement the rules of policy instruments – incentive payments for the use of ecosystem services, for instance – related to ecosystems management and people's livelihoods – including resource governance, agribusiness development, and value chain development. The International Consultative Workshop "Bridging Boundaries" concluded that in HKH upstream-downstream contexts of river basins can benefit from learning from transboundary landscapes which are placed mostly in upland and that synergy could be built between the two approaches (ICIMOD, 2019). Together these can contribute to the design and update of policies and actions at the community and institutional levels. In addition, such work will need ongoing policy engagement on:

- Providing evidence based support on key NRM policies in HKH countries. The focus should be on mainstreaming the idea of transboundary cooperation and bringing evidence from the local and subnational to national and global levels.
- Strengthening policy engagement/around key regional issues and global commitments and obligations (e.g., NDCs, CBD, SDGs).
- Enhancing two-way customization for mountain-specific agendas in global policy arenas through bodies such as the IPCC, UNFCCC-GLF, CBD, UNCCD, the Ramsar Convention, SAARC, and IPBES.

5.1 Setting the stage for regional cooperation in the Hindu Kush Himalaya

ICIMOD's Regional Programme on Transboundary Landscapes will need to continue building on the policy deficit analysis as evolving context of "Landscape approach" across-borders provides regular insights into avenues that need attention (e.g. How will Incentive based mechanism work at cross-border upstream-downstream context and which policy and strategic level intervention will facilitate this at country levels). Drawing on the Participatory Impact Pathway Analysis (PIPA) process and quasi-experimental field experiments, stakeholders at different levels will need to be further engaged to help identify actors and factors that are key to achieving desired policy outcomes. Networking with institutions that have been at the forefront of science and policy interface – the Centre for Policy Research in India, India China Institute, Aryabhatta Research Institute of Observational Sciences (ARIES), IPBES, and respective national focal points and specific task forces, planning commissions, and policy stakeholder forums – will help complement this policy influencing work.

The configuration of the transboundary landscape approach, post 2018 (ICIMOD Medium Term Action Plan IV) has to be built on the progress made towards facilitating multi-stakeholder process for promoting collaborations across communities – such as on eco-tourism, promoting common value chains, Yak network, watershed level planning for connectivity and water use, curtailing wildlife poaching, trade, and forest fires, among others. These efforts are only indicative of the necessity of strengthening vertical and horizontal linkages and collaborations among a range of stakeholders. The

transboundary landscape concept is yet to evolve beyond often non-effective bilateral treaties and biodiversity conservation interests to promoting collective social and environmental wellbeing at the regional or multi-country scale. The assemblage of various processes, tools, and mechanisms related to knowledge creation and sharing at the regional level must continue to provide important insights into how multi-stakeholder partnerships, investments and commitments are strengthened and innovated upon. Given the ecological complexity and political sensitivities of multilateral environmental governance in the HKH, it is important to envision multiple ways of knowledge sharing and policy engagement. However, lessons from similar existing practices – where there are open and semi-open borders, such as those between India and Nepal, Bhutan and India, and Nepal and China – can be extended to other areas of the region and even to other non-regional mountain landscapes.

This revised focus of transboundary landscapes has also been on encouraging participating countries to make new commitments at the national and global levels – such as the Paris Agreement and the SDGs – so that the broader objective of demonstrating regional cooperation is set. This implies that the transboundary landscapes programme at ICIMOD needs to:

- Continue to provide credible information on resource availability, its usage, and its distribution over space and temporal dynamics with scientifically collected data so that the landscape approach can evolve further.
- Provide a realistic scenario related to transboundary issues, which might be useful in highlighting the potential challenges to transboundary cooperation in the context of the water-food-energy nexus across the landscape.
- Identify potential areas of cooperation and develop common platforms for knowledge sharing among scientists and decision makers to work on issues around floods and other natural hazards, cross-border forest and wildlife management, sharing of groundwater, management of transboundary aquifers, river navigation, and development of cultural heritage tourism.
- Integrate best practices in conservation and development at the landscape scale, and harmonize them for topical and customized cooperation, structural reform processes, and procedures.
- Build on existing cross-border governance mechanisms for regional cooperation, e.g. for trade and investments, sustainable resource management, and disaster risk reduction as well as develop packages of cooperation constituting products and services of regional interest.
- Strengthen and re-organize conservation and development perspectives through multi-stakeholder engagement and the conversion of processes in the agreed-upon Regional Cooperation Framework to achieve real transboundary cooperation, which is essential to forging collective new solutions for mitigating governance deficits.

Based on our experiential learning the following key questions are evident and need future response accordingly:

- How to agree upon a common management system for shared ecosystems and bio-resources given the plethora of problems at the local and transboundary levels – such as human-wildlife conflicts, forest fires, Illegal wildlife and non-timber forest products (NTFP) trade, among others.
- How to ensure water security in upstream-downstream contexts given the degrading impacts of climate change on permafrost, glaciers, springsheds, and wetlands.
- How much of mainstreaming of standardized frameworks and research protocols and pilot best practices to influence policies and national development strategies for transboundary cooperation in different local and political contexts is possible.
- How to further coordinate strategies and plans encouraging synergies among national, sub-national, and local governments, and make best use of scarce financial resources by reducing redundancies and increasing sustainable development returns on investment through effective planning and decision-making at all levels of government.
- How to further reach common solutions that achieve multiple objectives at scale. For example, can a cross-sector programme for watershed restoration conceived and implemented with a landscape approach that systematically considers multiple sectors and diverse stakeholder needs.
- While we set long-term goals and milestones for transboundary cooperation, how to address short term expectations of donors and programme supporters that seek overall faster policy changes and programme coherence and effectiveness.
- How to continue strengthening capacities of communities through multi-stakeholder processes which lead to inclusive, participatory process that engages all stakeholders – including women, youth, mobile communities, indigenous people, smallholder producers, and other marginalized and vulnerable people – in collaborative decision-making and management of natural resources.

In addition, the transboundary landscapes regional programme will need to work on the following cross-cutting issues:

A) UNDERSTANDING HOW MEGA INVESTMENTS IN MOUNTAINS ARE GOING TO INFLUENCE TRANSBOUNDARY LANDSCAPES IN THE HKH

It is important to understand how future mega investments will shape equation between conservation and development in the HKH. While most of the RMCs are aiming high economic growth, their global and national commitments to SDGs, CBD and Climate Change mitigation and adaptation have become equally important. Hence, how programme learning can benefit such mega-scale investments such as for hydropower, infrastructure, mountain urbanization, to make these environmentally and socio-ecologically feasible, will need to be understood and entry points for contribution will need to be engineered.

B) A FOCUS ON THE HEADWATER REGIONS OF LARGE ASIAN RIVERS UNDER CLIMATE CHANGE

Future management of transboundary landscapes in headwater zones, including their glaciers and ecosystems, will be critical given the findings and policy messages of HIMAP Report (Wester et al., 2019 which stresses on the vulnerability that will be caused by melting glaciers by the end of this century. Landscapes in the HKH region with priority interests of 1.9 billion population in upstream-downstream are utilized for, inter alia, tourism as well as for local livelihoods – agriculture, forestry, and rangeland, among others. Building transboundary relationships and mechanisms to produce and use robust evidence will be important for a diverse range of stakeholders at all levels in downstream river basin areas. Water availability modeling and its management will need to find an interface with land use plans and resilience-building concepts (e.g. in the river basins). Exploring and building the resilience of communities and ecosystems will require strong attention on political, social and geographical settings and new ways of synergy between landscapes in upstream and the river basin areas in the downstream will need innovations.

C) WATER SUSTAINABILITY

The availability of water, melting glaciers, and rapid land use change in the mid-hills is leading to acute water stress in communities that depend on springs for drinking, irrigation, domestic, and cultural purposes. Similarly, increasing urbanisation in HKH landscapes will demand judicious management that may include performance based incentive mechanisms for sustaining ecosystem services. Working with an eight-step methodology that integrates knowledge on the hydrogeology of springs with demand and supply patterns and local management practices will need to further demonstrate the revival of vital water resources. A strong environmental and socio-ecological monitoring system will need to complement the management efforts for providing long term data as basis for decision-making. This is still difficult as data sharing between countries is still an issue and sustenance of monitoring sites (i.e. all types of sectors) is not always guaranteed.

In this context, a synergy between river-basin and transboundary landscape approaches can bring greater conceptual clarity on how a synergistic pathway can lead to resilience building by contributing to especially water security apart from food, energy and livelihood security. The stakeholders' engagement and matching of their priorities with the overarching needs can complement the process to achieve a refined approach to river-basin and landscape management. Learning from transboundary conservation and cooperative efforts in the HKH within South Asia and elsewhere need to be further consolidated so that an actionable basis to secure political commitment on linking the key elements of river-basin and transboundary landscape approaches is established.

D) SHARPENING CROSS-BORDER MECHANISMS

Building on the existing cross-border institutional mechanisms (e.g. Regular meetings of Forest/Wildlife departments between Nepal and India) that are already endorsed by participating countries was not fully explored in the first phase (2012–17). At the onset of the programme operations, focus often is on quick/ early wins and no regret measures. It is recognized, however, that the policy dialogues of ICIMOD and its country partners related to national and international agreements on climate change adaptation, natural resource management, and biodiversity conservation are not yet fully contextualised and need articulation at transboundary scales. Hence, moving forward with existing bilateral or multilateral agreements for improved transboundary cooperation is a viable opportunity to be explored more. Providing technical assistance for formulation of transboundary agreements between cooperation partners on selected issues in the landscape (e.g. transboundary wildlife management, rangeland management, sustainable tourism, informal trade on wildlife products and medicinal plants, UNESCO World Heritage nomination of selected cultural sites) could set stage for carving out national policies and strategic partnerships that favour sustenance of mountain ecosystem services and equitable livelihood benefits at regional landscape level. This demands massive investments in strengthening capacities of existing transboundary institutional cooperation mechanism on selected issues (e.g. mentorship programme, people-to-people exchange, landscape journey, landscape governance course, as well as on topics gender and social inclusion, good governance, and leadership building).

E) ENABLING KNOWLEDGE-SHARING ON LANDSCAPE MANAGEMENT AMONG OTHER LANDSCAPES WITHIN THE REGION

Landscape management has been documented in many policies of Bhutan, Nepal, India, and China. Yet, the widespread management of integrated landscapes (transboundary and solely national) is still limited in practice. The lessons above can help to inform wider planning options – including approaches that will link local government authorities with effective generation of knowledge and long-term monitoring and planning using cross-government coordination mechanisms. Hence, further work is need to ensure that relevant data is compiled on permanent basis and prepared for all key decision-makers to consolidate "landscape approach" for meeting the challenges that are thrown at it and build on opportunities that emerge from its implementation. To profile the learning and make its outreach to targeted audience a proactive engagement with regional media will be inevitable. Further, regular assessments on the impacts of learning will be conducted to gauze our success.

F) REKINDLING DONOR INTEREST

While donors and programme supporters invest their respective tax-payers money to foster transboundary cooperation, in their respective countries they often are challenged to prove the value of such a support. This aspect is often addressed by linking to global cause that is manifested in donor country's development-aid politics (e.g. transboundary landscapes initiatives contribute to a number of the UN Sustainable Development Goals (SDGs) and national commitments to international conventions CBD, Paris Agreement and can also lead to overall peace and stability). This inter alia, also helps to justify the funding support as having high relevance to national strategies and policies is a must. However, development-aid politics can vary and often new governments or political situations lead to short term changes of strategic direction of aid-focus. On the other hand, getting short term successes matter a lot for unhindered support of such programme supporters and donors as their trust in achieving project objectives manifests itself.

Initially, the project-mode progress in transboundary cooperation in cross-border landscapes is squarely linked to the extent to which individual national governments allow for it. Further, adding of impending risks (e.g. enabling political atmosphere, natural disasters, or tense borders) means that long-term goals have to be set. The progress is often slow and not necessarily matching with the expectations set by donors so that long term interest in making develop-aid investments also can wane. Further, as pointed out by Wigboldus, (2018) in terms of diffusion and adoption of technologies and practices, the scaling out of cooperation for transboundary landscape is not linear and requires substantial reiterative dialogues and negotiations.

This means that such a programme while it needs to carefully and realistically set the shorter term project-based objectives and targets must outline longer term outcomes and the need for committed long term support. Rekindling of donor support will need to focus on creating learning that regains the interest of existing as well other potential donors and programme supporters, based on both minor, managed, and deliberate transformations that are vital to aid investments, and succession of overall movement- for example that of economic prosperity (Caldecott, 2017) broader prospect of succession. Besides global supporters, the avenues to reach out to donors from the South Asia, China, India, South Korea, and Japan need to be explored. In this context, a third line survey or independent assessment can help countries to get stronger government buy-in and their negotiations with the donor countries.

Thus, external evaluation carried out to gauze the progress and achievements of transboundary landscapes such as done for Kailash Sacred Landscape Initiative, must be further encouraged to gain donor confidence on longer term outcomes of the transboundary Landscape regional programme.

G. ALIGNING WITH GLOBAL AND REGIONAL DISCOURSES

The essence of the transboundary landscapes approach lies in principles of landscape ecology, connectivity, conservation, restoration of ecosystems, and finding innovative nature-based solutions to manage a mosaic of complex and integrated socio-ecological systems beyond borders.

Fragmentation of habitats, land use change, and climate change are serious threats to biodiversity worldwide, and managing trade-offs and restoration is critical to integrating ecosystem services across landscapes.

There is an opportunity to promote the transboundary landscapes approach towards the restoration of degraded ecosystems considering the global needs indicated in the IPBES regional and global reports, and commitments such as the post-2020 targets of the CBD, UNCCD, UNFCCC, and SDGs. Such alignment with regional and national strategies adopted by ICIMOD's regional member countries in the HKH could be instrumental to making its landscapes resilient and meeting global and regional obligations. Given these commitments and targets, transboundary landscapes can play a key role in facilitating inter-governmental efforts to preserve intact and connected landscapes, particularly if such efforts are implemented through regional cooperation frameworks that help strengthen livelihoods and conserve biodiversity in the face of threats brought on by climate change.

Studies have shown that protected area networks are larger and more connected along international borders than internally within countries. A new paradigm shift that considers stressors like climate change and its impacts in relation to landscapes, anthropogenic activities, and the movement of species that range across country borders is thus required in HKH countries.

Challenges also bring opportunities for research and coordination across borders, and may help orient focus and attention to transboundary landscape management. The HKH provides ecosystem services to 1.9 billion people, more than any other mountain system in the world. *The Hindu Kush Himalaya Assessment*, published in 2019, highlights long-term, integrated science-policy initiative collaborations that aim to support enabling policies and sustainable solutions, and promote cooperation in the HKH to address some of the region's most immediate challenges.

Urgent steps are required to sustain mountain environments and improve livelihoods in the HKH. The HKH Call to Action, which is informed by the HKH Assessment report, outlines nine mountain priorities consistent with the SDGs. Most pertinent to transboundary landscapes are Action 6, which calls for halt biodiversity loss and land degradation and sustainably managing forests and other ecosystems in the mountains to enhance ecosystem resilience for sustained flow of services, and Action 9, which recommends the promotion of a mountain-specific agenda for achieving the SDGs through increased regional cooperation among and between mountain regions and nations.

The HKH Assessment report and HKH Call to Action thus define a new approach and strategy for transboundary landscapes in the HKH region. They provide a road map to address threats, act on opportunities, and scale up cutting-edge approaches.

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About ICIMOD

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

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