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Abiding by nature, not national borders: Institution building in the Himalayas

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Mountains are hard to govern. National boundaries rarely reflect mountain geography and carve mountains into ecologically and socially incomplete sections. Mountain ecosystems, glaciers, rivers and communities are deeply intertwined, bearing all the complexity of systems that have evolved over millennia. Understanding this complexity and then governing it is an especially challenging task. In the Himalayas, the borders that divide the mountains are hard and sometimes militarized, and states have traditionally been only been mildly interested in cooperating on cross-border issues, such as melting glaciers because of global warming, river basin governance, and disasters.

Regionally owned institutions attempt to bridge these jurisdictional divides. The International Centre for Integrated Mountain Development (ICIMOD), based in Kathmandu, does this by presenting a unified picture of natural systems that evolved independently of the modern nation-state. In doing so, ICIMOD attempts to force state machineries to adopt a higher vantage point and think about problems and solutions as though borders do not exist. This project is difficult because states are naturally inclined to act to preserve their interests.

ICIMOD is a unique regional institution; on its board sit eight Himalayan nations – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. It has managed not only to function but grow in the 35 years since it was founded despite the somewhat precarious relationships between countries on its board. It is the face of a large network of researchers across the region, coordinating and disseminating scientific evidence on the region's dire vulnerabilities to climate change.

The Himalayas, which include some of the highest peaks on earth, have an outsized influence on South Asia and beyond. The Himalayas indirectly support about 1.9 billion people through rivers that culminate in the East China Sea in the east, and the Aral Sea in Uzbekistan in the west. But relatively little scientific data is yet available about the impact of warming temperatures and the implications for ecosystems, societies, politics, and even borders in the region.

This case study is based on 11 interviews with ICIMOD's leadership and senior staff, and a former Indian environment minister. Interviews were supplemented by reviews of ICIMOD's annual reports, independent five-year reviews, academic papers, and program reports.

Foundations

ICIMOD was conceived in a movement that recognized mountains present a unique set of governance challenges. Social changes driven by industrialization, urbanization, and globalization, were, and still are, damaging mountain environments. Erik P. Eckholm, writing in Science in 1975 describes the mood at the meeting where ICIMOD was conceived:

> *"An unusual meeting was convened in Munich, Germany, in December 1974. Any organizing principle, any common thread among the participants, would have eluded an outsider. The group included biologists, anthropologists, foresters, ecologists, economists, geographers, businessmen, and civil servants, and they had travelled to Munich from Europe, North and South America, Africa, and Asia. What drew this disparate group together was a shared concern for a problem that has scarcely been recognized as one deserving attention in its own right: the deterioration of mountain environments in the poor countries." – Erik P. Eckholm*

Participants discussed the need to create institutions to promote ecologically sound mountain development. In the years that followed, UNESCO and the governments of Switzerland and Germany put forward financial resources, and the eight Himalayan nations endorsed the concept at a UNESCO general conference. In 1983, ICIMOD was established in Kathmandu as an intergovernmental organization. From the start, ICIMOD said its role was to assist, collect, review, and coordinate mountain research produced by institutions in member countries. Its mandate was designed to prompt regional cooperation by sustaining scientific collaboration between member countries.

A unified lens for a fragmented mountain range

ICIMOD's board has a key role in carrying out the institution's mission to stimulate regional collaboration amid national interests. At its inception, the board had uneven representation from member countries (three from Nepal, and one each from Bhutan, China, India, and Pakistan) along with the three founding donors and UNESCO. In 1991, after several years of organizing and setting up the institution, the board overhauled its structure in an important balancing step, giving each country one seat and allocating an equal number of board seats to scientists.

Initially, ICIMOD carved a niche for itself with small programs that focused on sustainable development in mountain areas, from rural energy to off-farm jobs. In 1995, the institution reoriented itself to urge member nations to collaborate on difficult transboundary environmental issues. The regional cooperation program attracted new donors that year and has been an important reason for European and Australian financial support since.

ICIMOD's explicit regional orientation has been a useful political channel for incremental cooperation. Between 2009 and 2011, during Jairam Ramesh's tenure as India's environment minister, ICIMOD was part of a fledgling and unfulfilled period of environmental multilateralism. For example, in climate negotiations then, India signaled a willingness to adopt a more proactive emissions mitigation policy and to engage with multilateral platforms such as ICIMOD, a change from Delhi's traditional preference for a bilateral approach. India agreed to a program to restore and protect the Mt. Kailash region – a remote area revered by Hindus, Buddhists, and other religions – that required China, India, and Nepal to agree on national program plans. Ramesh said he saw this as a small but useful first step toward better environmental cooperation between India and China. India increased its annual support to ICIMOD, pledging $500,000 over 2009-11 compared to its total contribution of $1 million from 1983 to 2006. ICIMOD's expertise in glaciology was seen as an asset to Indian institutions such as the National Institute of Himalayan Glaciology in Dehra Dun and the G.B. Pant Institute of Himalayan Environment and Development in Almora. Of specific interest was ICIMOD's research on mapping Himalayan glacial lakes, large natural reservoirs of water contained by depleting glaciers that pose a significant downstream threat.

The transboundary landscape program has grown in recent years to cover some of the most politically and ecologically sensitive parts of the region and world. Beyond the politically improbable feat of bringing China, India, and Nepal together to protect the Mt. Kailash region, ICIMOD runs a program in the border regions of Afghanistan, China, Pakistan, and Tajikistan, at the intersection of the Karakoram, Pamir, and Wakhan ranges. Less sensitive is a program that brings Bangladesh, India, and Nepal together for the Kanchenjunga zone. These programs aim to find a balance among developmental needs, delicate ecosystems, and climate change pressures. They involve, to varying degrees, generating more information about these

areas, creating systems for governments to exchange information, and building local capacity to manage the landscape. ICIMOD's work generating governmental sanction for these efforts was a significant political achievement. As ICIMOD's website notes, its approach "implies coordination and cooperation among all those responsible for an area, regardless of jurisdiction, as defined by ecosystems rather than administrative boundaries." The vision of abiding by nature rather than national borders is hard to execute in a region with relatively few examples of functioning cooperation, and little trust. However, the seeds of regional cooperation planted in ICIMOD's apolitical projects may eventually help support broader changes when environmental crises in the Himalayas become harder to ignore.

Institutional trial and error

ICIMOD's budget grew by an average 7 percent annually in real terms during the three decades from 1986 to 2015.[1] Its average growth masks relative stagnation in the first two decades followed by a decade of remarkable growth. Its growth since 2006 has been shaped by two factors: a strategic re-orientation toward regional relevance – especially in climate change – and an overhaul of institutional practices.

ICIMOD regional member countries contributed only 4 percent of average annual income over three decades from 1986 to 2015. Their contributions fluctuated, sometimes drastically from one year to the next. European aid provided stable funding that represented 42 percent of annual income during the period. The remainder, about 54 percent of annual income, came from a large and diverse basket of smaller donors that funded individual projects or contributed directly to one of ICIMOD's larger programs. In the decade leading up to 2015, more than 30 donors, such as the World Bank, the Asian Development Bank, European Union, and the United States, were program contributors.

Reliance on donors instead of stable, interest-generating financial assets affects an institution's form and priorities. Scarce resources must be devoted to fundraising, which requires building relationships with donors, establishing public credibility, communicating results, and ensuring sound management. Most importantly, a reliance on donor funding requires an institution to demonstrate relevance through impactful agenda setting and consistently high-quality research.

ICIMOD stopped growing in the decade between 1996 and 2005. Its annual funds had peaked in 1999 at $6 million, a milestone that took six years to surpass. An independent five-year review of the organization in 2006 found ICIMOD had not done enough to make itself relevant to member countries. The review said ICIMOD's 'institutional positioning was unclear,' member states were 'unaware of its strengths and impacts,' and its work rarely translated into policy. A regional focus was sometimes missing in its programs and ICIMOD risked overstretching itself by moving beyond the Himalayas and beginning work in places like Sri Lanka. The review painted a relatively dire picture,

saying that "all donors interviewed (…) said the time has now come for regional member countries to take more ownership through financial commitments. Some had questions about the impact ICIMOD was having (…)." The review report asked ICIMOD to prioritize regional interests, develop deeper links with governments, and adopt a more forward-looking strategy.

The 2006 review also identified internal challenges. ICIMOD's management was based on command-and-control principles rather than confidence in the staff. Its governance was choked by a long list of committees, administrative procedures, and clearance requirements. ICIMOD was having a hard time retaining its most talented staff beyond their three-year contracts. The review called for an internal overhaul. It directed leaders to recruit core staff by offering better incentives and job security that was not tied to fluctuations in project funding.

In the years since that 2006 report, ICIMOD has turned the tide through staff trainings, a restructuring of administrative functions, and efforts to ensure longer tenure. Staff were organized in larger interdisciplinary teams with multiple, more stable lines of funding. An independent five-year review in 2016 indicated the efforts paid off. It noted that "the ability to attract and retain experienced professional staff within ICIMOD and also within the strategic partners is a key factor in ICIMOD's success." The report found the organization had adopted "a well-structured and organized approach to operational management with progressive practices." However, the 2016 review said ICIMOD needed to improve communication with member countries and to align its programs with national needs, echoing a previous review. The report cautioned that recent growth might come at the cost of coherence in regional programs. Indeed, about 60 percent of ICIMOD's income in 2006-15 came from splintered funding tied to projects while only one-third came from core funding. By comparison, in the prior decade, core funding and project finance were nearly equal. Short-term project finance can be difficult to manage because each grant has separate transaction costs and expectations. The impermanence of such funding creates uncertainty, often curtailing long-term vision.

ICIMOD's restructuring of internal machinery served an important strategic change. Its quest to be more regionally relevant led to a focus on climate change in the Himalayas. In 2014-15, its four largest programs, by expenditure, were on transboundary landscapes, regional climate adaptation, the Himalayan cryosphere and atmosphere, and transboundary rivers. These programs designated climate change as a focal point and together totaled nearly one-third of ICIMOD's spending.

The collective effect of these institutional changes is a remarkable increase in funding since the plateau of the late 1990s and early 2000s. ICIMOD's average growth rate was 12 percent from 2006 to 2015, adjusted for inflation. By comparison, its inflation-adjusted growth was 0.5 percent for the decade from 1996-2005. ICIMOD's increasing relevance as a front-line research platform for climate change was a particularly important factor in its growth.

An aerial view of the melting Siachen glacier. Photo from the World Bank Images

The inevitability of climate change

ICIMOD was founded in 1983 to create avenues for ecologically sound development in the Himalayas. In the decades since, climate change has transformed how the world sees mountains. The Himalayas, which include the 10 highest mountain peaks on Earth, are particularly vulnerable because they warm faster than other regions. A substantial portion of our understanding of Himalayan vulnerability comes from ICIMOD and its partner institutions.

A crucial climate question for the region, and for ICIMOD, is the future of retreating Himalayan glaciers. The glaciers sustain billions of people across Asia with water supplies and unleash massive flooding when large lakes formed by melted glaciers break through natural dams. Glaciers attained public prominence after the 2007 publication of a now-discredited prediction that Himalayan glaciers could disappear by 2035 in the UN Intergovernmental Panel on Climate Change's Fourth Assessment Report.[2] That report was also influential because it formally confirmed the Himalayas as a "knowledge gap for adaptation" and said a large number of potentially hazardous glacial lakes "far exceed the capacity of countries in the region to manage such risks." The report was important in narrowing ICIMOD's focus on climate change.

Glaciers have been part of ICIMOD's work since at least 1999. Its early work was the first to document that Nepal had more than 3,500 glaciers and a surprisingly large number of glacial lakes – more than 2,300, of which 20 were potentially dangerous. The study was pioneering because of

the paucity of data on the Himalayas. Analyzing glacier melt and threats from unstable glacial lakes requires meticulous inventorying, categorizing, and monitoring of glaciers. The information is crucial to seven downstream countries and countless vulnerable communities.

Between 1999 and 2005, incremental progress was made with assessments of Bhutan, Pakistan, and part of the Indian Himalayas. It was not until 2018 that all Himalayan glaciers were fully mapped from Tajikistan's Amu Darya basin in the west to Myanmar's Irrawaddy basin in the east. That study, conducted by ICIMOD and the Chinese Academy of Sciences, used satellite data to capture the state of these glaciers from 2003 to 2007. Previous efforts to isolate glaciers in time were less reliable because of the varying timeframes of data sources. ICIMOD's study is a baseline for future research on glacial floods and climate change-induced glacial shrinking.

But how fast are Himalayan glaciers disappearing? That central question was not answered until recently. ICIMOD's 2019 synthesis of knowledge about the Himalayas made international headlines as a landmark report for its alarming conclusions. The report, The Hindu Kush Himalaya Assessment: Mountains, Climate Change, Sustainability and People, says, "Even if warming can be limited to the ambitious target of +1.5 °C, volume losses of more than one-third are projected for extended HKH glaciers, with more than half of glacier ice lost in the eastern Himalaya" by 2080-2100. The report states that "the most negative scenarios in the Eastern Himalaya point towards a near-total loss of glaciers."

ICIMOD's report was styled after the UN Intergovernmental Panel on Climate Change's Assessment Reports, with contributions from 210 authors, 20 review editors, and 125 external reviewers. It collected and synthesized data about several mountain themes, from glaciology and basin hydrology to the governance implications of mountain change. A key achievement is that the report was put together by authors from the Himalayan region, with cooperation and financial backing of ICIMOD's member countries. The report fulfilled ICIMOD's organizational objectives: to act as a platform for regional research, to stimulate member country cooperation and information exchange, to see the mountains as an undivided natural system, and to clarify the climate vulnerabilities of the region.

The 2019 assessment was also part of ICIMOD's broader strategy to publish more research in top peer-reviewed journals, initiated in 2012. This was a major shift. Since its inception, ICIMOD had acted as a documentation center for knowledge produced elsewhere and had generally showcased its own work in self-published reports. In the first year of the new strategy, ICIMOD set a target of producing 15 peer-reviewed articles but published more than twice that number. In 2006, ICIMOD published work in only a dozen journals that were unknown to a general audience. A decade later, in 2016, ICIMOD staff published work in 67 mostly well-recognized journals. In recent years, ICIMOD researchers have published articles in Science and Climate, and had a notable cover story in Nature Climate Change. While ICIMOD's academic output ranges from governance

to conservation, a significant portion is core climate research related to the cryosphere and atmosphere. ICIMOD's management sees the academic shift as a key reason for its financial stability, with over $130 million of assured funding for the current five-year cycle. Such publications bring ICIMOD international credibility and help it attract talented researchers.

The strategic embrace of climate change may also increase ICIMOD's value to member countries. Rigorous assessments of climate vulnerability can be used as diplomatic tools in global climate negotiations. They could act as the empirical foundation from which member countries make claims for greater mitigation ambition from developed countries and reinforce demands for financial and technological transfers.

Conclusion

In 1983, ICIMOD was born into a world that was just beginning to recognize unsustainable patterns in mountain development. It has matured in the age of climate change. In the process, the institution transformed itself from a regional mountain documentation center into a platform for the co-production of crucial climate knowledge. ICIMOD survived a trough in the late 1990s by restructuring itself internally and more firmly aligning itself with the climate agenda, and in the process, the global research agenda and regional interests. Its role as an apolitical platform for regional mountain collaboration and research gives it access unavailable to most other institutions.

Two elements of ICIMOD's growth are worth noting. First, its ability to redefine and communicate its political salience to diverse regional constituencies. ICIMOD began as an effort to organize and communicate knowledge to a global network of scientific institutions. Over time, it has been useful to governments of the region and the global scientific community in clarifying the state of Himalayan glaciers. It has also tried to execute smaller programs of value to vulnerable mountain communities, which can generate good will if communicated to governments correctly. Today, the institution is part of several member countries' environmental policy processes and has taken on features of a regional public good.

In the Himalayas – where national interests are often seen as contradictory to regional interests – regional institutions are forced to devote considerable effort to making their case. ICIMOD's story demonstrates useful methods of achieving this objective: proactive engagement with political constituencies; efforts at reputation building through research to earn a place in like-minded global and regional networks; and hiring recognized subject experts to carry the institutional flag. These efforts are still a work in progress at ICIMOD, but they seem to be producing results.

The second element is ICIMOD's institutional checks and balances. It has ridden a wave of growing public interest in mountain fragility and climate change because of its internal mechanisms for course correction. A series of five-year reviews by independent panels have improved ICIMOD performance because review recommendations, once

accepted, must be executed by board and management. ICIMOD benefits from other annual and biannual reviews with board involvement, and measures for public transparency.

We might be at the cusp of a proliferation in climate-focused institutions as global funding for the issue increases and domestic concern grows. To tackle the many dangers of climate change in an ecologically and hydrologically interconnected South Asia, some of these institutions will have to be regional in their mandate. This case study might be useful to them, and other institutions hoping to improve prospects for regional cooperation.

Endnotes

1. All data sourced from ICIMOD annual reports available at http://lib.icimod.org. Calculated in 2019 dollars.
2. The IPCC's Assessment Reports are periodic compilations of the current state of knowledge on the causes, effects and responses to climate change. They are generally regarded as definitive and are put together by leading experts in various fields of study on climate change.

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GOOD Neighbours Series

A key objective of the World Bank's South Asia Regional Integration, Cooperation and Engagement (RICE) approach is broadening evidence-based communication and outreach activities that will help strengthen the case for RICE and generate domestic demand. The 'Good Neighbours' series showcases successful cross-border stories demonstrating regional cooperation to build support for regionalism in South Asia.

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