



Leveraging Collaboration for Disaster Risk Reduction in the Koshi Basin

ICIMOD

FOR MOUNTAINS AND PEOPLE

Background

The Koshi River basin, which supports over 40 million people, is prone to natural disasters. Floods, landslides, and droughts have transboundary impacts in this basin shared by China, India, and Nepal. Hydrometeorological events upstream lead to disasters downstream, affecting millions of people, destroying infrastructure and disrupting development.

Extreme weather events due to climate change and environmental degradation are likely to magnify the frequency and intensity of such disasters. Women and the marginalized are most vulnerable as they lack access to information and the capacity to prepare for disasters and deal with their aftermath.

There have been efforts to improve disaster risk reduction (DRR) in the Koshi basin but the related policies and practices still do not use a multi-hazard approach. Upstream-downstream linkages in the Koshi basin can form the basis for coping with shared disasters and provide opportunities for DRR and resilient livelihoods. Effective cooperation can be achieved by sharing knowledge and fostering practices that address the transboundary nature and scale of disaster.

The Koshi Basin Programme (KBP) at the International Centre for Integrated Mountain Development (ICIMOD) works with partners to increase understanding of disasters in the basin and to enhance DRR preparedness among stakeholders. The networks created in this process and through ICIMOD partners can be leveraged for collaboration and knowledge sharing between institutions and stakeholders.

In December 2017 and April 2018, the KBP organized two workshops to provide platforms for policy- and decision-makers, scientists, and practitioners to deliberate on regional collaboration in DRR and resilient livelihoods in the Koshi basin. The discussions all recognized the need to address DRR in the basin as a multifaceted, interdisciplinary, and transboundary challenge. The consensus was that a regional collaborative platform for the basin could foster important dialogues between stakeholders for improved decision making in the basin.

Key observations

- The frequency and intensity of weather extremes such as floods and droughts in the Koshi basin presents a challenge for water resource management across sectors and geographical regions affecting food security and impacting the poor and most vulnerable.
- DRR in the Koshi basin must be approached as a transboundary issue and take into consideration the potential for multi-directional flow of benefits engaging diverse stakeholders including the private sector and civil society.
- Knowledge- and information-sharing opportunities for improved risk management and livelihood-centered adaptation should be strengthened to ensure that information reaches the most vulnerable and is institutionalized.
- Efforts can be made to showcase transboundary knowledge sharing through outreach materials activities, and workshops.
- DRR research should be interdisciplinary and consider the physical and socio-economic dynamics of the basin. It should demonstrate the economic benefits of cross-border collaboration for different stakeholders.
- The establishment of a Koshi basin DRR Knowledge Hub as a platform for stakeholders from the three basin countries can create an enabling environment for collaboration.



Partnerships to strengthen DRR

The Koshi DRR Knowledge Hub could be an important tool for scientists to share knowledge, information, and data through the network. Joint basin-level dialogues (annual or bi-annual) through the hub have the potential to strengthen transboundary cooperation by building the capacity of stakeholders, convincing policy makers to take concrete actions at basin level, and encouraging collaboration on DRR among the riparian countries.

Similarly, academic institutions can provide a platform for developing a multinational curriculum and strengthen collaboration for DRR. Analysis of socio-economic implications and costs of non-collaboration can be used to build a case and lobby with politicians, who can then bring evidence into implementation. The cost of non-cooperation is high, and collaboration among stakeholders in times other than in disasters is equally or sometimes more important than during disasters.

There is a need for scientists from China, India, and Nepal to share knowledge and information, and develop common understanding for integrating DRR into river basin management. Developing joint research that promotes trust among countries and policy makers could be a way forward. Likewise, developing a common transboundary framework for DRR is crucially important for all stakeholders including scientists and policy makers.

Policy, practice, and research: Key messages

Collaboration can be strengthened for DRR in policy, practice, and research by fostering dialogue and meetings for specific sectors and across sectors and geographical areas before and after disasters. This can help improve collaboration and communication to national level policy making and reduce transboundary disasters. Additionally, regional institutions such as ICIMOD and the South Asian Association for Regional Cooperation (SAARC) can support the mapping of current activities and future efforts to help chart pathways for collaborative efforts on climate resilient sustainable development.

Policy

- A comprehensive transboundary strategy is necessary for all phases of DRR and future resilience.
- Policies related to DRR should complement water resource management, and hydropower and energy trade policies, within and across countries.
- Policy and decision makers need clear evidence of economic benefits and positive impact on communities from transboundary collaboration, including knowledge and information sharing.
- Mechanisms for providing incentives should be explored across upstream and downstream communities.

Practice

- Collaboration at the transboundary scale should continue beyond the disaster response period.
- Information-sharing mechanisms such as the community-based flood early warning system (CBFEWS) need to be institutionalized for sustainability.
- Capacities of communities should be enhanced to enable them to process and respond to early warning information.
- The DRR approach needs to strengthen coordination between researchers and humanitarian organizations. Science-based journalism and evidence-based advocacy can act as powerful tools.
- Benefits for upstream communities need to be assessed and encouraged in terms of both economic and non-material incentives for better regional cooperation.

Research

- Interdisciplinary DRR research linking poverty and gender, acknowledging the heterogeneous nature of communities in the basin is needed.
- Lack of information and datasets, especially in high-altitude areas, is a major challenge. Good examples and practices of transboundary scale research are needed.
- Research on DRR should indicate benefits to communities and other stakeholders.
- PhD and MSc students should be encouraged to conduct research on DRR in the basin, taking into consideration existing knowledge gaps and addressing question raised by decision makers in the basin.
- DRR network groups must be established by bringing in key Koshi basin stakeholders to discuss transboundary issues.



A win-win approach with benefits for all stakeholders can strengthen the case for DRR collaboration. Strengthening the capacity of institutions to focus on sub-basin/basin characteristics while dealing with disasters could be a way forward. Co-generation of knowledge products, coordinated research involving multi-hazard assessments using tools (remote sensing, GIS), field surveys, and sharing of innovative approaches (best practices and pilots) can further provide impetus for DRR.

Recommendations

- River basin management could be improved by reaching better understanding of upstream and downstream linkages in DRR, sharing knowledge, and reducing duplication of activities and investments.
- Gender equality and social inclusion (GESI) cannot be generalized and should be context-specific in country policies given the heterogeneous nature of communities.
- The Koshi DRR Knowledge Hub should focus on building collaboration at various levels of governance and across sectors to ensure action towards long-term DRR, at the national and transboundary levels.
- ICIMOD could host the Koshi DRR Knowledge Hub and facilitate regular interactions with stakeholders on basin level water related disaster risk reduction and existing/emerging challenges, and support collaboration between practitioners and researchers.



This publication was produced under the Koshi Basin Programme at the International Centre for Integrated Mountain Development (ICIMOD), which is supported by the Australian Government through the Sustainable Development Investment Portfolio for South Asia, as well as core funds of ICIMOD contributed by the governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Sweden, and Switzerland.

For further information contact

Kanchan Shrestha kanchan.shrestha@icimod.org
Mandira Singh Shrestha mandira.shrestha@icimod.org

Complied by: Nishikant Gupta, Sunita Ranabhat, Finu Shrestha

Photos: Jitendra Bajracharya, Nabin Baral

© ICIMOD 2018

International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Nepal

Tel +977-1-5275222 **Email** info@icimod.org **Web** www.icimod.org

Prepared by ICIMOD Publications Unit, July 2018