



Leveraging Collaboration for Disaster Risk Reduction in the Koshi Basin

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Background

The rich natural resources of the Koshi Basin support over 40 million people. The transboundary basin is, however, prone to natural disasters. Floods, landslides, and droughts affect millions of people every year, and disrupt sustainable development.

Disasters in the region often have a transboundary impact, and hazards upstream lead to disasters in downstream areas. An increase in the incidence of extreme weather events due to climate change and environmental degradation is expected to magnify the frequency and impact of such disasters. Women and marginalized communities are most vulnerable as they lack access to information and capacity to prepare for disasters and deal with their aftermath. Often, communities affected by disaster continue to struggle to resume their livelihoods or take up alternative livelihoods only several years after the disaster.

Although there have been efforts to improve disaster risk reduction (DRR) in the Koshi Basin, related policies and practices need to strengthen a multi-hazard approach. Stakeholders often struggle to capitalize on the knowledge and capacities presented by the transboundary nature of disasters. Upstream-downstream linkages in the Koshi Basin can be a

Key observations were:

1. DRR in the Koshi basin must be approached as a transboundary challenge, which should take into consideration the potential for a multi-directional flow of benefits.
2. Knowledge and information sharing opportunities should be strengthened to ensure that information reaches the most vulnerable and is institutionalized. Efforts can be made to showcase transboundary knowledge sharing.
3. DRR research in the basin should be interdisciplinary to take into account socio-economic dynamics. It should also demonstrate the economic benefits of cross-border collaboration for different stakeholders.
4. The establishment of a Koshi Basin DRR Knowledge Hub as a platform for stakeholders from the three basin countries can potentially assist in achieving the objectives.
5. The private sector and civil society can play key roles in DRR and ultimately contribute to effective river basin management.

basis for shared disasters and provide opportunities for DRR and livelihood improvement. Institutions and stakeholders could collaborate to adopt a standardized, multi-hazard risk assessment approach. Extensive and effective cooperation can be achieved by sharing knowledge and fostering practices that address the transboundary scale of disaster.

The Koshi Basin Programme at the International Centre for Integrated Mountain Development (ICIMOD) works with partners to increase understanding of disasters in the basin and to increase the capacity of stakeholders to improve preparedness. The networks created in this process and through ICIMOD partners can be leveraged

to identify areas for collaboration and knowledge sharing between institutions and stakeholders in the basin.

In December 2017, the Koshi Basin Programme organized a workshop titled Leveraging Collaboration for Disaster Risk Reduction (DRR) in the Koshi Basin as a satellite event during the international conference on Resilient Hindu Kush Himalaya: Developing Solutions towards a Sustainable Future for Asia. The workshop provided a platform for policy- and decision-makers, scientists, and practitioners to deliberate on strengthening regional collaboration in DRR to ensure resilient livelihoods in the Koshi basin.

The panel, group, and open floor discussions all recognized the need to address DRR in the Koshi basin as a multifaceted, interdisciplinary, and transboundary challenge. The consensus was that regional collaboration should extend beyond information sharing.

Panel discussion

The satellite event included a panel discussion with four panelists, exploring the following questions:

- What current practices are working well for DRR? What are the challenges to regional collaboration?
- What are the opportunities to enhance regional collaboration in the short-, medium-, and long-term?
- What roles can government institutions, civil societies, and scientific communities play to enhance this collaboration?

Key issues that emerged from the panel discussion were:

1. Linkages between communities are pivotal channels of communication in times of disaster.
2. ICIMOD can help host and disseminate relevant information regionally, adopting lessons learnt from other river systems that have comprehensive mechanisms in policy, and water research highlighting in-country coordination.
3. River basin management can be improved by sharing knowledge and information, and reducing duplication of activities and investments.
4. Gender equality and social inclusion (GESI) mechanisms cannot be generalized and should be context-specific in country policies per the heterogeneous nature of communities. These should be developed according to the phase of disasters — from preparedness, to implementation, to relief and recovery.



All four panelists highlighted the need to reduce community vulnerability and strengthen DRR mechanisms. The main points of the panelists' arguments are summarized below:

Arti Sinha, Deputy Director, Flood Management Information Service Centre (FMISC), Water Resources Department, Bihar, Government of India said that Bihar's DRR Roadmap (2015–2030) synergizes inter-departmental efforts to reduce community vulnerability in a multi-hazard environment. She said that the State has started wider area flood mapping to forecast increased water flows based on heavy localized rainfall and monitor embankment breaches using radar contour mapping.

Gretchen Kalonji, Dean, Sichuan University-Hong Kong Polytechnic University, Institute for Disaster Management and Reconstruction stressed that academic institutions can provide a platform for developing a multinational curriculum and strengthen collaboration for DRR. She said that DRR is a transboundary inter-dependent situation, but that local and national authorities make independent decisions.

Jyoti Raj Patra, Project Manager, Transboundary Rivers of South Asia mentioned that the analysis of socio-economic implications and cost of non-collaboration can help build a strong case to lobby with politicians, who can then bring evidence into implementation. Additionally, the cost of non-cooperation is high, and collaboration across stakeholders in times other than in disasters is equally or more important than during disasters.

Ram Gopal Kharbuja, Deputy Director General, Department of Hydrology and Meteorology, Government of Nepal said that the country is improving its hydro meteorological forecasting system which will provide information on rivers that flow through Nepal into India and Bangladesh. He also stated that Nepal has started forecast-based flood preparedness mobilizing SMS and planning, which includes skill building for relief agencies and the national army.

Group Discussion

A major group discussion output was the identification of key areas where collaboration can be strengthened for DRR in policy, practice, and research themes. The key messages were:

- Fostering dialogues and meetings for specific sectors, as well as across sectors and geographical areas before and after disasters can help improve communication and collaboration.



- Regional institutions such as ICIMOD and SAARC can support such activities. Mapping of current activities and future efforts can help chart pathways for collaborative efforts.
- A win-win approach with benefits for all stakeholders can strengthen the case for DRR collaboration.
- Co-generation of knowledge products and coordinated research, and sharing of success stories can provide impetus for DRR.

On policy, practice, and research, the key messages were:

Policy

1. There is inadequate focus on transboundary collaboration in the existing policies of countries that share the Koshi Basin. A comprehensive transboundary strategy for all phases of disaster risk reduction, preparedness, response, and future resilience is necessary.
2. Policies related to DRR are rarely considered in tandem with closely related policies such as water resource management, and hydropower and energy trade, within and across countries.
3. Policy and decision makers need clear evidence of economic benefits and positive impact on communities from transboundary collaboration, including knowledge and information sharing.
4. Mechanisms for providing incentives for knowledge and information sharing should be explored across upstream and downstream communities.
5. Regional organizations could act as knowledge hubs and encourage transboundary collaboration. They can integrate relevant stakeholders in science, practice, and policy.

Practice

1. The Koshi River Basin is a multi-hazard environment that needs an integrated approach. However, discussions are often limited to floods. Collaboration at the transboundary scale should take place beyond the disaster response period.
2. Limited flood early warning information is being shared through informal mechanisms, including the Community Based Flood Early Warning System (CBFEWS) in the transboundary Ratu River. These information-sharing mechanisms need to be institutionalized for sustainability. Other informal networks such as family and migrant networks can also be explored.
3. Early warning information rarely reaches the most vulnerable (women, children, the elderly, and socially marginalized groups). Multiple sources should be mobilized for timely dissemination of information.
4. Even when communities do receive early warning information, they sometimes struggle to comprehend and respond to it.
5. The DRR approach is often not holistic due to weak coordination between researchers and humanitarian organizations.
6. Science-based journalism and evidence-based advocacy can be explored as powerful tools of change.
7. For better regional cooperation, a win-win situation is imperative, for which benefits for upstream communities need to be assessed in terms of economic benefits (such as navigation, hydropower, etc.)
8. Civil society organizations can engage in information sharing and cross border collaboration among communities for disaster preparedness through experience sharing.

Research

1. The heterogeneous nature of communities in the Koshi Basin leads to differences—in positioning, planning, and approach. Interdisciplinary DRR research linking poverty and gender and applying a socio-economic approach is recommended. Such research would engage community members from various social groups, including women, in research, planning, and technical validation. Further, gender issues and socio-economic vulnerability are rarely static and warrant continuous research to understand these dynamics.
2. Poor knowledge and information sharing ultimately impedes potential for comprehensive research. Lack of datasets, especially in high-altitude areas, is a major challenge. Good examples and practices of transboundary scale research are needed. Governments may also take ownership.
3. Research on DRR should indicate benefits to communities and other stakeholders.
4. Engage and support PhD and MSc students to conduct research on DRR, linking social, research, and policy aspects.
5. Establish or strengthen DRR network groups by bringing key stakeholders from three countries – China, India, Nepal (including representatives of community groups) to discuss transboundary DRR issues.

Further information about the event is available at www.icimod.org/?q=29361

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