

# Breaking Myths About Transboundary Floods

## Background

Transboundary river basins in the Hindu Kush Himalaya (HKH) are home to millions of people who depend on river water for their survival. Ten large Asian river systems that originate in the HKH – Amu Darya, Indus, Ganges, Brahmaputra, Irrawaddy, Salween, Mekong, Yangtze, Yellow, and Tarim – provide water and ecosystem services, and the basis for livelihoods to around 240 million people living in the mountains. Together, these river basins provide water to 1.9 billion people, a fifth of the world's population. The people of these river basins live in a multi-hazard environment, where floods, landslides, and droughts affect them every year.

Disasters in the region often have cascading transboundary impacts with upstream downstream linkages. While floods may originate in the upstream, their impacts are also experienced downstream. In addition, 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, children, and poor and marginalized communities are most vulnerable as they lack access to information and capacity to prepare for disasters and deal with their aftermath.

The Koshi and Gandaki river basins contain rich biodiversity and are a source of valuable ecosystem services that sustain the lives and livelihoods of millions of people in China, India, and Nepal. The basins play a key role in the irrigation of downstream areas and have great potential for hydropower development. However, the basins are highly prone to erosion, sedimentation, and natural hazards, which may increase in magnitude and frequency in the current context of climate change. Increasing population, urbanization, and encroachment put additional pressures on the basin's freshwater ecosystems.

There are numerous grassroots organizations and practitioners (both in upstream and downstream reaches of Nepal and India) working to address disaster risk reduction in the Koshi and Gandaki river basins. There is a shared understanding of common issues, and this provides an opportunity for transboundary cooperation to address key threats such as floods, which cause loss of lives and livelihoods in the region. Presented here are major discussions points that emerged from a transboundary dialogue between people working in Nepal and India on the issue of river basin management.

## Key points

Causes and common myths around floods in the basins

- The two common myths are: i) embankments provide assured long term protection from floods, ii) Nepal releases water that causes flood in Bihar
- Myths around floods are socio-political constructions on both sides of the border (Nepal and India), perpetuated by power play, a fatalist mentality, and the blame game



## Impacts of floods and possible opportunities

- The adverse impacts of flood include loss of lives, livelihoods, and infrastructure; increase in health-related issues; environmental degradation and species loss; increased incidences of human trafficking and violence against women; and differentiated impact on women and vulnerable groups
- The possible opportunities presented by annual floods include increased rice production and associated economic opportunities, increased groundwater recharge, and navigation by boats in the absence of proper roads

## Possible solutions for managing transboundary floods

- It is important to understand complementarities and integrate scientific and traditional knowledge for risk management as each knowledge system has its own strengths and challenges. Technical education could incorporate both knowledge systems by adopting a transdisciplinary approach
- Potential benefits of cooperation include lower poverty levels, increased lead time for flood response, and reduced distress migration. These could be achieved through the institutionalization of flood response, and joint hydrological research and assessment at the basin level. It is important to move away from embankment-centric flood management
- Transboundary cooperation is needed for utilizing the full potential of water – for consumptive and non-consumptive use. Potential areas of cooperation at national and provincial levels, as well as community to community and site-specific collaboration, include sharing of information and joint risk analyses of flood prone areas. Development of waterways between countries (especially in the Koshi and Gandaki) and access to sea ports offer potential benefits for regional trade
- Diversified communication strategies, good data and analysis, and collaboration at different scales such as between research institutes, communities, and hydrometeorology departments of countries

## Ways to improve collaboration and risk reduction in the basin

- The way a problem/issue is defined has to resonate with stakeholders supported by scientific evidence
- The media can help break myths and create a conducive environment for improved collaboration
- Breakthrough in the policy making process can occur at different levels, including the scientific level
- A regional guideline/framework needs to be outlined and agreed upon, based on which national/provincial policies will be framed
- Quantification of impacts of disasters and cost of non-cooperation can be communicated with policy makers

## The process

A transboundary dialogue held at ICIMOD, Kathmandu, Nepal during 9–10 August 2018 built on important experiences from practitioners in the Koshi and Gandaki river basins. Thirteen organizations and 17 individuals from Nepal and India working on flood-related issues participated in the dialogue. The participants recognized that although various challenges exist, solutions can be obtained through commitment to common goals, individual interests, and strong drivers, and added value and synergy.

The participants are currently developing a joint paper based on the discussions and their experience. It will be presented during the Koshi DRR Knowledge Hub Inception Workshop, to be held in December 2018 at ICIMOD, Kathmandu, Nepal. The joint initiative will recommend building a strategy to influence policy beyond flood early warning to include joint basin level research, improved land use planning that takes upstream downstream linkages into consideration, and flood moderation.

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