

The Himalayan University Consortium (HUC) Lecture Series "Transboundary Water Treaty and Impacts on Water Resources Management"

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More than 200 international water treaties have been signed in the last 60 years. These treaties have implications for management of the transboundary river basins they govern. Factors such as political instability, lack of diplomacy, and changing climate can make fulfilling the treaty requirements difficult for the parties concerned in both the short and long terms.

The International Panel on Climate Change (IPCC) has projected that, due to climate change, temperatures will continue to rise; extreme events such as flooding, rainfall, and droughts will increase in frequency and intensity; patterns of precipitation will change; snowpack will decrease; glaciers will recede; and sea level will rise for the foreseeable future. It is therefore important, in the discussion, negotiation, and implementation of water treaties, to take into account climate change and associated impacts on water resources management.

This lecture presents a case study of the international treaty signed between the United States and Canada to share water from the Columbia River Basin. With the possibility of renegotiating the terms of the treaty after 2024, it is timely to assess the impacts of probable treaty alternatives on water resources management. Several possible future treaty scenarios and their impacts on agriculture, environmental flows, and hydropower generation and water induced hazards such as flooding will be discussed in the context of future climate.

Begum Rushi is a hydrologist with expertise in hydrological modeling, system dynamics simulation, and remote sensing applications. She is primarily interested in applying her expertise for the advancement of science, and for informed decision making in agriculture and climate change. Her interests encompass various interdisciplinary areas intersecting with critical water related issues. She has been working as a Regional Science Associate for the NASA SERVIR Science Coordination Office (SCO) team since 2016. She has a Master's in Environmental Engineering from Washington State University (WSU), USA, and a Bachelor's degree from Bangladesh University of Engineering and Technology. At WSU, she was part of an interdisciplinary research team formed to assess long-term impacts of transboundary water agreements between the US and Canada on water resources of the Columbia River Basin, taking into consideration dynamics at interplay among climate, agricultural demand, crop productivity, and water management. As a SERVIR SCO team member, she is assisting the Hindu Kush Himalaya hub in providing tools for improved decision making to address environmental challenges facing the region.

About HUC

The Himalayan University Consortium (est. 2007) has its mandate in developing an effective, sustainable network of universities in the Hindu Kush Himalayan region, in collaboration with academic research and knowledge generating and exchange institutions both within and outside the region. This network engages top-notch professional women and men capable of undertaking high-quality research, education, teaching, and knowledge dissemination in service of a mountain-specific, sustainable, fair and inclusive development for HKH communities and adjoining mountainous areas. The Consortium's elected five-member Steering Group and a Secretariat coordinate with member institutions in network building, partnership enhancing, collaboration promoting, resource sharing and fund raising activities. The Secretariat is hosted by the Centre for Integrated Mountain Development (ICMOD, Kathmandu), which has made HUC its Sixth Regional Programme, funded through the generous support of ICIMOD's core donors: the Governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Switzerland, and the United Kingdom.

HUC Lecture Series aims to create opportunities for undergraduate and graduate students and young faculty members in the HKH to interact with international scholars on critical and emerging mountain issues in the HKH and beyond the region, with the hope that increased exposure to international scholarship will inspire youths to pursue careers in mountain research and development.