Migration, Water Management and Climate Change in Glacier River Basin and Semi-Arid Regions: Key Linkages and Policy Options*

Climate change is affecting millions of poor particularly in glacier and snowpack dependent river basins as well as semi-arid plains globally. Future projections under Business as Usual scenarios predict scarce water resources, reduced crop yields, and ecosystem degradation which will ultimately impact livelihoods, businesses, public health, land use patterns and infrastructures. These threats are becoming apparent and are evident from recent episodes of extreme floods, droughts and variations in temperature and rainfall patterns across South Asia which induce migration, displacement and conflict, and result in economic and financial losses (e.g. losses to agriculture, livestock, and energy sectors, declines in industrial productivity).

There is a need to assess such changes that are likely to be magnified by 2030 in both glacier-fed river basins and semi-arid areas in South Asian region. Under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) programme, two research consortia (Pathways to Resilience in Semi-Arid Economies (PRISE) and Himalayan Adaptation, Water, and Resilience Research on Glacier and Snowpack Dependent River Basins for Improving Livelihoods (HI-AWARE) are working in these two eco-regions which are characterised by high population growth, high poverty, single sector dependency (agriculture and pastoral activities), high sensitivity to climate change impacts like erratic rainfall patterns, unpredictable droughts, rising temperatures etc. These environmental/climatic changes are ultimately impacting agricultural production, food security, and access to timely and sufficient water supply. In these circumstances, many people may opt for/ or are forced to migrate out of their traditional habitats (north-south from highlands to low lands; and south-north from semi-arid areas to more humid regions) which are perceived to be supportive of economic resilience.

Under this backdrop, the PRISE consortium is looking into migration in three ways: as a source of providing ‘new economic opportunities’ in enhancing resilience; ‘migration patterns’ which may change as a result of climate change; and new and well-managed policies and institutional responses required for considering migration as an ‘adaptation strategy’. Whereas, HI-AWARE consortium is exploring migration as ‘labour mobility’ patterns in the context of climate change. In this regard, remittances tend to be counter-cyclical and crucial for livelihood security that can provide a source to increase the coping potential of households during an environmental/climatic disaster.

Furthermore, water management lies at the forefront of the challenge to adapt to climate change and agriculture productivity. This sector represents both vulnerability and an opportunity for structural reform to become water efficient and water secure. However, the scope and scale of the challenge must be understood and appreciated. Recent destructive flood events in many regions of the world highlight the importance of flood risk management (Oppenheimer et al. 2014; Goulden et al. 2013). Warmer temperatures resulting from climate change allow the atmosphere to hold more moisture, thereby contributing to higher intensity precipitation events (Trenberth 2011). Meanwhile, changing rainfall patterns increase vulnerability to drought, especially in arid and semi-arid lands (SALs). Water governance challenges include satisfying increasing water demands by improving water use efficiency and managing climate extremes, changing precipitation patterns, floods and droughts. Of all the scales, water governance at the
local scale is most feasible to change. Best practices indicate that local water governance should take place in the context of national/basin management plans. Basin-specific agreements may be absent or inadequate, and this leads to a governance vacuum for local water managers. Water governance frameworks either do not exist or assessments of water governance frameworks are not generally linked to verifiable indicators or metrics of success.

HI-AWARE and PRISE consortia are focusing on two important aspects of the water sector in i.e. water availability and water governance in South Asia in general, and Pakistan in particular respectively. PRISE is trying to understand three important aspects of the governance and political economy of the water sector i.e., to analyse how current institutional arrangements in this sector result in vulnerability to climate risks; how political economy factors determine and shape institutional arrangements, and; to identify reform opportunities based on policy signals and changing political economy dynamics. Continuing the theme of understanding water governance, HI-AWARE intends to look at the interlinkages between Water governance, Food and Energy Security. This analysis of the Water-Energy-Food Nexus from the perspective of climatic stress, uncertainty, and extreme events will be spearheaded by HI-AWARE.

The proposed panel will try to look into three main questions:

1. How does migration contribute as a coping or adaptation strategy to vulnerable populations in the semi-arid regions and glacier river basin?
2. What are the gaps in knowledge/understanding in the context of variability in water availability, future water demands, water use efficiency, and political economy aspects of water governance (managing climate extremes, flood and drought)?
3. What will be the development of adaptation approaches, assessment of policies and plans that are effective and beneficial for national to local level decision-makers as well as vulnerable communities and their livelihoods?

* This panel is not open to abstracts.

References


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