HI-AWARE
Himalayan Adaptation, Water and Resilience Research

CARIAA
Collaborative Adaptation Research Initiative in Africa and Asia

Consortium members

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Himalayan Adaptation, Water and Resilience (HI-AWARE) Research on Glacier and Snowpack Dependent River Basins for Improving Livelihoods

HI-AWARE, one of four consortia of the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), is conducting research, capacity building, and policy engagement on climate resilience and adaptation in selected glacier and snowpack dependent river basins of the Hindu Kush Himalayan (HKH) region.

Climate change is already affecting the lives of over 1.5 billion people living in rural and urban communities across the HKH region and its downstream river basins. Climate change may be inducing shifts in the timing and pattern of precipitation, especially monsoon precipitation, and of snow and glacier melt runoff. It may also be contributing to an increase in the frequency and intensity of extreme events such as floods, extreme heat, and droughts. Coupled with demographic and socioeconomic changes, the impacts of climate change have major implications for water, energy, health, food, and nutritional security across the region.

People have been coping with or adapting to change in their own ways for centuries; however, this is not enough in today's world. Planned adaptation is also needed to complement autonomous adaptation. However, we still do not know enough about the local, seasonal and sectoral impacts of climate change, how people are adapting to these changes, and what adaptation measures work where, when, for whom, and at what scale.

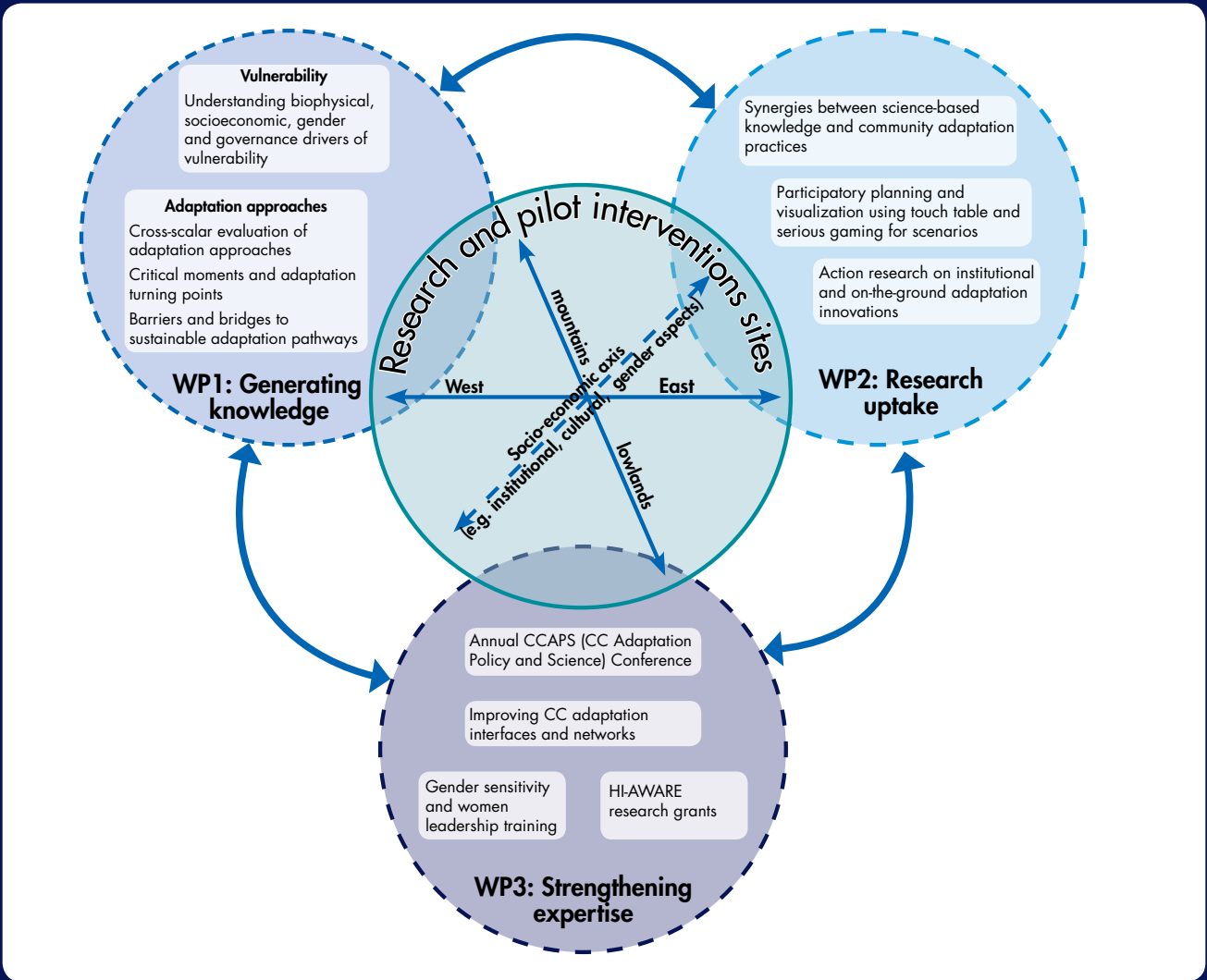
CARIAA aims to build the climate resilience of poor people by supporting a network of four consortia to conduct high-calibre research and policy engagement in three climate change hotspots in Africa and Asia. It has identified glacier- and snow-fed river basins of the HKH region, particularly the Indus, Ganges, and Brahmaputra river basins, as one such hotspot in Asia where HI-AWARE will implement its programme.

Goal and Objectives

To address gaps in and between research, practice and policy and thereby **contribute to enhancing the adaptive capacities and climate resilience of the poor and vulnerable women, men, and children living in the mountains and flood plains of the Indus, Ganges, and Brahmaputra river basins**, HI-AWARE will:

- generate science-based knowledge on the biophysical, socio-economic, gender, and governance conditions and drivers leading to vulnerability to climate change impacts;
- create robust evidence to improve understanding of the potential of adaptation approaches and practices, with an explicit focus on gender and livelihoods;
- develop stakeholder-driven and gender-inclusive adaptation pathways based on the up- and out-scaling of institutional and on-the-ground adaptation innovations;
- promote the uptake of new insights by applying citizen-driven research at various scales; and
- strengthen the expertise of researchers, students, and related science-policy-stakeholder networks.

Overview of HI-AWARE Programme Design



Study Basins

HI-AWARE will focus its activities in twelve sites, representing a range of climates, hydro-meteorological conditions, altitudes, rural-urban continuum, and socioeconomic contexts, in four study basins: the Indus, Upper Ganga, Gandaki and Teesta. It will undertake research and experimentation in these study basins, including scoping studies, monitoring, modelling, action research, and will test effectiveness of interventions. It will set up observatory labs and test adpatation measures in the 12 sites in the mountains, hills, and plains of the study basins for out-scaling and upscaling. It will also undertake participatory monitoring and assessment of climate change impacts and adaptation practices to identify:

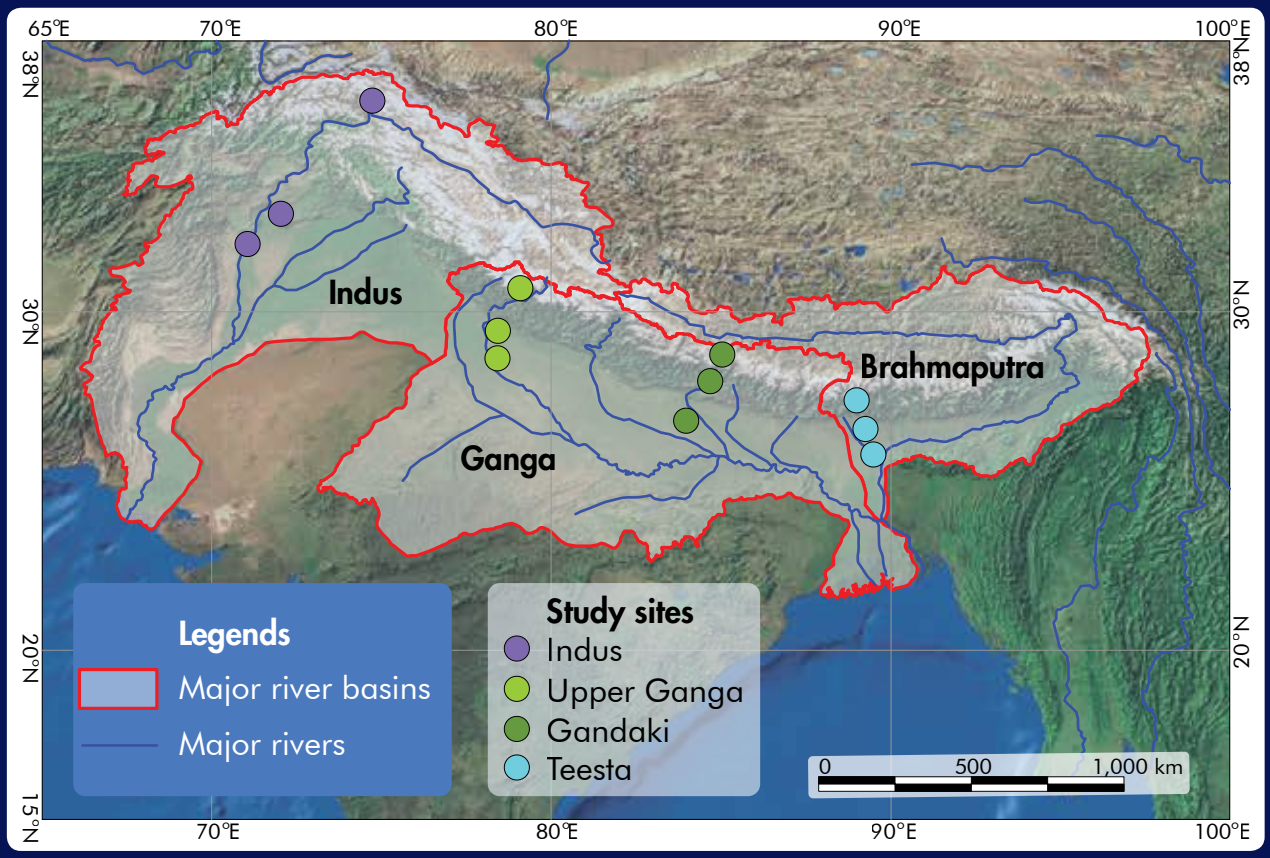
- **critical moments** – times of the year when specific climate risks are highest and when specific adaptation interventions are most effective;
- **adaptation turning points** – when current policies and management practices are no longer effective and alternative strategies have to be considered; and
- **adaptation pathways** – sequences of policy actions that respond to adaptation turning points by addressing both short-term responses to climate change and longer term planning.

Approach

HI-AWARE will adopt a comparative, cross-scalar, transdisciplinary, and integrative approach to look at short- and long-term climate trends, physical and social vulnerabilities, and adaptation strategies at various scales, building on existing initiatives and mobilizing the strong research and policy networks of the consortium members.

Moreover, it will engage with key stakeholders – including researchers, practitioners, and policy makers – at all levels from the beginning so that there is an appropriate mix of incentives and tools to use HI-AWARE generated research findings and pilot outcomes to improve the livelihoods of vulnerable groups in the region.

HI-AWARE Study Basins



Consortium Members

The HI-AWARE Consortium is led by the International Centre for Integrated Mountain Development (ICIMOD). The other members are the Bangladesh Centre for Advanced Studies (BCAS), The Energy and Resources Institute (TERI), Climate Change, Alternative Energy, and the Water Resources Institute of the Pakistan Agricultural Research Council (CAEWRI-PARC) and Alterra-Wageningen University and Research Centre (Alterra-WUR).

The HI-AWARE programme will be implemented until 2018.

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