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The Saturday market in Namche Bazaar in the Nepalese Himalayas.

Adapting to climate change in the Himalayas

An international research consortium aims to equip Himalayan communities with the skills and knowledge needed to address climate change. The research focuses on three river basins where the impacts of climate change are likely to be severe.

With the largest mass of snow and ice outside the polar regions, the Hindu Kush Himalayas are a life-giving water source for nearly one-fifth of the world's population. More than 200 million people inhabit the mountain ranges that wind through eight countries, from Afghanistan to Burma, with another 1.3 billion people living downstream.

> "In the Himalayas, climate change is increasing the frequency and intensity of extreme events such as floods, heat waves and droughts."

Glaciers in the Hindu Kush Himalayas act as a natural buffer to the region's highly variable climate, releasing water when temperatures rise. But under changing climatic conditions, the glaciers are receding. Climate change is adding to the frequency and intensity of extreme events such as floods, heat waves and droughts. It may also affect weather patterns that drive the South Asian summer monsoon, putting countless livelihoods at risk.

An international research consortium, launched in 2014, aims to equip communities in the region with the skills and knowledge needed to address the challenges that lie ahead. The Himalayan Adaptation, Water and Resilience project (HI-AWARE) brings together five institutions, led by the International Centre for Integrated Mountain Development, and draws on expertise from across Asia and beyond.

The research focuses on three Himalayan river basins – the Indus, Ganges and Brahmaputra – where the impacts of climate change on water and the livelihoods of the poor are likely to be severe. Within these basins, HI-AWARE is examining 12 sites at different altitudes and with varying climatic, social, economic and demographic conditions. Teams are collaborating on three streams of research: the biophysical, socio-economic and governance dimensions of climate change adaptation.

Governments in the region have many shared priorities. They want to protect agriculture, ensure food security, and protect urban areas and infrastructure. They need to prepare for disasters as they face more droughts, floods and cyclones, and possible impacts on human health.

Working with various stakeholders, researchers are downscaling climate models to address local issues, such as how the changing climate may affect water resources and agriculture. The question of timing is crucial: people need to know what to expect and roughly when, including critical moments when specific climate risks, such as flooding, are highest. They also need to know when adaptation turning points may force them to abandon existing practices and adopt new strategies to sustain themselves.

Equipped with this knowledge, people can more successfully respond in both the short and long term. HI-AWARE aims to build a solid base of evidence to inform these adaptation pathways, with emphasis on building the resilience of the poorest and most vulnerable people.

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