

# THE SOCIAL SCIENCE PERSPECTIVE

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## Climate Matters

### Rural Communities of the Himalayan States in the Shadow of Climate Change



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Climate Change is one of the greatest global challenges of the 21<sup>st</sup> century. Its impacts vary among regions, generations, ages, classes, income groups and genders. According to the Intergovernmental Panel on Climate Change (2014), the preliminary studies showed that the Himalayan region will be experiencing a higher degree of climate change and their communities are at the spearhead of vulnerability due to its impending threats. In the past, different ways of vulnerability assessments were done by several researchers, but the rural communities of the Himalayan states were mostly ignored concerning their livelihood options as well as economic perspective. Vulnerability in this context is defined as the ‘propensity’ or ‘predisposition’ of a system to be adversely affected (IPCC, 2014).

The Indian Himalayan Region (IHR) covers an area of about 43 lakh km<sup>2</sup> and is the largest and the tallest mountain range in the world, bordering 8 countries. It is spread over the states of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya and hilly areas of Assam and West Bengal (09 states, 02 Union territories and 02 partially covered hill states). Nearly, 1.5 billion people depend on the Himalayan ecosystem for water, food, energy, etc. IHR is one of the most

climatically sensitive ecosystems and regulates regional climate and the flow of ecosystem services. It is a sanctuary to a variety of natural resources such as glaciers, glacier-fed perennial rivers, flora and fauna and many more.

Land degradation, deforestation, rapid increase in the number of invasive species, loss of biodiversity, landslides, invasion of commercial crops and low productive agriculture, characterizes the states of IHR. The region also experiences extreme weather events, floods and droughts, along with high climate variability, due to varying altitudes. According to IPCC, changes and variability in temperature and rainfall trends have already been affecting the IHR, particularly in high-altitude remote locations. The variability in the monsoon rainfall has led to a higher frequency of extreme events; affecting the agriculture system in the downstream regions, which is the primary source of livelihood for the marginal hill communities. Due to inadequate infrastructures like road and transport, market, power supply and means of communication and meagre income-generating opportunities, many people in this region are multi-dimensionally deprived of economic growth and development. Himalayan communities are highly dependent on natural resources for their subsistence. Under changing climate, such constraints are likely to add fuel to a fire in the vulnerability level of Himalayan communities.

Recently, climate vulnerability assessment of the IHR using a common framework has been done by IIT-Guwahati, IIT-Mandi and Indian Institute of Science (IISc), Bangalore, under the project 'Climate Vulnerability and risk assessment at the national level using a common framework (2019-2020)'. This study is the initiative taken up by the Department of Science and Technology, Govt. of India in collaboration with the Swiss Agency of Development and Cooperation (SDC). Vulnerability profiles of IHR states as well as districts within states have been developed. The assessment was done based on three broad categories: Socio-economic features and livelihood, Biophysical aspects and Institution and Infrastructure. However, vulnerability assessment of the rural communities has not been taken up.

The International Centre for Integrated Mountain Development (ICIMOD) came up with an innovative, open-minded initiative 'Climate + Change – Indian Himalayan Region: Our Mountains, Our Future' to foster climate-smart communities in the Indian Himalayan Region. The partners in charge were Mountain Division, MoEF & CC and G.B. Pant Institute of Himalayan Environment (GBPIHE), Centre for Environment Education – CEE, Thinc and Glacier works. GBPIHE was identified as the main agency in the development of this project.

To become climate smart, the individual communities must have the increased capacity to respond constructively to the present rate of change in the environment, as well as an awareness of what is happening. With that goal, the initiative will travel to mountain villages and state capitals, looking for and documenting the changes people observe around them and the ways some have already begun to respond to them. It will also document various success stories, sharing knowledge of what has worked in the past and also the failures from which the community at large can learn. Vulnerability assessment can help in the identification of its

drivers and may within assist in adaptation interventions in some of the parts of the IHR states. The different communities are differently vulnerable to different risks. Finding effective ways to adapt to climate change and making the communities climate resilient are the real challenges. A climate-resilient community is self-reliant in their livelihoods as well as managing disaster risks. Focusing on vulnerable communities of IHR, an attempt to address the issues and identify existing gaps therein would be an important scope of the present study.