



Supporting Sustainable Development

Ministry of Environment, Forests & Climate Change Government of India. Village plans in the state of Himachal Pradesh are being developed based upon the findings & recommendations of the climate change vulnerability assessment studies with RCP 4.5 and RCP 8.5 projections. Effective policy reforms, technology transfer and capacity building programmes are implemented with focus of poor, gender and most vulnerable at the basin level.

Initiative Goals

Basin level initiative aims to build resilience to climate change impacts by improving understanding of climate change, cryosphere, water resources, generates & exchange knowledge on agriculture, horticulture and climate induced hazards management. It has improved understanding of present and future water availability and sustainable resource use in the basin, and strengthens the resilience of vulnerable communities.

Initiative seeks to ensure increased water, food and energy security in the Beas basin to benefit the marginal and vulnerable, especially women. To attain so, village level framework on climate change adaptation are developed and implemented.

Initiative Local Partners

- GIZ (CAFRI)
- State level Disaster Management Authority (SDMA), Himachal Pradesh
- Department of Agriculture, Himachal Pradesh
- Department of Horticulture, Himachal Pradesh
- Jal Shakti Vibhag, Himachal Pradesh
- Department of Rural Development & Panchayati Raj, Himachal Pradesh
- District level Administration, Himachal Pradesh



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 Government of India

CLIMATE CHANGE PROGRAMME
 NATIONAL MISSION FOR
 SUSTAINING HIMALAYAN
 ECOSYSTEM

Basin Level Initiative in IHR Towards Climate Resilience

For Mountain Communities

Indian Himalayan Region (IHR) extends 5.00 lakhs sq. kms. (about 16.2% of country's total geographical area) over all or in part of thirteen states from north west to north east India. It is the source of large river systems, including the Indus and Gange. IHR provides water and other ecosystem services and is the basis for the livelihoods of more than 500 million people in the region. Improved water resource management in mountain areas is essential for the sustainable development of the region and downstream states.

NMSHE's Climate Change Programme of Department of Science & Technology, Government of India aims to generate and disseminate evidence based scientific research and gender-responsive practices for the mountain people and build capacity to catalyse policies, strategies, developmental programmes critical to water resources management and disaster risk reduction in IHR. Government of Himachal Pradesh is taking implementing climate action with basin level initiatives.

Beas River Basin

- Beas River Basin is the major part of Indus River Basin of Indian Himalayan Region (IHR).
- River rises 4,361 metres (14,308 ft.) above sea-level on the southern face of Rohtang Pass in Kullu at Beas Kund.
- It traverses through Mandi, Hamirpur Districts and enters the Kangra District at Sandhol, 590 metres (1,940 ft) above sea-level.
- Beas River Basin provides water and other ecosystem services and is basis for the livelihoods of about 5 million people.



Himalayan ecosystem is crucial for the ecological security of the Indian landmass. Indian Himalayan Region (IHR) is highly vulnerable to climate change owing to its fragile ecosystem and high dependence of communities on natural resources.

Under India's NAPCC, National Mission for Sustaining the Himalayan Ecosystem (NMSHE), anchored by the Department of Science and Technology (DST), aims to develop national capacity to continuously assess the status/condition of the Himalayan Ecosystem and enable decision makers in their policy-formulation functions and assist States in the IHR with the design and implementation of actions responding to the country's climate resilient and sustainable development agenda. Under the Mission, task forces are set up in different knowledge domains, including i) natural and geological wealth; ii) water, ice, snow and glaciers; iii) forest resources; iv) plant diversity; iv) micro flora, fauna and wild life; v) Himalayan agriculture

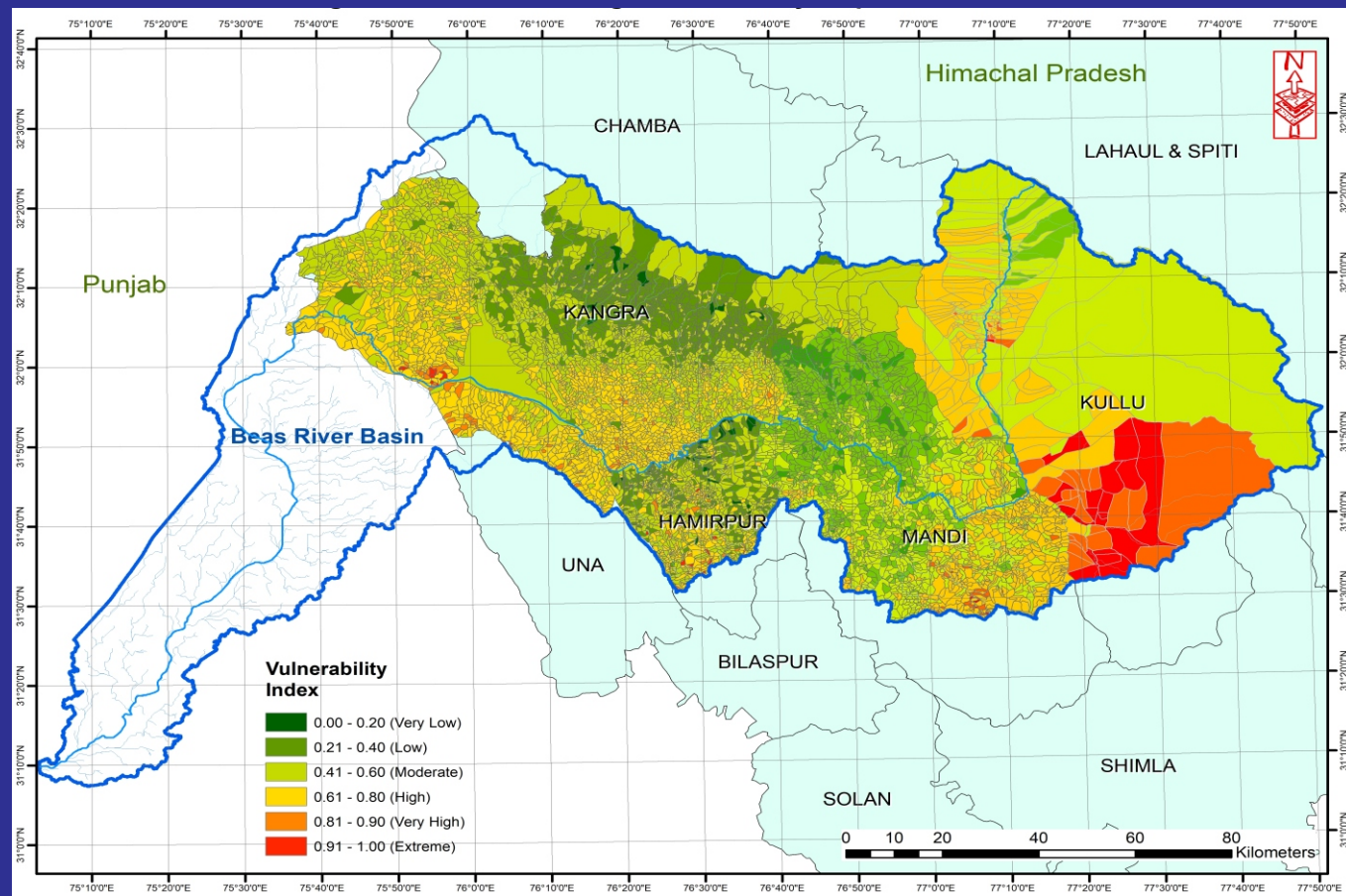
As part of its efforts towards evolving science and knowledge based policies and management measures for sustaining and safeguarding the Himalayan ecosystem, DST has enrolled State nodal climate change departments from IHR region and have set up 12 dedicated State climate change centers(SCCC). In the State of HP, Himachal Pradesh Knowledge Cell on Climate Change (HPKCCC) is actively engaged to tackle the impacts of climate change on Himalayan ecology and cryospheric aspect, snow, glaciers, hazards etc., Climate Proofing of village developmental plans for Climate Resilient Lifestyles for mountain communities in partnership with GIZ is one of the important initiative in this direction.

Himachal Pradesh
 Knowledge Cell on Climate Change (HPKCCC)



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A village level Climate Change Vulnerability Assessment



Initiative Components

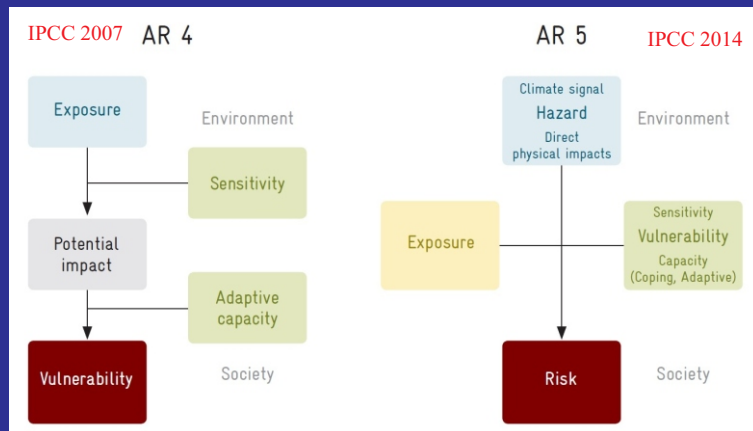
- Develop the basis and mechanisms for regional cooperation through which to build regional dialogues, improve communication and conduct advocacy.
 - Share scientific knowledge for policy, cooperation.
 - Enhance flood management
 - Gender focused networking.



- Promote best practices, capacity development, and innovations to create an enabling environment.
 - Promote innovations on agriculture water management to strengthen adaptive capacities at community level.
 - Enhance awareness and adaptive capacities of communities in disaster preparedness with low cost solutions, early warning systems.



Adopted CCVA Methodologies



Initiative objectives

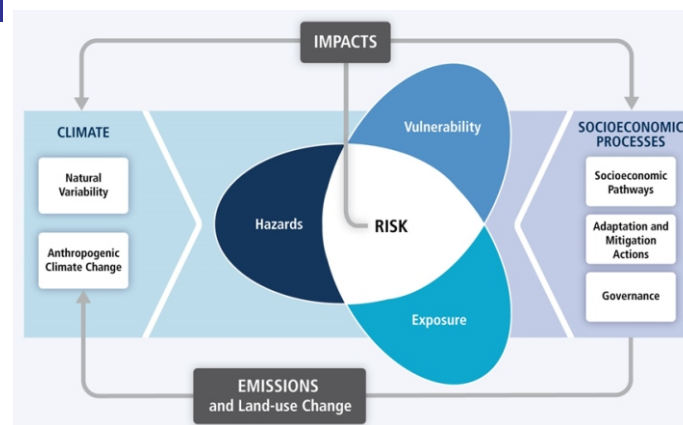
This initiative aims to build resilience to climate change impacts by improving understanding of climate change, water resources, and strengthen village level planning to develop adaptation plans. To do so, it supports the development of better adaptation strategies by research institutions, governments, and local level communities, who in turn, support strategic thinking and interventions for enhanced community resilience in the basin.

- Create and use critical new knowledge and integrated knowledge products to address food, water, energy and climate change issues for upstream and downstream basin populations.
 - Improve watershed management.
 - Effective management of water resources.
 - Innovate gender sensitive solutions around agriculture, horticulture, forest, water.



Initiative Priorities

- To undertake hydrological & climate change modeling based vulnerability assessment.
- To improve understanding of past and future climate trends, impacts of hydrological change on agriculture, horticulture and socio-economic conditions of the downstream vulnerable people.
- To support the development of better strategies as well as gender sensitive policies and adaptation options.
- To support strategic thinking and interventions that lead to enhanced community resilience in the Beas River Basin.



The risk management and assessment framework. Risk arises from interaction of vulnerability, exposure and hazard (Source; IPCC, 2014)

Impacts of Climate Change on Beas basin communities

