

HP Knowledge Cell on Climate Change

HP Knowledge Cell on Climate Change (HPKCCC) has been established in the Department of Environment, Science & Technology, Shimla, Himachal Pradesh under Climate Change Programme of Department of Science & Technology, Govt. of India - National Mission for Sustaining Himalayan Ecosystem (NMSHE) to strengthen and further supplement the activities to deal with climate change impacts.

Data Generation, information, Policy directive formulation, Vulnerability Assessments, participatory resource management strategies and development of livelihood options.

Deploying Technologies – for hazard mitigation & disaster management, development of ideal human habitats, and agriculture and forest sector innovations.

Awareness, Capacity Building, developing human resource, emphasis on skill development, enable communities become sufficiently empowered with know-how and mountain specific required skills, necessary for adaptation to climate change.

Active Community Participation for enhancing ecological sustainability – by involving community in investigating causes and consequences of disturbance regimes, promoting conservation of native and endemic elements, and understanding glacier and river system dynamics.



We are committed to conserve & protect vulnerable Indian Himalayan Region (IHR)



State Partner: Department of Environment, Science and Technology, Government of Himachal Pradesh
Implementation Partner: CITRAN
Project location: Two villages of Shimla and Mandi districts

Expected Impact

Considering nature of the project in terms of its sustainability, the impact can be assessed based on the pillars of sustainability. The intended and hence possible impact of the interventions on the given project area surroundings as well as neighboring villagers are: -

Impact on Community

- Generation of new livelihood options – Eco Tourism
- Improved health conditions
- Improved awareness and engagement
- Reduced deviation of locals to alternative lifestyles

Impact on Livelihood

- Generation of better returns through productive use of Eco Services
- Better value for returns from agriculture produce – 100% organic farming
- Improved agricultural productivity through use of efficient and advanced means tools for agriculture
- Capture of revenues from tourism through existing village infrastructure and knowledge

Impact on Ecosystems

- Reduced degradation of environment due to anthropogenic activities
- Preservation of natural ecology and bio diversity of surroundings in and around project site
- Improved/Present identification of existing natural resources in and around the village
- Reduction in susceptibility to effects of climate change on project location

Project Strategies

Development of Eco Village Development Plan is based on seven strategies namely:

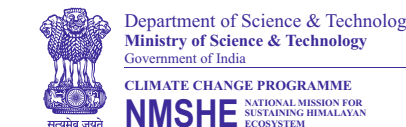
- Springshed Management
- Sustainable Agriculture
- Water Management and Irrigation
- Adoption of Renewable Energy
- Solid Waste Management and Cleanliness
- Forest Produce Management and Eco Services
- Capacity Building Interventions

Approach



Programme Deliverables

- Infrastructure for Climate Modelling & Access to Data.
- Enhanced Research on Climate Modelling.
- Framework for promoting Data Access.
- Human Resource Development.
- Increased public awareness about climate change and the contributions of the Centre to socio-economic development and the achievement of internationally agreed development goals;
- Reliable and sound knowledge sharing attitude among various NGOs, Research Institutions, Universities and stakeholder departments/organizations established;
- Enabling environment for policies, laws and regulations conducive to the formation, growth and stability of the Centre.
- Link research, policy, and 'on the ground' action created in coordination with line organizations;
- Traditional/indigenous knowledge blend with science evolved in view of climate change issues.



NATIONAL MISSION FOR SUSTAINING THE HIMALAYAN ECO-SYSTEM (NMSHE)

CLIMATE CHANGE PROGRAMME



CONTACTS

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Himachal Pradesh
 Knowledge Cell on Climate Change
 (HPKCCC)

Importance of Himalayas for India

- ↪ Most of the Indian subcontinent's northern rivers originate in the Himalayas.
- ↪ Himalayas support agriculture and other activities by moving a significant amount of freshwater from the highlands to the plains.
- ↪ Himalayas also aid in the creation of new plains to house expanding populations.
- ↪ Ganges and Indus rivers originate in the Himalayas.
- ↪ Himalayas, which regulate temperature, serve as barriers to stopping internal Arctic cold waves from reaching the Indian subcontinent.
- ↪ This keeps the Indian subcontinent from experiencing the exceptionally cold season that would have otherwise happened.
- ↪ Similar to the climatic effect, the Himalayas serve as a barrier and keep the monsoons from leaving the subcontinent as they approach.
- ↪ This guarantees that India's interior receives enough rainfall. Additionally, Himalayas help bring monsoonal winds into India.
- ↪ The Himalayas is an ecological hotspot since they are home to a variety of plants and animals.
- ↪ As a result, there is harmony between the environment and the people in the area.
- ↪ Animals and plants are also excellent sources of food, medicine, fiber, etc.
- ↪ Security of the Country: India is naturally protected by the Himalayas on its northern, north-eastern, and north-western borders.
- ↪ Their establishment has made it far easier to stop an assault on India from another country.
- ↪ Himalayas continue to be viewed as strategically valuable to India.



Indian Himalayan Region (IHR)

Indian Himalayan Region (IHR) with geographical coverage of over 5.3 lakh Sq.km. comprises of the vast mountain range extending over 2500 km in length between the Indus and the Brahmaputra river systems and raising from low-lying plains to over 8000 m above sea level, it is around 300 Km at its widest part with an average width of 80 Km.

As the world's highest mountain chain, the Himalaya is characterized by a complex geologic structure, snow capped peaks, large valley glaciers, deep river gorges and rich vegetation.

Himalayan ecosystem is vital to the ecological security of the Indian landmass and occupies the strategic position of entire northern boundary (North- West to North-East) of the country.

Apart from national security standpoint, IHR is also important for its high forest cover. More than 41.5% of its geographical area is under forests representing one-third of the total forest cover in India and nearly half (47%) of the "very good" forest cover category of the country. These forests generate a plethora of goods and services. However, a complex interplay of climatic and geological processes, destructive patterns of resource use and economic marginalization have led to the situation of heavy resource degradation and associated environmental consequences on the highly diverse and fragile Himalayan eco-system.

National Mission for Sustaining the Himalayan Ecosystem (NMSHE)

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 , Himachl 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.

NMSHE - Objectives

- Scientific assessment of the vulnerability of the Himalayan eco system to short and long term variability in the weather and climate in all its dimensions of physical, biological and socio-cultural aspects
- Research for framing evidence-based policy measures to protect the fragile ecosystem.
- Time bound action programmes at state level in the Indian Himalayan Region in order to sustain the ecological resilience and ensure the continued provision of key ecosystem services.
- Networking of knowledge institutions engaged in studies on Himalayan Ecosystem and development of a coherent data base on the geological, hydrological, biological and socio cultural dimensions including traditional knowledge systems on preservation and conservation of the ecosystem
- Detection and decoupling of natural and anthropogenic induced signals of global environmental changes in mountain ecosystems and prediction of future trends on potential impacts of climate change on the Himalayan ecosystem with a sound S&T



backup.

- Assessment of the socio-economic and ecological consequences of global environmental change and design of appropriate strategies for growth in the economy of the mountain regions and the lowland systems dependent on mountain resources in the region.
- Studying of traditional knowledge systems for community participation in adaptation, mitigation and coping mechanisms inclusive of farming and traditional health care systems
- Evaluation of policy alternatives for regional development plans towards sustainable tourism development, water and other natural resource management for mountain ecosystems in the region.
- Creation of awareness amongst stakeholders in the region for including them in the design and implementation of the programme.
- Assisting the states in the Indian Himalayan Region with informed actions required for sustaining the Himalayan ecosystem,
- Development of regional cooperation with neighboring countries, to generate a strong data base through monitoring and analysis, to eventually create a knowledge base for policy interventions.

NMSHE - States Covered

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| 01. Himachal Pradesh | 08. Tripura |
| 02. Uttarakhand | 09. Meghalaya |
| 03. Sikkim | 10. Assam |
| 04. Arunachal Pradesh | 11. West Bengal |
| 05. Nagaland | 12. Jammu and Kashmir |
| 06. Manipur | 13. Ladhak |
| 07. Mizoram | |

