

Experts discuss Climate Change Impacts on mountain ecosystem

Responding to the complexity of climate change in ecosystems, the Department of Environmental Science, Dr YS Parmar University of Horticulture & Forestry (UHF), Nauni, in collaboration with the Ministry of Earth Sciences organized a Brainstorming meeting on climate change impacts on the mountain ecosystems. The theme for the meeting was 'Climate Change Impacts on mountain ecosystem vis- a- vis crafting adaptation and mitigation strategies for sustainable livelihood in Himachal Pradesh'. Experts from Indian Council of Agricultural Research, Indian Meteorological Department and Ministry of Earth Science and over 100 scientists from the states of J&K, Punjab, Haryana, Uttarakhand, Himachal Pradesh and New Delhi participated in the meeting.

The issues of climate change and its varied dimensions were discussed, for not only suggesting and framing mitigation strategies, but also for its utility in uplifting the livelihood of the farmers of different agro-climatic zones of Himachal Pradesh.

Four brainstorming sessions of the meeting were committed to the spread of scientific temper amongst the scientific fraternity and dissemination of informed decision-making across various sections of society. The event provided opportunities to the scientists from across northern India to re-build and enhance their capacity, skills and competencies in the field of climatology and its intricacy with agriculture, horticulture and forestry practices. In an overarching context the participant scientists deliberated on various challenges like climate change, eco-degradation and depleting natural resources especially water.

The event was inaugurated UHF Vice-Chancellor Dr HC Sharma who emphasized that the climate variability and change has been acknowledged as the single most challenge that humans and earth are facing today. He cautioned that the problems would further aggravate in the years to come if corrective measures were not taken. He called for a total rethinking in research and development activities to manage and minimize the effects of climate change. Experts were of the view that visionary efforts were needed to understand climate change issues, crafting adaptation and mitigation strategy for addressing the concern of food and nutritional security, water security, biodiversity loss and conservation. It was also felt that the changes occurring in biodiversity have to be closely monitored in proximity to climate variability of the region.



The event was presided over by MS Rana, Director Horticulture, Government of Himachal Pradesh. He pointed out the impact of climate change on shifting of vegetation in the state and cited the glaring example of apple.

Earlier, in the introductory talk, event coordinator and Head, Department of Environmental Sciences Prof. SK Bhardwaj pointed out that like the other parts of the world, Himachal Pradesh too was also witnessing the impacts of climate change. He pointed out that the over-exploitation of natural resources and various anthropogenic activities like industrialization, urbanization and transportation have created this problem. There is an urgent need to create climate change related literacy among the people so that by changing life style everyone may participate in the mitigation of this problem by reducing their footprints.

Dr Anand Sharma, a senior expert from IMD, stressed that there is an urgent need to educate the people regarding climate variability and change. He pointed out that change is the long-term average and should not be confused with climate variability, which in fact is of common occurrence in nature. During discussions, it was suggested that there must be scientific dissemination of weather forecasting events through community FM radios for inaccessible areas of the state.

Dr. SS Randhawa, Principal Scientific Officer, HIMCOSTE, gave a word of caution on retreating glaciers, decreasing snowfall, perennial rivers becoming seasonal and formation of moraine-dammed lakes. Dr MS Jhangra, Senior Scientist, UHF's Department of Environmental Science cautioned that we have to be wise with the environment otherwise, the problem of climate change would further aggravate and may have devastating effects.

To mitigate and to adapt to the changing climate of the state, the following points emerged from the sessions:

- Integrated farming, using traditional crops with more resilience as an option to be adopted by the mountain people
- Rainwater harvesting and use of water with efficient systems of irrigation.
- The framing of a climate matrix tool to overcome the challenges of non-availability of long-term weather data.
- Formulation of the water source inventory of the state.
- Increasing the land coverage by promoting multi-purpose plant species for increasing profile water storage and carbon sequestration.
- Adoption of contour terracing and trenching for reduction of runoff vis- a- vis runoff water harvesting.
- Promotion of the integrated farming based agro- ecotourism for adapting to changing situations in the state.
- Issuance of regular weather forecasting based agro advisory at the block level.
- Studies to segregate the effects of developmental activities and climate change as all the effects are not only due to climate change only.
- To initiate systematic studies to assess the biological cycles of plants under present changing situations

Other prominent participants and contributors of the meeting were Dr Jagdish Chander, PCCF Community Forests (Haryana); Dr Ram Niwas, Principal Scientist HAU; Dr IP Sharma, Former Dean of UHF College of Forestry; Dr SS Samant GB Pant Institute Kullu, Dr Krishan Kumar Head UHF Department of Fruit Science; Dr Raj Kumar Thakur, UHF Joint Director (Communication); Dr Ranbir Singh Rana, Principal Scientist, CSK HPKV; Dr Mohar Singh Thakur, Principal Scientist, NBPGR Regional Station, Shimla and Dr. Naresh Kumar, Ministry of Earth Sciences Gol, New Delhi.