

# NATIONAL MISSION FOR SUSTAINING THE HIMALAYAN ECOSYSTEM

## Perspective, Progress and Way Forward

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1. The Government of India launched National Action Plan on Climate Change (NAPCC) on 30<sup>th</sup> June, 2008 outlining eight National Missions on climate change. These include:
  - i. National Solar Mission
  - ii. National Mission for Enhanced Energy Efficiency
  - iii. National Mission on Sustainable Habitat
  - iv. National Water Mission
  - v. National Mission for Sustaining the Himalayan Eco-system
  - vi. National Mission for a Green India
  - vii. National Mission for Sustainable Agriculture
  - viii. National Mission on Strategic Knowledge for Climate Change

The Department of Science & Technology, Ministry of Science & Technology was entrusted with the responsibility of coordinating two out of these eight national missions on climate change. These are: (a) National Mission for Sustaining Himalayan Ecosystem (NMSHE) and (b) National Mission on Strategic Knowledge for Climate Change (NMSKCC).

2. The National Mission for Sustaining Himalayan Ecosystem (NMSHE) is the only site specific mission under the NAPCC. Himalayas assume great significance to the people of India- socially, culturally and economically. The Himalayan eco-system possesses nearly 51 million people who practice hill agriculture. Most of the India's river systems in the North originate from glaciers in the Himalayan region. The Himalayas are therefore major source of fresh water for the perennial rivers such as the Indus, the Ganga, and the Brahmaputra. Glacial melt may impact their long-term lean-season flows, with adverse impacts on the economy in terms of water availability and hydropower generation. For centuries, Himalayan ecosystem has remained delicately balanced, and has been responsible for the tremendous biodiversity of the region. The ecosystem has become increasingly vulnerable to the impacts of changes due to natural causes, anthropogenic emission related causes and also due to developmental paradigms of the modern society. The National Mission for Sustaining the Himalayan Ecosystem has been launched with the goal of addressing all such issues holistically and in coordinated manner by involving all possible stakeholders.
3. The broad objectives of NMSHE include - understanding of the complex processes affecting the Himalayan Eco system and evolve suitable management and policy measures for sustaining and safeguarding the Himalayan eco-system, creating and building capacities in different domains, networking of knowledge institutions engaged in research and development of a coherent data base on Himalayan ecosystem, detecting and decoupling natural and anthropogenic induced signals of

global environmental changes in mountain ecosystems, studying traditional knowledge systems for community participation in adaptation, mitigation and coping mechanisms inclusive of farming and traditional health care systems and developing regional cooperation with neighboring countries, to generate a strong data base through monitoring and analysis, to eventually create a knowledge base for policy interventions.

4. The initiatives under National Mission for Sustaining the Himalayan Ecosystem (NMSHE) were taken up much later than those initiated under NMSKCC. The cabinet approved the mission on 28<sup>th</sup> February, 2014. Some of the major initiatives that were taken up so far under this mission are enumerated below:
  - a. The first task undertaken under this mission is to map all institutions and civil society organizations (CSOs) working in the field of Himalayan ecosystem both within and outside Himalayan region. This exercise revealed that there are as many as 100 institutions and several hundred CSOs working in this area. An inventory of these institutions has been prepared.
  - b. A major initiative of establishing 6 Thematic Task Forces anchored around key knowledge institutions in the Himalayan region as outlined in the Mission document was taken up. These have now been finalised after several rounds of discussion and review. These Task Forces are: (1) Natural and Geographical wealth by Wadia Institute of Himalayan Geology; (2) Forest Resources and Plant biodiversity by GB Pant Institute on Himalayan Environment and Development, Almora; (3) Micro flora and fauna and wild life and animal population by Wild Life Institute of India, Dehradun ; (4) Traditional Knowledge systems by JNU; (5) Water, Ice, snow and glaciers by National Institute of Hydrology, Roorkee and (6) Himalayan Agriculture by ICAR
  - c. An Inter-University Consortium on “The Himalayan Cryosphere: Science, and Society” was also launched wherein four universities viz., JNU, Kashmir University, Jammu University and Sikkim University are participating. The consortium intends to bring in the field data for scientific explanations for climate and cryosphere changes over time and space and evaluate societal needs and capabilities for adaptation to such changes in the coming decades.
  - d. A major task of enrolling State Governments of Indian Himalayan Region was undertaken. Several rounds of consultation workshop were organized in Delhi wherein all 12 Himalayan States participated. These States were requested to submit their proposals to set up State CC Cell/Centre. So far these Centres/Cells have been established in 7 States viz., J&K, Himachal Pradesh, Meghalaya, Manipur, Sikkim, Mizoram and Tripura. Plans are underway to establish such Cells in remaining states.
  - e. As part of the scientific and technical knowledge cooperation, a capacity building programme titled “Indo-Swiss Capacity Building Programme on Himalayan Glaciology” was launched by DST in collaboration with Swiss Agency of Development and Cooperation (SDC).The aim of the programme was to contribute towards training of 25 glaciologists as envisaged under NMSHE. The two level programmes consisted of both class room trainings as well as the field experience in the Chota Shigri glacier. It was hosted by Jawaharlal Nehru University, New Delhi. The Indian and Swiss faculties were jointly engaged in providing the teaching. An achievement of the programme is the training of 52 young Indian researchers in Glaciology and related areas. Out of these 52 researchers, 13 were women researchers. Total 27 researchers received advanced training.
  - f. Under the Indo-Swiss bilateral cooperation a capacity building programme on adaptation planning and implementation comprising two orientations and three

trainings has been developed in consultation with the State Government of Himachal Pradesh. The aim of the programme is to integrate climate change concerns into the development planning. The programme has been designed for various levels of the government with tailor-made modules keeping the sub-national context in view. In the initial phase of the programme 127 state government officials and representatives of civil society organizations, academic and research institutions in Himachal Pradesh have been provided orientation and training. Modules of the training programme have been provided to the nodal climate change agencies of all Himalayan states.

- g. A common framework for 'Integrated Vulnerability, Risks and Hazard Assessment has also been developed for implementation for the entire Indian Himalayan Region and for use as a guidance tool for other Himalayan States.
  - h. A discussion with ICIMOD, Kathmandu has been initiated for developing a Regional Cooperation framework for multi-lateral cooperation in the areas of Himalayan Ecosystem.
  - i. A number of reports and other publications have come out of the work undertaken by scientists of institutions working under the mission. A large number of capacity building workshops/interactions have been organized as part of mission's initiatives.
5. The two missions coordinated by DST provide promise to the scientific community, society at large and policy makers that it would help building human and institutional capacity in the field of climate change and Himalayan ecosystem. The strategic or new knowledge generated through these missions would eventually be used for formulating suitable policies for the country in climate change areas and also for international negotiation purposes. The Climate Change Programme of DST although established in 2009, the actual action related to NMSKCC began in 2011. Actions related to NMSHE started much later and with greater pace only after mission was approved by the cabinet on 28 Feb., 2014.. A considerable progress made since then. However, a lot more is expected to be achieved. The Team CCP-SPLICE with the support and cooperation of the Experts, PIs, climate change community, Central and State Governments institutions, and non-governmental and civil society organizations in the country, will make every possible effort to achieve the desired objectives of the missions in the time to come.