

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 1996**  
TO BE ANSWERED ON 21.12.2018

**Impact of Climate Change**

1996. SHRI NINONG ERING:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government has conducted/proposes to conduct any study to assess the impact of climate change on the natural ecosystems and biodiversity of the Himalayas and the North-East region, including Arunachal Pradesh;
- (b) if so, the details thereof;
- (c) whether the Government intends to build a database to document the changes in natural ecosystems and biodiversity due to climate change in the said regions and if so, the details thereof; and
- (d) the details of other steps taken by the Government to safeguard the biodiversity and help local communities adapt to climate change along with the funds provided in this regard?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(DR. MAHESH SHARMA)**

(a) and (b) The Ministry of Environment, Forest and Climate Change has carried out a study titled "Climate Change and India: A 4X4 Assessment - A Sectoral and Regional Analysis for 2030s" which provides assessment of impacts of climate change in 2030 on four key sectors of Indian economy, namely, agriculture, water, forests and human health in four climate sensitive regions of India, namely, the Himalayan region, the Western Ghats, the Coastal region and the North-Eastern Region.

In order to mitigate the impacts of climate change in the Himalayan region, the Government is implementing the National Mission for Sustaining the Himalayan Ecosystem (NMSHE) under the National Action Plan on Climate Change (NAPCC). As part of NMSHE, six thematic task forces anchored around six lead institutions have been set up. These institutions are undertaking studies to assess the health of Himalayan ecosystem in the areas of natural & geological wealth, water, ice, snow, including glaciers, micro flora & fauna, wildlife & animal population, forest resources & plant biodiversity and agriculture. In addition, an Inter-University Consortium on "the Himalayan Cryosphere: Science and Society" has been set up to look into Cryosphere-Societal interactions. The State Climate Change Cells (SCCCs) have been established in 11 Himalayan states to undertake studies on climate change risk and vulnerability assessment, capacity building and public awareness. Further, based on the analysis of long term

satellite data, Indian Space Research Organization (ISRO) has shown a mean upward shift in alpine treeline in Himalayas; treeline upward shift in Arunachal Pradesh and elevation shifts in Sikkim Himalaya.

(c) Database on the Biodiversity Characterization was generated under a joint project of Department of Space and Department of Biotechnology, which includes plant species information collected from 1800 sample plots, distributed in 27 vegetation types in North-East India and 1500 sample plots distributed in 20 vegetation types in Western Himalaya.

(d) The Government has notified the Biological Diversity Act, 2002 which is aimed towards conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising out of the use of biological resources and associated traditional knowledge. The Act is implemented through a three-tiered institutional structure: National Biodiversity Authority, State Biodiversity Boards, and Biodiversity Management Committees at the local body level.

Towards safeguarding the biodiversity and help local communities to adapt to climate change, five Nature Learning Centres and five State Government Projects in States of Indian Himalayas have been initiated in close coordination with respective State Forest Departments and local agencies. Total fund of Rs 32.92 crore have been allocated for implementation for the period of three years, in the States of Assam, Himachal Pradesh, Manipur, Nagaland and Tripura.

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