

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 2926**  
TO BE ANSWERED ON 28.12.2018

**Deteriorating of Forest**

2926. SHRI N.K. PREMACHANDRAN

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

- (a) whether the Government is aware that climate change brings about shift in natural vegetation there by deteriorating the forest and if so, the details thereof;
- (b) whether the Government had conducted any study in this regard and if so, the outcome thereof along with the action taken to prevent the forest climate change;
- (c) whether it has come to the notice of the Government that rain - reduction in monsoon and unseasonal rains have disturbed the crop cycle;
- (d) if so, the programme implemented by the Government to avoid loss due to the climate change;
- (e) whether the Government has conducted study regarding the shrinking of water supply in various parts of the country due to climate change; and
- (f) if so, the action taken for water conservation and avoid such loss due to climate change?

**ANSWER**

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

- (a) to (f) The Government of India has published a reported titled “Climate Change and India: A 4X4 Assessment - A Sectoral and Regional Analysis for 2030s (Report 4X4 Assessment)”, which provides an assessment of impact of climate change on four key sectors of the Indian economy, namely Agriculture, Water, Natural Ecosystems & Biodiversity and Health in four climate sensitive regions of India, namely the Himalayan Region, the Western Ghats, the Coastal Area and the North-East Region for 2030.

As per Report 4X4 Assessment, the forest vegetation type of the four eco-sensitive regions are vulnerable to projected climate change in the short term, that is, in 2030s. There are projections for increase in Net Primary Productivity in Western Ghats, North eastern region, Himalayan region, and the Coastal region by 2030 with respect to 1970s.

Further as per latest assessment of forest cover published in “India State of Forest Report (ISFR) 2017”, the total forest and tree cover of the country is 8,02,088 sq

km which is 24.39 % of the geographical area of the country. The Forest and Tree cover shows an increase of 8,021 sq km over the ISFR 2015(updated). Hence there is a net increase in the forest cover of the country.

However as per study conducted by the Department of Science and Technology (DST) through GB Pant Institute of Himalayan Environment and Development, Almora on “Forest Resources and Biodiversity”, the vegetation shifting to higher altitudes have been noticed. Studies showed that some of species have also been shifting in the northern or higher altitudes. *Abies densa* showed greater recruitment on upper distribution limit (>3900 m) in the Eastern Himalaya and *Betula utilis* in the western Himalaya indicating shift of species towards higher altitude.

The Report 4X4 Assessment also projects gain in yields of irrigated rice in all the regions; reduced yields in all the regions for Maize and sorghum; increase in coconut productivity in the western coast and reduction in the eastern coastal region; and reduction in apple production in the Himalayan region by 2030 with respect to 1970s.

In addition, it is noticed that crop cycle gets disturbed during onset of monsoon season and dry spells during the break monsoon situation. The onset of monsoon varies temporal as well as spatial. This variation in onset seriously affects the sowing of different major khariff crops across the country and break in monsoon rains are common for one week to ten days. But the prolonged break (10 to 55 days) during the critical period of kharif crop either reduce the crop yields or causes complete crop failures.

Further as per Report 4X4 Assessment, water yield is projected to increase in the Himalayan region in 2030s with respect of 1970s. However, water yields are likely to be variable across the North Eastern region, Western Ghats, and Coastal region with respect of 1970s. In some places in these regions, it is projected to increase and in some places it is projected to decrease.

In order to address the issues of climate change, Government of India is implementing the National Action Plan on Climate Change (NAPCC) which includes eight national missions being implemented by various Ministries in specific areas of Sustaining the Himalayan Ecosystem, Solar Energy, Enhanced Energy Efficiency, Sustainable Habitat, Water, Green India, Sustainable Agriculture and Strategic knowledge for Climate Change. Thirty two States and Union Territories have prepared their State Action Plans on Climate Change (SAPCC) consistent with objectives of NAPCC to address state specific concerns. The Government is also implementing the scheme i.e. National Adaptation Fund for Climate Change to support adaptation efforts of States and Union Territories.

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