

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 1656**  
TO BE ANSWERED ON 27.07.2018

**Impact of Climate Change**

1656. SHRI RAJESH VERMA:

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

- (a) whether due to impact of climate change several species of living organisms are on the verge of extinction and if so, the details thereof;
- (b) whether the Government has made any assessment of impact of climate change on nutrient quality of food grain thereby resulting in increase in cases of malnutrition among children;
- (c) if so, the details thereof; and
- (d) the corrective measures taken by the Government to save living organisms from extinction and minimize the impact of climate change on production of foodgrains?

**ANSWER**

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

- (a) Global warming adversely affects vegetation as well as animal habitat. According to 4<sup>th</sup> Assessment report of Intergovernmental Panel on Climate Change (IPCC) published in 2007, it is estimated that on an average 20 to 30% of species assessed are likely to be at increasingly high risk of extinction from climate change impacts possibly within this century as global mean temperatures exceed 2°C to 3°C relative to pre-industrial levels. As global average temperature exceeds 4°C above pre-industrial levels, model projections suggest significant extinction of 40-70% species assessed around the globe. Further, a study conducted by the G.B. Pant National Institute of Himalayan Environment and Sustainable Development has reported that in the western Himalayan Region, many food crops are on the verge of local extinction.
- (b&c) Under the National Innovations on Climate Resilient Agriculture (NICRA) project of Indian Council of Agricultural Research (ICAR), research has indicated that increased level of CO<sub>2</sub> reduces content of iron and zinc and protein in maize grains. However, specific studies to assess the impact of climate change on nutrient quality of food grains resulting in malnutrition among children have not been undertaken.

- (d) The Government has enacted the Biological Diversity Act, 2002 with the objective to conserve biological resources, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resources. The Act empowers the Central Government in consultation with the concerned State Government to notify from time to time any species which are on the verge of extinction or likely to become extinct in the near future as threatened species, and prohibit or regulate their collection, and also to take appropriate steps to rehabilitate and preserve those species.

The Government of India has established a country-wide protected area network with 769 Protected Areas including 103 National Parks, 544 Wildlife Sanctuaries, 46 Community Reserves and 76 Conservation Reserves in different biogeographic regions, which primarily covers habitats of threatened flora and fauna.

ICAR has developed 623 District Contingency Plans addressing adaptation to climate change in agriculture sector. Several agriculture research organizations under ICAR and Government at Centre and State level are promoting adaptation measures such as mulch management, crop residue recycling, reduction of tillage, application of organic manure, soil testing and balanced nutrition, and soil health program which help in enhancing crop yield/ productivity and biodiversity. Further, the agriculturally important micro organisms are being given special focus by isolating them for ameliorating the abiotic stresses.

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