

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 4900
TO BE ANSWERED ON 23.03.2026

Impact of Climate Change on Desert Livelihoods

4900. SHRI UMMEDA RAM BENIWAL:

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

- (a) whether studies have been conducted on climate change impacts on desert livelihoods, and if so, the details thereof;
- (b) whether rising temperatures and erratic rainfall affect pastoral and agrarian communities;
- (c) if so, the details of adaptation measures are incorporated in climate action plans; and
- (d) whether targeted support is proposed for climate-vulnerable districts and if so, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI KIRTI VARDHAN SINGH)

(a) to (d) Climate change is a cross-cutting issue spanning various Ministries/ Departments and institutions under them. Sectoral aspects of climate change are studied by different Ministries/Departments across sectors such as agriculture, water resources, human health, power, renewable energy, transport, urban issues/development, etc.

As per India's Third National Communication (TNC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2023, India is experiencing a full range of climate change impacts, ranging from floods and droughts to heatwaves. The impacts of climate change are observed in various sectors, including agriculture and water resources.

The Indian Council of Agricultural Research (ICAR) is implementing a project, National Innovations in Climate Resilient Agriculture (NICRA), which studies the impact of climate change on agriculture, conducts district-level risk and vulnerability assessment of agriculture to future climate change, and integrates simulation modelling to estimate future climate change projections. Under the project, risk and vulnerability assessment of agriculture to climate change has been carried out at the district level for 651 predominantly agricultural districts as per Intergovernmental Panel on Climate Change (IPCC) protocols. 310 districts were identified as vulnerable, out of which 109 districts have been categorised as 'very high' and 201 districts as 'highly' vulnerable. For enhancing the resilience and adaptive capacity of farmers to climate variability, location-specific climate resilient technologies such as system of rice intensification, aerobic rice, direct

seeding of rice, zero till wheat sowing, cultivation of climate resilient varieties tolerant to extreme weather conditions such as drought and heat; in-situ incorporation of rice residues etc. have been demonstrated under the project through Krishi Vigyan Kendras in 448 Climate Resilient Villages of 151 climatically vulnerable districts covering 28 States / Union Territories for adoption by farmers. Capacity building for establishing village-level seed banks and community nurseries is being undertaken under the project to ensure the availability of seeds in the adopted villages.

The Government has implemented several initiatives to reduce dependence on rainfed agriculture, enhance irrigation infrastructure, promote sustainable water management practices, and develop climate-resilient agricultural systems to mitigate the impacts of irregular monsoons, particularly in regions vulnerable to them. The National Adaptation Fund for Climate Change (NAFCC), established in 2015-16, aims to support concrete adaptation activities that mitigate the adverse effects of climate change.

Further, the State Action Plan on Climate Change (SAPCC) developed by the States and UTs identify measures to adapt to climate change vulnerability, including in the agriculture sector, implemented through various schemes, with the objective of enhancing climate resilience and promoting water-efficient cropping patterns.

As a Party to the United Nations Convention to Combat Desertification (UNCCD), India has prepared a National Action Plan to Combat Desertification, 2023, in line with the country's commitments to restore 26 million hectares of degraded land by 2030. The plan emphasises the convergence of the various schemes for restoring degraded land. The Government is implementing various schemes/programs, including, inter alia, the Green India Mission, the Watershed Development Component of the Pradhan Mantri Krishi Sinchayee Yojna (PMKSY), Nagar Van Yojana, Compensatory Afforestation under CAMPA funds, and the Viksit Bharat - Guarantee for Rozgar and Aajeevika Mission (Gramin) to implement various projects and activities which have a positive impact on reducing desertification across the country.
