

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 3094
TO BE ANSWERED ON 27.03.2025

Change in climatic conditions

3094. SHRI BABUBHAI JESANGBHAI DESAI:

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

- (a) whether Central Government is going to provide financial assistance to State Governments for conducting detailed study about change in climatic conditions and its impacts on agriculture sector and human health, if so, the details thereof;
- (b) the number of such proposals have been received by Central Government from State Governments and when Central Government is going to sanction such proposals;
- (c) whether Central Government in consultation with State Governments is going to prepare a special educational study programme on climatic conditions; and
- (d) whether Government has conducted any study about impact of climatic change on human health?

ANSWER

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

(a) to (d) India's climate action is multifaceted and it cuts across various sectors of our economy. The government is implementing several programs and schemes including National Action Plan on Climate Change (NAPCC), which comprises missions in specific areas of solar energy, energy efficiency, water, sustainable agriculture, health, Himalayan ecosystem, sustainable habitat, green India, and strategic knowledge for climate change. The NAPCC provides an overarching framework for all climate actions. Thirty-four States/Union Territories (UTs) have prepared their State Action Plan on Climate Change (SAPCC) in line with NAPCC taking into account the State specific issues relating to climate change.

To address the impact of climate change on agriculture, Indian Council of Agricultural Research (ICAR) is implementing a project, National Innovations in Climate Resilient Agriculture (NICRA). District level risk & vulnerability assessment has been carried out for predominantly agriculture districts using Intergovernmental Panel on Climate Change (IPCC) protocol. 109 districts are categorized as very high and 201 as highly vulnerable, NICRA conducts studies on climate change on agriculture & develops and promotes climate resilient technologies.

To support the adoption of climate-resilient technologies and practices, several schemes have been initiated under National Mission on Sustainable Agriculture (NMSA) by the Government. Per Drop More Crop scheme increases water use efficiency at the farm level through Micro Irrigation technologies i.e. drip and sprinkler irrigation systems. Rainfed Area Development (RAD) focuses on Integrated Farming System for enhancing productivity and

minimizing risks associated with climatic variability. Mission for Integrated Development of Horticulture, Agroforestry & National Bamboo Mission also promote climate resilience in agriculture.

The Government is advancing agricultural productivity through a broad range of centrally supported initiatives such as developing infrastructure, enhancing crop and horticultural practices, and ensuring seed quality. To improve storage facilities, the Government is implementing the Agriculture Infrastructure Fund (AIF) scheme, which provides assistance for the construction or renovation of godowns and warehouses in rural areas. AIF facilitates medium- and long-term loans from banks and other lending institutions for farm-gate and aggregation point projects.

To address the impact of climate change, the National Agricultural Research System has released 2900 varieties during last 10 years (2014-2024). Out of these 2661 varieties are tolerant to one or more biotic and/or abiotic stresses. 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 developed and demonstrated.

The Central Government provides financial assistance to universities across states for detailed research on climate change and its impact on agriculture and human health through Indian Council of Social Science Research (ICSSR).

The Ministry of Education, through ICSSR and other apex organisation under the ministry, regularly announces calls for research proposals on various thrust areas of national importance, including climate change and its impact on agriculture and human health. Each year, ICSSR receives numerous proposals from regular teaching faculty serving in institutions across different states. These proposals undergo a rigorous evaluation process, and grants are awarded based on their merit and alignment with research priorities.

ICSSR has awarded 24 studies in total, of which 6 have been completed, while 18 are currently ongoing. (Annexure-I)

Annexure-I

Name of the Study	Name of the ICSSR Research Project Scheme
Climate Change Impacts on Livelihoods and Mental Health Disorders of Students in Assam and the Role of Health Literacy in Schools and Universities	Vision Viksit Bharat@2047
An Explorative Comparative Analysis of Gender Sensitive Adaptation Strategies to Climate Change and its Impact on Employment Generation and Sustainable Livelihoods in Two Regions of North India: Western Uttar Pradesh and Western Bihar	Vision Viksit Bharat@2047
Mitigation of Climate Change to Blue Ecosystems of Lakshadweep: A Science-based Social Outreach Study	Vision Viksit Bharat@2047
Developing Smart Sustainable Agriculture Villages: Assessing the Dynamics of the Climate Smart Agricultural Practices and Evolving a Pathway for Enhancing Productivity and Attaining the Sustainable Development Goals	Longitudinal Studies in Social and Human Sciences
Climatic Changes, Wild Plants and Sustainable Development Goals: A Longitudinal Study in Himachal Pradesh	Longitudinal Studies in Social and Human Sciences
Assessing the Influence and Socio-economic Impact of DAY- NRLM in Strengthening Marginal Farmers' Adaptive Capacity and Resilience to Climate Change in Haryana	Short-Term Empirical Studies
Women Empowerment through PM Ujjwala Yojana: A Study of select districts of Gujarat and Rajasthan	Short-Term Empirical Studies
An Assessment of the Impact of Millet Mission 2023 on Millets Production and Designing Pathways of Millet Production for Climate Proofing in Bundelkhand Region of Uttar Pradesh	Short-Term Empirical Studies
Design of Climate Smart Agriculture (CSA) based Surface Irrigation System to Improve Water Productivity: A study of select area of Karnataka	Short-Term Empirical Studies
Climate Shocks, Insurance Adoption and Farmers' Welfare in select areas of Eastern India: Assessing the impact of PMFBY on farm productivity	Short-Term Empirical Studies
Healthy Workplaces: The impact of Ecological and Climate responsive design on Health, Productively and Social Well-being of an occupant	2021-22 (Major)
Mainstreaming Climate Change Adaptation and Mitigating Risk of Urban Flood Through Fostering Resilience: A Study of Selected Towns in Himachal Pradesh	2023-24 (Major)

Name of the Study	Name of the ICSSR Research Project Scheme
Building an Emission Inventory for Road Transport Sector in India with an Assessment of Climate, Air Quality and Health implications of Bharat Stage Emission standards	2023-24 (Major)
Assessing Livelihood Vulnerability and Adaptation Strategies to Climate Change in a Tribal Region of Southwest Karnataka	2023-24 (Major)
Living with Climate Change in Indian Sundarban: An Empirical Study of Rural Women's Livelihood and Health	2023-24 (Major)
Climate Change, Water Accessibility and Rural Development: Assessing the Economic and Health Impacts of the Jal Jeevan Mission in the Sundarbans Region, India	2024-25 (Jal Jeevan Mission)
Evaluating the Impact of Climate Change on Water Supply Sustainability under Jal Jeevan Mission: An Empirical Study in Odisha	2024-25 (Jal Jeevan Mission)
Relationship between Geopolitical Risks, Climate Change and Unemployment Rates: Evidence from India and other Global Economies	2024-25 (Major & Minor)
Impact of Climate Induced Environmental Changes and Socio-economic Status on Epidemiology of Scrub Typhus in Himachal Pradesh	2024-25 (Major & Minor)
Machine Learning in Spatio-Temporal Study of Human-Driven Land Use/Cover Response to Climate Change: A Case Study of Gorakhpur District using Landsat Time Series	2024-25 (Major & Minor)
Sustainable Water Resource Management and Biodiversity Conservation in the Context of Climate Change Adaptation using Traditional Ecological Knowledge of Tribal Communities in Tripura with Multi-Criteria Decision-Making and Machine Learning Approaches	2024-25 (Major & Minor)
Indigenous Flood Adaptive Agriculture Practices of the Missing Tribe of Assam (India) and its Relevance in Rural Food Security in the context of Climate Crisis	2024-25 (Major & Minor)
Sustainable Livelihoods within Climate Change Discourse: A Longitudinal Study of the Konda Reddis (PVTG), Andhra Pradesh	PVTG
Climate Change and Indigenous Food Security: Adaptation Strategies of the Cholanaikan Tribe in the Western Ghats	PVTG