

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 542**  
TO BE ANSWERED ON 07.12.2023

**Research work on climate change**

542. SHRI DEEPAK PRAKASH

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

- (a) whether any research work on climate change is being conducted by Government;
- (b) if so, the details thereof;
- (c) the details of the likely expenditure on this research work;
- (d) whether any agreement has been signed with foreign countries in this regard; and
- (e) if so, the details thereof?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE  
(SHRI ASHWINI KUMAR CHOUBEY)

(a) and (e) Climate change is a cross-cutting issue spanning various Ministries/ Departments and institutions under them. Research on climate change is mainly sponsored by the Department of Science and Technology, Ministry of Earth Sciences (MoES), Ministry of Environment, Forest and Climate Change, Indian Space Research Organisation (ISRO), Ministry of Agriculture and Farmers Welfare, and Council of Scientific and Industrial Research. Sectoral aspects of climate change are also studied by different Ministries/Departments concerning sectors like agriculture, water resources, human health, power, renewable energy, transport, urban issues/development, etc. Further, a large number of universities and government research institutions such as the Indian Institute of Technologies (IITs), Indian Institute of Science (IISc), Central and State Universities and their departments also carry out climate change-related research. The research works on climate change are conducted by several institutes and organizations under their own budgetary provisions.

The Government stands committed in addressing the global collective action problem of climate change through multilateralism and resolute domestic actions, including, improving the understanding of the subject through various research endeavors'. The Ministry of Earth Sciences (MoES) through 'Centre for Climate Change Research' (CCCR) at the Indian Institute of Tropical Meteorology (IITM), Pune undertakes various research activities for improving the understanding of climate change and enabling improved assessments of regional climate responses to global climate change. Some of the major research activities includes development of IITM Earth System

Model - the first Earth System Model from India contributed to the recent IPCC AR6, publication of MoES National Climate Change Report “*Assessment of Climate Change over the Indian Region*” in 2020, development of high-resolution climate change projections over the Indian subcontinent, conducting ground-based measurements of greenhouse gas (GHG) concentrations and fluxes, chemical trace gases, meteorological & land surface parameters, reconstructing past variations in the South Asian monsoon extending back to several thousands of years using climate proxies (*eg., tree-rings, speleothems, corals, etc*) based on field campaigns, laboratory measurements and climate model investigations, outreach, training and dissemination of reliable climate information and build In-house capacity in climate modelling and observational measurements.

Further, the Ministry of Environment, Forest and Climate Change has signed Memorandum of Understandings (MoUs) with several countries including Australia, Austria, Bangladesh, Bhutan, Brazil, Canada, Cambodia, China, Cyprus, Denmark, Egypt, Finland, France, Israel, Japan, Mauritius, Morocco, Myanmar, Namibia, Netherlands, Russia, South Africa, Sweden, Switzerland, Turkmenistan, USA, UAE, Vietnam for cooperation in the field of environment and related areas.

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