

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 1738**  
TO BE ANSWERED ON 13.02.2023

**Climate Change Effects**

1738. SHRI ASHOK MAHADEORAO NETE:  
SHRI JASWANT SINGH BHABHOR:

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

- (a) whether many researches show that due to the indiscriminate destruction of forests, two billion tonnes of additional carbon dioxide is being dissolved in the atmosphere every year and due to this the ozone layer is being severely damaged and if so, the details thereof;
- (b) the action plan prepared by the Government in view of the danger hanging over various cities in the country due to melting of glaciers caused by global warming and continuous rise in sea level and if so, the details thereof;
- (c) whether the Government has conducted any study to assess the adverse effects of climate change on various sectors including agriculture in the rural areas of the country during the last three years and if so, the details thereof; and
- (d) whether the Government has prepared any action-plan to address the adverse effects of climate change, if so, the details thereof?

**ANSWER**

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

(a) As per India's State of Forest Report (ISFR) 2021, the total forest and green cover has increased in the last two years and it covers 24.62% of the geographical area of the country. The total carbon stock has also increased. Carbon dioxide is not recognized as an Ozone Depleting Substances (ODS) under the Montreal Protocol, which is the global agreement to protect the ozone layer.

(b) The institutional and regulatory framework in the context of planning, preparedness, relief, recovery and rehabilitation due to disasters including weather related disasters have been put in place under the relevant provisions of Disaster Management Act, 2005. The National Disaster Management Authority (NDMA) has issued several disaster specific guidelines for managing extreme weather-related disasters such as cyclones, floods and heat waves. National Disaster Management Plan (NDMP) has been formulated to assist all stakeholders including State Governments in disaster risk management of various hazards, which includes hazards related to climate change. Furthermore, advance and early warning systems are being implemented by Indian Meteorological Department to facilitate timely evacuation in the

event of floods/cyclones and prevent the loss of lives. Government of India has implemented Integrated Coastal Zone Management project (ICZMP) that has contributed, inter-alia, mapping of hazard line, Eco-Sensitive Area, Sediment cell for the entire coastline of India. The hazard line is indicative of the shoreline changes, including the sea level rise due to climate change and is a projection of impact due to sea level rise, and shoreline changes over a long period of time viz. over 100 years. This line is required to be used by the Coastal State agencies concerned as a tool for Disaster Management for the coastal environment, including planning of adaptation and mitigation measures. Further, Department of Science and Technology is implementing two national missions- National Mission for Sustaining the Himalayan Ecosystem (NMSHE) and National Mission on Strategic knowledge for Climate Change (NMSKCC), and financial support for climate research is provided under these Missions to various academic and research institutions across the country.

**(c)**The impacts of climate change on agriculture and other sectors are being assessed by the relevant Ministries from time to time. The Indian Council of Agricultural Research (ICAR) has initiated a network project, National Innovations in Climate Resilient Agriculture (NICRA) in 2011 to study and address the impacts of climate change on Indian agriculture. As per the studies under NICRA, rainfed rice yields in India are projected to reduce marginally (<2.5%) in 2050 and 2080 and irrigated rice yields by 7% in 2050 and 10% in 2080 scenarios. Wheat yield is projected to reduce by 6-25% in 2100 and maize yield by 18-23%. Climate change is likely to benefit chickpeas with an increase in productivity (23-54%). Further, a number of Research & Development projects have been supported under the National Missions to assess the impact of climate change on areas such as coastal vulnerability, health, agriculture and water.

**(d)**India is a Party to the United Nations Framework Convention on Climate Change, its Kyoto Protocol and Paris Agreement. Under the Paris Agreement in 2015, India had submitted its Nationally Determined Contribution (NDC) balancing the concerns and priorities of climate change, sustainable development including poverty eradication, and economic growth of the country. In August 2022, India updated its NDC demonstrating higher ambition in its climate action. The updated targets in India's NDC include reducing emissions intensity of its GDP by 45% by 2030 from 2005 levels; achieving about 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030; and create an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover by 2030 and propagating a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for 'LIFE' – 'Lifestyle for Environment'.

The Government is implementing the National Action Plan on Climate Change (NAPCC), which is the overarching policy framework and comprises of national missions in specific areas of solar energy, enhanced energy efficiency, water, agriculture, Himalayan eco-system, sustainable habitat, green India, human health and strategic knowledge on climate change. Further, 34 States/Union Territories have prepared State Action Plans on Climate Change (SAPCCs) consistent with the objectives of NAPCC. Government has launched many schemes and programs to scale up India's action on both adaptation and mitigation. As per India's LT-LEDS (Long Term Low-Carbon Development Strategy) submitted to the UNFCCC in November, 2022, India's vision of low carbon development is based on the need to ensure India's high energy needs for economic development and achieving Sustainable Development Goals.

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