Ministry of Environment, Forest and Climate Change

Unusual rise in temperature due to climate change

Posted On: 24 MAR 2022 2:40PM by PIB Delhi

Climate Change is a global collective action problem which has precipitated mainly due to historical, cumulative emissions by the developed countries arising from the disproportionate and excessive production and consumption. The advances in the science of climate change is periodically assessed by the Intergovernmental Panel on Climate Change (IPCC). The IPCC Sixth Assessment Working Group I report points to three major facts: First, that global average temperature has already risen by 1.07 degree C since pre-industrial times. Second, we only have a certain amount of carbon budget left before we reach the temperature limits of 1.5 degree C and 2 degree C mentioned in the Paris Agreement. And third, historical cumulative emissions are an important determinant of current climate change. Carbon budget is the cumulative amount of carbon dioxide emissions permitted since the pre-industrial era to keep the increase in global average temperature, over pre-industrial levels, within a certain limit. For 1.5 degree C warming, 83% of carbon budget is already taken up by historic cumulative emissions until 2019. So, for a temperature target of 1.5 degree C increase, there is only 500 Gt of carbon dioxide that the world can emit. Compared to what has been emitted thus far, this is quite small. While for 2 degree C, 65% is taken up by historic cumulative emissions and 35% remains for the whole world.

India with more than 17% of the global population has contributed only about 4% of the global cumulative greenhouse gas emissions between 1850 and 2019. India firmly believes in global cooperation to deal with the challenge of climate change through multilateral processes on the basis of the principles of equity and Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). Hence all countries must keep their emissions to their fair share of the global carbon budget and use it responsibly. At the same time, technological development is needed globally to move to a low-carbon development pathway while the excessive and unsustainable lifestyles of the developed countries must be immediately curbed and transformed. Simultaneously, development and adaptation is necessary to manage the impact of the climate change that is already taking place.

The Government is seized of the matter. Studies show that average temperature over India has warmed around 0.7˚C during 1901-2018 and similar warming has been observed in the sea-surface temperature in the tropical Indian Ocean by 1˚C for 1951-2015. The rise in temperature is gradual. The rise in extreme

events is attributed to the complex earth system interactions due to global warming and regional anthropogenic influences.

Ministry of Earth Sciences (MoES) has the mandate to provide forecasts and early warnings. However, as an adaptive measure to minimize the effects of increasing temperatures, India Meteorological Department (IMD) in collaboration with local health departments have started heat action plan in many parts of the country to forewarn about the heat waves and also advising action to be taken during such occasions. Heat action plan became operational since 2013. National Disaster Management Authority (NDMA) and IMD are working with 23 states prone to high temperatures at present with respect to heat action plan.

The monitoring of glaciers is pursued by the Indian Space Research Organization (ISRO), Geological Survey of India (GSI), Ministry of Earth Sciences (MoES), Defence Geo informatics Research Establishment (DGRE), and also through various research projects sponsored by the Department of Science and Technology (DST). The latter also has an autonomous institution on Himalayan Geology, namely, the Wadia Institute of Himalayan Geology, Dehradun. The Central Water Commission (CWC) monitors 477 glacial lakes and water bodies in the Himalayan Region of the Indian river basin system, having an area of more than 50 hectares on a monthly basis in the monsoon season since 2011. Further, the National Disaster Management Authority has issued guidelines titled “Management of Glacial Lake Outburst Floods (GLOFs)” in October 2020, which inter-alia includes a discussion on early warning systems.

The Government is implementing the National Action Plan on Climate Change (NAPCC), which is the overarching policy framework for climate action in India, covering mitigation, adaptation and generation of strategic knowledge on climate change. It comprises of national missions in the specific areas of solar energy, enhanced energy efficiency, water, agriculture, the Himalayan eco-system, sustainable habitat, green India and strategic knowledge on climate change. Further, 33 States/Union Territories have prepared State Action Plans on Climate Change (SAPCCs) consistent with the objectives of NAPCC.The Government is also implementing the National Adaptation Fund for Climate Change to support adaptation measures of States/UTs in areas that are particularly vulnerable to the adverse impacts of climate change. A number of other measures are taken, keeping in view the threat of climate change, by various departments, ministries and entities of the Government, as part of their regular mandated activities and responsibilities. These are periodically shared with all stakeholders and the world through India’s National Communications and Biennial Update Reports submitted to the United Nations Framework Convention on Climate Change.

This information was given by Shri Ashwini Kumar Choubey, Minister of State, Ministry of Environment, Forest & Climate Change in Rajya Sabha today.

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