

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 139**  
TO BE ANSWERED ON 29.11.2021

**Global Warming**

139. SHRIMATI RAKSHA NIKHIL KHADSE:  
SHRI SANJAY KAKA PATIL:

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

- (a) whether the crisis of global warming is getting worse day-by-day and if so, the details thereof;
- (b) whether the Government envisages the ice melting effect due to global warming;
- (c) whether the sea level is rising due to the avalanche and if so, the details of studies and surveys in this regard;
- (d) whether the government has framed any Committee in this regard and if so, the details thereof;
- (e) whether there are any fears that many cities of the world will be submerged in floods by 2100 with the effect of all these?

**ANSWER**

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

- (a) Climate change is a global collective action problem. As per the Intergovernmental Panel on Climate Change (IPCC) The Working Group I contribution to the Sixth Assessment Report titled, "Climate Change 2021: The Physical Science Basis", global warming of approximately 1.07°C has already occurred in the decade 2010-2019 since 1850-1900. Global surface temperature will continue to increase until at least the mid-century under all emissions scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21<sup>st</sup> century unless deep reductions in carbon dioxide and other greenhouse gas emissions occur in the coming decades. This assessment is based on improved observational datasets to assess historical warming, as well as progress in scientific understanding of the response of the climate system to human-caused greenhouse gas emissions.

According to the Ministry of Earth Sciences, the surface air temperature over India has risen by about 0.7°C during 1901–2018. Reports from various sources, including IPCC highlight that the challenges faced due to global warming are mainly due to cumulative historical and current greenhouse gas emissions of the developed countries. India with more than 17% of the global population has contributed only about 4% of the global cumulative greenhouse gas emissions between 1850 and 2017.

- (b) The Government is seized of the matter. The net change in a glaciated area varies from one region to another. In a recent study by the Indian Space Research Organisation (ISRO), 5,234 glaciers were monitored between the years 2001 and 2018 across the Himalayan–Karakoram (H-K) region from Kashmir to Sikkim using satellite data. In the Karakoram region (north of the Indus river) gain in the area (0.056%) has been observed. The loss is observed in the rest of the Himalayan region which varies from 0.751% to 2.32%.
- (c) As per the information received from the Department of Science and Technology, a direct link of avalanche to the sea level rise has not been established.
- (d) Does not arise. The matters relating to snow avalanches are monitored by the Defence Geoinformatics Research Establishment (DGRE), a constituent laboratory of the Defence Research and Development Organisation (DRDO). Sea level rise is monitored by the Indian National Centre for Ocean Information Services (INCOIS), an autonomous body under the Ministry of Earth Sciences (MoES).
- (e) Global warming and resultant sea-level rise is projected to increase the coastal inundation of low-lying areas. The frequency and intensity of extreme weather events like cyclones, heavy rains, storm surges, heatwaves, etc. are likely to exacerbate owing to climate change. However, there are no conclusive studies that quantify the actual extent of coastal cities that may be affected by climate change in 2100.

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