

**GOVERNMENT OF INDIA**  
**MINISTRY OF EARTH SCIENCES**  
**RAJYA SABHA**  
**UNSTARRED QUESTION No. 3224**  
**TO BE ANSWERED ON 31<sup>st</sup> March 2022**

**LESSER SNOWFALL IN HIMALAYAS**

3224. SHRI MD. NADIMUL HAQUE:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether any recent study has shown that there have been lesser snowfall and greater rainfall in the Himalayas in the last few years;
- (b) if so, the details thereof;
- (c) whether it is a fact that this can result in increased instances of landslides, avalanches, floods etc. in the region;
- (d) if so, the details thereof, including measures adopted by Government to prevent these disasters;
- (e) whether Government has adopted any measures to protect the region from further ecological damage resulting in its warming; and
- (f) if so, the details thereof?

**ANSWER**

THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR  
MINISTRY OF SCIENCE AND TECHNOLOGY  
AND EARTH SCIENCES  
(DR. JITENDRA SINGH)

- (a) Yes Sir.
- (b) Studies from the National Centre for Polar and Ocean Research (NCPOR), under the Ministry of Earth Sciences (MoES) show that over four glacierised basins (Chandra, Bhaga, Miyar and Parvati) of western Himalaya show an overall decreasing trend of precipitation during 1979-2018. However, this trend is not monotonic, with higher (23.9%) reduction in precipitation during accumulation (winter) season than ablation (summer) season (15.4%). Further, studies indicated that while the snowfall is decreasing, the liquid precipitation (rainfall) has been increasing over these glacierised basins particularly during the accumulation months.
- (c) Yes. Increased rainfall in place of snowfall during spring would lead to early exposure of glaciers, enhanced glacier melt rate as well as could accelerate the frequency and magnitude of avalanches and flash floods.
- (d) Avalanches, landslides are natural phenomenon that can not be prevented. However, early warning and forecasts for rainfall and snowfall are being issued by various institutions under MoES and Ministry of Defence.
- (e)-(f) Ministry of Earth Sciences issues weather forecasts and warnings to these regions and other measures related to ecological damage and sustainable tourism activities are being dealt by the Ministry of Environment, Forests & Climate Change and Ministry of Tourism of the Govt. of India.

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