GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 2115.
TO BE ANSWERED ON 15.03.2021

Preparedness for Uttarakhand flash floods

2115. SHRI SHAMSHER SINGH DULLO:
DR. AMEE YAJNIK:
SHRI K.C. VENUGOPAL:
SMT. PHULO DEVI NETAM:

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

(a) whether Government has taken cognizance of the glacial disaster in February 2021 and its impact on adjoining States;
(b) if so, the details thereof, including calamity mitigation and disaster preparedness measures, and if not, the reasons therefor;
(c) whether Government has received any warnings or recommendations from experts about the melting of Himalayan glaciers, since 2014 till date; and
(d) if so, the details thereof including Government's response thereto?

ANSWER
MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI BABUL SUPRIYO)

(a) & (b) Government has taken cognizance of the avalanche in the upper catchment of Rishiganga river on 7th February, 2021. The avalanche led to a sudden rise in the water level in the river Rishiganga, and a functional small hydro project was washed away. The flash flood also affected the under-construction hydro power project at Tapovan on the river Dhauli Ganga. 72 persons have lost their lives and 132 persons are still missing. Initially 13 villages around the place of incident were cut off. In these villages necessary supplies and medical assistance were provided through helicopter. Further all districts on the banks of river Ganga in Uttar Pradesh were put on high alert. As a precautionary measure, many villagers were evacuated and 2 dams downstream were emptied to stop the flood water from reaching Rishikesh and Haridwar. Union Home Ministry and the State Government together with National Disaster Relief Force (NDRF), Indo Tibetan Border Police (ITBP), Indian Army etc. have coordinated rescue and relief measures.

The National Disaster Management Authority (NDMA) has issued Guidelines titled "Management of Glacial Lake Outburst Floods (GLOFs)" in October 2020, which inter-alia includes a discussion on Early Warning Systems. However, monitoring, interpreting data and providing specific alerts for hazards in specific locations is a challenging and developing subject.

Uttarakhand State Disaster Management Authority (USDMA) is facilitating investigation into the causes of Dhauli Ganga flash flood of 7th February 2021 in Chamoli district by various

organisations and institutions that include Geological Survey of India, Wadia Institute of Himalayan Geology, National Remote Sensing Agency, Defence Research Development Organization and Indian Institute of Remote Sensing. USDMA has already constituted a multi-institutional Committee under the Chairmanship of Secretary, Department of Disaster Management to review the causes of the disaster and come up with a long-term strategy to mitigate impact of similar disasters.

(c) & (d) USDMA has received no warning of the disaster of 7th February, 2021 from any agency, institution or individual. Scientific studies of glaciers are being conducted by different organizations in the country including (i) Snow and Avalanche Study Establishment (SASE) (ii) Indian Institute of Remote Sensing (IIRS) (iii) Wadia Institute of Himalayan Geology (WIHG) (iv) Indian Space Research Organization (ISRO) (v) Geological Survey of India (GSI) (vi) Indian Institute of Science (IIS) (vii) National Centre for Polar and Ocean Research (NCPOR) and (viii) G.B. Pant National Institute of Himalayan Environment (GBPNIHE).

The National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Science (MoES) has studied the Himalayan glaciers since 2014, and is also monitoring lake terminating glaciers in Lahaul-Spiti for their historical changes in the lake area and volume. It has reported the potential vulnerability of one of the glaciers. The NCPOR established a research station Himansh in the Lahul-Spiti region in Himachal Pradesh and has put up a collaborative national initiative called HiCOM (Himalayan Cryospheric Observations and Modelling) to undertake state-of-the-art measurements and modelling across the Himalaya in partnership with Indian Institute of Technology (IITs), Indian Institute of Science Education and Research (IISERs) and Universities.

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