

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 2359
TO BE ANSWERED ON WEDNESDAY, 15TH MARCH, 2023

FORECAST OF CLOUDBURST

2359. SHRI MANOJ KOTAK:
SHRIMATI RAKSHA NIKHIL KHADSE:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government proposes to establish a mechanism to predict and judge the cloudburst forecasts to curb the damages of natural wealth and loss of lives since cloudburst forecasts are still elusive;
- (b) if so, the details thereof;
- (c) whether the Government has initiated any step such as long-term measures for mapping of cloudbursts prone regions through automatic rain gauges; and
- (d) 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)-(b) Cloudbursts are short lived extreme weather events in which heavy rainfall occurs over very small areas (20-30 sq.km.) at a very faster rate (100mm/hr). In India, cloudbursts occur during monsoon season over orographically dominant regions like Himalayan region, northeastern states and Western Ghats. Prediction of cloud burst is a challenging task. This is mainly attributed to small size, short duration and sudden development of thunderstorm and also due to the complexity of associated atmospheric processes which prevail in tropical regions like India. Due to that, cloudbursts are not predictable across the world.

India Meteorological Department (IMD) monitors the thunderstorm activities leading to cloud burst through its surface observation network and Doppler Weather Radar (DWR) network. The DWR observations are available in every ten minutes in the form of cloud images and velocity of winds over the region under the range of the radar. It helps in monitoring and issuing nowcast related to thunderstorm activities. High resolution Numerical Weather Prediction (NWP) models are also available with IMD to provide forecast on occurrence of thunderstorm in short range. The warnings are made available to State Government and general public through various modes of dissemination including social media, so as to take precautionary measures.

(c) & (d) Cloud bursts are highly localized and are of very short duration. Most of the cloudbursts occur over very remote inaccessible sites in hilly region. Due to these reasons most of them remain unobserved and unreported and due to the lack of sufficient real-time data or information, cloudburst prone map for India is not available at present.
