

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 1527  
TO BE ANSWERED ON WEDNESDAY, 4<sup>TH</sup> DECEMBER, 2024**

**EFFECTIVE EARLY WARNING SYSTEM (EWS)**

†1527. SHRI HANUMAN BENIWAL:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government has set up an Effective Early Warning System (EWS) to warn people against natural disasters such as earthquakes, flood, landslides, and Tsunami, if so, the details thereof; and
- (b) whether the Government has taken any concrete measures for the conservation of ground water to prevent water shortage due to the serious decline in the ground water level, 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) Presently, there is no scientific technique available anywhere in the world to predict an earthquake precisely in terms of time, location, and magnitude, and hence, no proven system exists in the country to provide early warning of earthquakes.

Flood forecasting is the mandate of the Central Water Commission (CWC). Flood Meteorological Offices (FMOs) of the India Meteorological Department (IMD) provide river sub-basin-wise Quantitative Precipitation Forecasts (QPF) and Hydromet Bulletin at 0930 hours and 1230 hours every day, respectively. These inputs are used for flood forecasts by the Central Flood Forecasting Division (CFFDs) of CWC.

The Geological Survey of India (GSI) is mandated to conduct landslide studies in the landslide prone areas across 19 States/Union territories of the country. GSI launched the National Landslide Susceptibility Mapping (NLSM) Programme in 2014-15 for generating the baseline data on a 1: 50,000 scale and completed the landslide susceptibility mapping of 4.3 lakh sq.km of landslide-prone areas in India.

The Indian Tsunami Early Warning Centre (ITEWC), established in 2007 at the Indian National Centre for Ocean Information Services (INCOIS), an autonomous institute under this ministry, provides warnings to all the coastal regions of India.

- (b) The Central Ground Water Board (CGWB) monitors groundwater levels throughout the country on a regional scale four times a year during the months of March/April/May, August, November, and January. For monitoring of groundwater level, CGWB has a dedicated network of about 25000 monitoring stations called “National Hydrograph Network Stations (NHNS)”, which comprises open dug wells and purpose-built bore/tube wells for water level monitoring called piezometers. CGWB has initiated automatic high-frequency monitoring by installing Digital Water Level Recorders (DWLR) with telemetry systems under the National Hydrology Project (NHP).

Following are a few of the Government measures for the conservation of groundwater being implemented:

- i. Atal Bhujal Yojana, in 8,213 water-stressed Gram Panchayats (GPs) in 80 districts of 7 States, viz., Haryana, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh. The scheme marks a paradigm shift from groundwater development to groundwater management.
- ii. CGWB has completed the National Aquifer Mapping (NAQUIM) Project in the entire mappable area of about 25 lakh sq. km., which has been shared with the respective State agencies for implementation. The management plans include various water conservation measures through recharge structures.
- iii. CGWB has also prepared a Master Plan for Artificial Recharge to Groundwater-2020 in consultation with States/UTs, which is a macro-level plan indicating various structures for the different terrain conditions of the country, including estimated cost. The Master Plan has provisions for the construction of about 1.42 crore rainwater harvesting and artificial recharge structures in the country to harness 185 Billion Cubic Metre (BCM) of monsoon rainfall.
- iv. CGWB, under the Ground Water Management and Regulation Scheme, has also implemented several successful artificial recharge projects in the country for demonstrative purposes, which enable the State Governments to replicate the same in suitable hydro-geological conditions.
- v. National Water Policy (2012) has been formulated by the Department of Water Resources, RD & GR, which inter-alia advocates rainwater harvesting and conservation of water and also highlights the need for augmenting the availability of water through direct use of rainfall.

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