

GOVERNMENT OF INDIA  
MINISTRY OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 3122**  
ANSWERED ON 04.08.2016

**DEPLETION OF GROUND WATER**

3122. SHRI BHOLA SINGH

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION be pleased to state:

- (a) whether the Government is aware that depletion of ground water is worst in India in the world according to NASA's Gravity Recovery and Climate Experiment (GRACE) satellites survey including all the States of our country especially Uttar Pradesh;
- (b) if so, the State-wise details and facts thereof along with the reasons for the same;
- (c) whether the Government is planning/taking any steps/policy measures for improving the situation; and
- (d) if so, the details thereof and progress made so far in this regard?

**ANSWER**

THE MINISTER OF STATE FOR WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION  
(DR. SANJEEV KUMAR BALYAN)

**(a) & (b)** The scientists of National Aeronautics and Space Administration (NASA) and University of California, United States of America had made an attempt to estimate ground water depletion in north-western India using Terrestrial Water Storage (TWS) change observations from NASA Gravity Recovery and Climate Experiment (GRACE) satellite data for the period from August, 2002 to October, 2008. The study has been taken up in an area of about 4.4 lakh sq.km covering the States of Rajasthan, Punjab, Haryana and Delhi, as a single unit without actual field mapping of ground water levels. The study has indicated that ground water is depleting in the aforementioned four States at a mean rate of  $4.0 \pm 1.0$  cm/year equivalent height of water ( $17.7 \pm 4.5$  cubic km/year). On review of the results of the study by the Central Ground Water Board (CGWB), it was observed that the GRACE mission's ground water storage studies are satellite based estimates and coarse resolution of GRACE data limits its applicability to study ground water dynamics. CGWB estimations are, however, based on field data and bring out smaller scale variations in the ground water storage pattern over a vast region.

**(c) & (d)** Steps/measures taken by the Central Government for the improving the situation includes:

**i.** "Master Plan for Artificial Recharge to Ground Water in India" has been prepared, which envisages construction of different types of Artificial Recharge and Rainwater Harvesting structures in the Country. The Master Plan has been circulated to all State Governments for implementation.

**ii.** Special focus is given through Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) for water conservation and water harvesting structures to augment ground water. In addition, priority has been given for construction of farm ponds in the year 2016-17 to harvest rain water.

**iii.** Department of Land Resources, Government of India is implementing 'Watershed Development Component' of the Pradhan Mantri Krishi Sinchaai Yojana (PMKSY) since 2015-16. One of the major activity under the 'Watershed Development Component', inter-alia, includes rainwater harvesting.

**iv.** CGWB has undertaken the Demonstrative Rain Water Harvesting and Artificial Recharge Projects during XI Plan under the Scheme of "Ground Water Management & Regulation", in priority areas.

**v.** CGWB has taken up Aquifer Mapping and Management programme during XII Plan, under the scheme of Ground Water Management and Regulation. As on March 2016, mapping of 2.28 lakh sq. km area has been achieved.

**vi.** The Ministry has circulated a Model Bill to all the States/UTs to enable them to enact suitable ground water legislation for its regulation and development which includes provision of rain water harvesting. So far, 15 State have adopted and enacted suitable legislations in line of Model Bill.

**vii.** This Ministry has also launched 'Jal kranti Abhiyan' (2015-16 to 2017-18) in order to consolidate water conservation and management in the Country through a holistic and integrated approach involving all stakeholders, making it a mass movement. 'Jal Gram Yojana' component of 'Jal Kranti Abhiyan' envisages selection of two villages in every district, preferably 'over-exploited ' or facing acute water scarcity, as 'Jal Grams' to ensure optimum and sustainable utilization of water.

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