

- (d) if so, the details thereof; and
- (e) the manner in which such mapping would be helpful in saving from the flood?

THE MINISTER OF WATER RESOURCES (SHRI HARISH RAWAT): (a) and (b) Yes, Sir. During XII Plan, the Ministry of Water Resources has proposed preparation of Digital Elevation Maps (DEMs) in about 2 lakh sq. km. of flood affected areas in the States of Uttar Pradesh, Bihar and West Bengal.

(c) to (e) In addition to other survey data, the satellite imagery data of Department of Space is proposed to be utilized in preparation of Digital Elevation Maps.

The Digital Elevation Maps have the objective of providing inundation forecasts about specific areas likely to be submerged/inundated due to a particular flood. The activity aims at enhancing capabilities of the concerned State Governments in better decision making about evacuation of people from areas that are likely to be affected by floods to safer locations.

Rainwater harvesting

1383. SHRI SANJAY RAUT: Will the Minister of WATER RESOURCES be pleased to state:

- (a) whether the country has received normal to sufficient rains in May, June and July, 2013;
- (b) if so, the details thereof in millimeters;
- (c) how much rainwater has been conserved and how much quantity has been left off into the sea;
- (d) whether Government has thought of conserving rainwater where ever excess rainfall has been received; and
- (e) if so, the details thereof and if not, the reasons therefor?

THE MINISTER OF WATER RESOURCES (SHRI HARISH RAWAT): (a) The country has received normal to excess rain in May, June and July 2013.

(b) The details of rain received in millimeters during May, June and July, 2013 are as below:-

Month	Actual	Normal	Departure	Remarks
May – 2013	56.8 mm	62.3 mm	- 9%	Normal
June – 2013	216.3 mm	163.5 mm	+ 32%	Excess
July – 2013	312.9 mm	288.9 mm	+ 8%	Normal

(c) India receives an average rainfall of about 1170 mm which corresponds to an annual precipitation of about 4000 billion cubic meters (BCM) including snowfall. After accounting for evaporation and evapotranspiration, the average annual water availability in the country is assessed as 1869 BCM. It is estimated that owing to topographic, hydrological and other constraints, the utilizable water is 1121 BCM which comprises 690 BCM of surface water and 431 BCM of replenishable ground water resources. As per the assessment made by Central Water Commission and Central Ground Water Board in 2009 about 450 BCM of water was utilised out of 1121 BCM and balance water could be considered to be flowing down to sea.

(d) and (e) The Union Government promotes rain water harvesting and artificial recharge to ground water in the country by supplementing efforts of the State Governments for augmentation and water conservation by way of technical and financial support through various schemes. Roof top rain water harvesting has been made mandatory to check the depletion of ground water in the States/ Union Territories of Andhra Pradesh, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Nagaland, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand, West Bengal, Chandigarh, Daman & Diu, NCT Delhi and Puducherry. In UT of Andaman & Nicobar, roof top rain water harvesting has been made mandatory in Port Blair Town. In Jharkhand, roof top rain water harvesting has been made mandatory in Ranchi urban area.

The Central Ground Water Authority (CGWA) has also issued the following advisories:

1. All the States/ Union Territories and Ministry of Urban Development for adopting rain water harvesting/ artificial recharge measures.
2. To all the Residential Group Housing Societies/Institutions/School/Hostels/ Industrial Establishments falling in the over-exploited and critical areas (except in the water logged areas) in the country to adopt Roof Top Rain Water harvesting systems in their premises.

3. For implementation of ground water recharge measures along all National Highways, State Highways and other major roads; along rail tracks; in the Stadia and in the Airports for promoting Rain Water Harvesting/ adoption of artificial Recharge to Ground Water in the country (except in the water logged areas).
4. To Chief Secretaries in 12 States and Administrations in 2 Union Territories having Over-exploited blocks to take necessary measures to promote/ adopt artificial recharge to ground water / rainwater harvesting.
5. To large and medium industries using ground water in the over exploited and critical areas in the country (except in the water logged areas) to take up water conservation measures including recharge of ground water/ rain water harvesting and adopt practices of treatment, recycle and reuse of waste water in their premises.
6. To Chief Secretaries/ Administrators of all the States/ Union Territories and Ministry of Urban Development to take necessary action to adopt rain water harvesting/ artificial recharge on all the Government buildings.

Availability of water

1384. SHRI C.P. NARAYANAN: Will the Minister of WATER RESOURCES be pleased to state:

- (a) the quantity of water available annually in the country;
- (b) the annual demand for household use, agriculture, industry and service sectors;
- (c) the expected annual increase in demand in these sectors;
- (d) whether Government has a vision about the way future demands could be met, and if so, the main features thereof; and
- (e) whether water harvesting, recycling, etc. are the elements of such a vision?

THE MINISTER OF WATER RESOURCES (SHRI HARISH RAWAT): (a) As per assessment by Central Water Commission (CWC) the average annual water availability in the country is 1869 Billion Cubic Meter (BCM).