

**GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS
RAJYA SABHA
STARRED QUESTION NO. 3
ANSWERED ON 01.12.2025**

**RESILIENCE OF URBAN WATER SUPPLY SYSTEMS UNDER
AMRUT & SCM**

***3. SHRI B. PARTHASARADHI REDDY:**

Will the Minister of HOUSING AND URBAN AFFAIRS be pleased to state:

- a) whether Government has reviewed the resilience of urban water supply systems under centrally supported schemes such as AMRUT and Smart Cities Mission (SCM);
- b) if so, the details thereof, particularly the measures to prevent major pipeline failures and power-related disruptions; and
- c) if not, the reasons therefor and whether Government proposes to issue uniform guidelines to States for strengthening maintenance and emergency response in urban water infrastructure?

ANSWER

**THE MINISTER OF HOUSING AND URBAN AFFAIRS
(SHRI MANOHAR LAL)**

(a) to (c): A statement is laid on the table of the House.

STATEMENT REFERRED TO IN REPLY TO PART (a) TO (c) OF STARRED QUESTION NO. 03 DUE FOR ANSWER IN THE RAJYA SABHA ON 01ST DECEMBER, 2025 REGARDING “RESILIENCE OF URBAN WATER SUPPLY SYSTEMS UNDER AMRUT & SCM”

(a) to (c): Water is a State subject and management of drinking water including creation of climate resilient water infrastructure is the responsibility of the State Government/ Urban Local Bodies (ULBs). Government of India supplements the efforts of the States through schematic interventions/ advisories. It provides financial and technical support to the States through various schemes/ Missions such as Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and AMRUT 2.0.

The Ministry has published Manual on Water Supply and Treatment Systems (Drink from Tap) in March 2024 (<https://mohua.gov.in/publication/manual-on-water-supply-and-treatment-systems---drink-from-tap---march-2024.php>), for reference by the States/ ULBs for designing and implementation of the water supply projects. The manual has a Chapter on “Building Resilience for Climate Change and Disaster Management”, which provides for resilience measures to be adopted by Urban Water Service Providers. The resilience measures for adoption by the Urban Water Service Providers include intake from different sources of water (surface, groundwater, etc.), enhancing water storage capacity, treated wastewater reuse and functional flow meters alongside consumer end metering for all water supply sources, treatment plants, and water distribution stations.

The Manual describes the selection of pipe materials, laying & jointing, protection, surge management and build resilience against the internal water pressures and external loads on the water distribution pipe for all types of materials. The manual also provides for ULBs to adopt express feeder for electric substations to provide uninterrupted power supply at pumping stations and Water Treatment Plants (WTPs). Further, manual provides for District Metered Area (DMA) approach for water supply to accurately track water use and loss, which helps to identify and manage leaks, improve efficiency, and implement targeted pressure management.

Under AMRUT/ AMRUT 2.0, States/ Union Territories (UTs) are empowered to select, appraise, prioritise and implement the projects within the broad framework of Mission guidelines. AMRUT Mission guidelines provides for integrating resilience at the Service Level Improvement Plan (SLIP) preparation stage and incorporating disaster-secure engineering and structural norms in project design at the project development stage. Similarly, under AMRUT 2.0, cities have prepared City Water Balance Plans (CWBP), which include an as-is assessment of water supply systems which help cities/ ULBs to identify vulnerabilities and prioritise system-strengthening measures such as augmentation and diversification of water sources, storage, strengthening water supply networks, etc.

Under AMRUT, 1403 water supply projects worth ₹43,359.78 crore have been taken up by the States/ Union Territories, which includes development of 5,011 Million Litre Per Day (MLD) water treatment capacity and laying of 73,520 km water pipeline network. Under AMRUT 2.0, 3516 water supply projects worth ₹1,18,226.62 crore (including O&M cost) have been approved so far, which includes augmentation of 11,160 MLD of water treatment capacity and 1.24 lakh km water network (new/rehabilitation). So far, under AMRUT/ AMRUT 2.0, 228 lakh water connections have been provided/ rehabilitated in convergence with other schemes.

To enhance source sustainability, 3,031 water body rejuvenation projects worth ₹6,270.51 crore has been approved under AMRUT 2.0. Shallow Aquifer Management (SAM) initiative under the AMRUT 2.0 was launched as a pilot project across 9 diverse Indian cities. The initiative aimed to demonstrate the effectiveness of strategic interventions in managing shallow aquifers and supports aquifer mapping and recharge interventions to strengthen groundwater resilience. In SAM 2.0, 75 cities have been identified for scaling groundwater interventions. For augmentation of water supply, 1,437 MLD of used water reuse capacity has been created under AMRUT and 1,993 MLD additional capacity has been approved under AMRUT 2.0. 490 water supply schemes in AMRUT cities are drawing 6,700 MLD of surface water under AMRUT as part of shifting from single-source dependency to a composite mix of surface and groundwater. To build storage resilience, more than 8,000 MLD of clear water storage facilities has been approved under AMRUT 2.0. The Mission advocates the DMA approach and 401 project with 723 DMAs benefitting 11.11 lakh Households have been approved for better pressure control and quick isolation of burst segments.

Further, to strengthen maintenance systems, digital monitoring, energy efficiency, and emergency preparedness, AMRUT promotes the adoption of smart elements/ Supervisory Control and Data Acquisition (SCADA) based operations. 258 water supply schemes under AMRUT have SCADA system and 1,415 water supply projects under AMRUT 2.0 has provision for SCADA system.

Capacity building of engineers and utility staff is also undertaken under this Mission and over 90,000 contractors, plant operators, plumbers, women, youth, and officials have been trained.

Under Smart City Mission, several initiatives have been undertaken to enhance the resilience, monitoring, and operational efficiency of urban water supply systems. A total of 108 projects amounting to ₹5,639 crore related to SCADA systems, metering infrastructure, and real-time monitoring through Integrated Command and Control Centres (ICCCs) have been implemented across Smart Cities. These efforts have strengthened the capacity of cities to detect leakages, monitor supply levels, ensure asset performance, manage disruptions, and improve emergency response thereby contributing to enhancing the resilience of urban water supply systems.
