

**GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS
RAJYA SABHA
UNSTARRED QUESTION NO. 60
ANSWERED ON 20/07/2026**

FLOOD MANAGEMENT AND URBAN WATER RESILIENCE

60. SHRI L. K. SUDHISH:

Will the Minister of *Housing and Urban Affairs* be pleased to state:

- (a) whether the Central Government has formulated any comprehensive strategy to strengthen flood management and urban drainage systems in view of increasing instances of extreme rainfall, especially in Chennai;
- (b) the funds released to States under flood management and anti-erosion schemes during the last three years;
- (c) whether any flood forecasting and early warning systems have been upgraded using modern technologies; and
- (d) the measures being taken in coordination with State Governments to minimise loss of life and property due to floods?

ANSWER

**THE MINISTER OF STATE IN THE MINISTRY OF HOUSING AND URBAN AFFAIRS
(SHRI TOKHAN SAHU)**

(a) and (b): Management of urban flooding falls under the purview of the State Governments and the Urban Local Bodies (ULBs)/ Urban Development Authorities, who are responsible for maintaining the drainage and sewerage system. Government of India supplements the efforts of the States through schematic interventions/ advisories. It provides financial and technical support to the States to strengthen Urban Planning ecosystem.

The Ministry of Housing & Urban Affairs (MoHUA) has published the following documents/advisory guidelines for improving urban drainage and flood management:

- i. Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines, 2014
(<https://www.mohua.gov.in/static/uploads/2025/10/1813403503fbec280e7648c0ae692512.pdf>) &
(<https://www.mohua.gov.in/static/uploads/2025/10/dd392b7781e668614ae0446cfd114bc6.pdf>)
- ii. Standard Operating Procedure (SOP) for Urban Flooding
(<https://www.mohua.gov.in/static/uploads/2025/11/580e35ec9fae474aaa96bec087e76553.pdf>)
- iii. River Centric Urban Planning Guidelines in 2021 to enable cities in the development of conjunctive water management approaches including nature-based solution
(<https://www.mohua.gov.in/static/uploads/2025/10/eb2bdfc0d54766fbbc52e56fe77ca687.pdf>)
- iv. Guidance Document on Creation of Rain Water Harvesting Parks
(<https://www.mohua.gov.in/static/uploads/2025/10/b0b5705fe04d5c0c9c33187aef85823.pdf>)
- v. Manual on Storm Water Drainage System
(<https://www.mohua.gov.in/static/uploads/2025/10/8a2456c722036d78c72a698898ef846d.pdf>)

Atal Mission for Rejuvenation and Urban Transformation (AMRUT) launched in the year 2015, inter alia, has a component on storm water drainage, which involved construction and improvement of drains/ storm water drains in order to reduce and eliminate flooding and creating green spaces and parks. Under AMRUT, 838 Storm Water Drainage projects worth ₹3022.39 crore have been taken up by the States/Union Territories (UTs). The State of Tamil Nadu had not taken up any storm water drainage project under AMRUT.

Further, 2,522 green spaces and park projects worth ₹1,604.13 crore have been taken up by the States/UTs under AMRUT and 5,400 acres of permeable green space area have been developed through these projects. In Tamil Nadu, the State has taken up 409 park projects worth ₹232.61 crore covering 337.66 acres of permeable green space.

Under AMRUT 2.0, projects for green spaces and parks and rejuvenation of water bodies are taken up by the States. Under AMRUT 2.0, proposals of the States/ UTs for 2,951 water body rejuvenation projects worth ₹6,003.34 crore covering around 1.21 lakh acres of area and 1,649 green spaces and park projects worth ₹1,087.12 crore covering around 12,750 acres have been approved. In Tamil Nadu, the State has taken up 467 water body rejuvenation projects worth ₹225.83 crore covering around 5136 acres of area and 561 green spaces and park projects worth ₹112.97 crore covering around 682 acres of area.

Besides, under AMRUT and AMRUT 2.0 sewerage and septage management projects have been undertaken, which inter alia help in evacuation of storm water. Under AMRUT, as updated by State/UTs on AMRUT portal, 888 sewerage/septage management projects have been grounded, which has led to creation of approx. 22,539 km length of sewer network. Under AMRUT 2.0, the State/UTs have taken up 605 Sewerage and Septage Management projects covering 40,021 KM of sewer network. In Tamil Nadu, the State has taken up 18 sewerage/ septage management projects and created 3019.83 km of sewer network under AMRUT and under AMRUT 2.0, 29 sewerage/ septage management projects have been approved covering 3667.96 km of sewer network.

The National Disaster Management Authority (NDMA) has informed that Based on the recommendations of the XV Finance Commission, an amount of ₹2,500 crore has been earmarked under the National Disaster Mitigation Fund (NDMF) for the Urban Flood Risk Management Programme (UFRMP) for the period 2021–26. The programme extends to a phase – II that has an allocation of a total amount of ₹2444.42 crore

- Phase I (Most Flood-Prone Metro Cities): The programme covers seven cities. An allocation of ₹500 crore each has been earmarked for Mumbai, Chennai, and Kolkata, while ₹250 crore each has been allocated to Bengaluru, Hyderabad, Pune, and Ahmedabad.
- Phase II (Tier-II Cities): The programme extends to eleven additional cities: Guwahati, Patna, Kanpur, Trivandrum, Vishakhapatnam, Bhubaneswar, Bhopal, Jaipur, Indore, Lucknow, and Raipur with a sum of ₹222.22 crores to each city.

The programme comprehensively aims to strengthen flood resilience through coordinated urban planning, improved drainage infrastructure, and targeted structural and non-structural flood mitigation interventions.

In the Urban Flood Risk Management Programme (UFRMP) Phase I, a total of ₹2500 crore was earmarked from NDMF for seven major metropolitan cities. The D/o Expenditure has released the first instalment (except Chennai who got their 2nd instalment), to all seven cities. In October 2025, the High-Level Committee (HLC) approved phase II of Urban Flood Risk Management Programme

(UFRMP) for 11 additional cities with a total outlay of ₹2200 crores. HLC approved the proposal of Guwahati city and the D/o Expenditure has released the first instalment to Guwahati (Assam). Number of projects sanctioned, NDMF/State share, and funds released are as under:

City	Mitigation Measures	NDMF share (in Cr. ₹)	State share (in Cr. ₹)	Total Budget (in Cr. ₹)	Released (NDMF share) (in Cr. ₹)
Phase – I					
Mumbai (Maharashtra)	6	500	207.71	707.71	150
Pune (Maharashtra)	9	250	36.69	286.69	75
Hyderabad (Telengana)	4	250	69.53	319.53	75
Kolkata (West Bengal)	6	500	150.43	650.43	150
Bengaluru (Karnataka)	12	238.72	36.28	275	71.616
Ahmedabad (Gujarat)	6	243.90	31.10	275	73.17
Chennai (Tamil Nadu)	5	500	61.29	561.29	331.5
Total	48	2482.62	593.03	3075.65	926.286
Phase – II					
Guwahati (Assam)	8	180	20	200	54

To mitigate the impacts of severe coastal and river erosion based on the Fifteenth Finance Commission's recommendations, new guidelines were issued under the National Disaster Mitigation Fund (NDMF) and a resettlement policy under the National Disaster Response Fund (NDRF) on June 20, 2024. For the 2021–2026 period, ₹1,500 crore has been allocated under the NDMF for erosion mitigation, and ₹1,000 crore under the NDRF for resettlement. Based on this, 2 projects from Andhra Pradesh (Kakinada and Visakhapatnam) and 1 project from Arunachal Pradesh (Subansiri district) have submitted detailed project proposals. The High-Level Committee (HLC) has approved the three projects:

1. Kakinada Coast: ₹323 crore to enhance coastal resilience.
2. Visakhapatnam (VMRDA) Region: ₹203 crore to enhance coastal resilience.
3. Upper Subansiri District (Arunachal Pradesh): ₹55.74 crore for erosion mitigation.

No funds have been released under this program yet.

(c) and (d): NDMA has informed that within urban flood risk management programme (UFRMP), transitioning from traditional, manual operations to automated digital systems represents a critical non-structural measure. Rather than relying solely on physical barriers, these initiatives focus on intelligent, data-driven management to minimize losses and optimize existing infrastructure. These modern upgrades focus on real-time data collection and remote, centralized control, replacing manual river monitoring and physical gate operations with automated systems that analyze variables like rainfall and water levels etc. Across all participating cities in the Urban Flood Risk Management Programme (UFRMP), these digital interventions and automated warning devices are listed as part of the program's non-structural components.

In Chennai, one component on the non-structural approach is the integration of the SCADA (Supervisory Control and Data Acquisition) system with their reservoir management. Instead of sending personnel to physically open gates during a storm, the SCADA system enables authorities to remotely monitor and control regulators and sluices in real time. By integrating SCADA, authorities not only manage the gates remotely but also receive early telemetry data that helps forecast when downstream areas need to be evacuated or warned.

The primary objective of the Urban Flood Risk Management Programme (UFRMP) is to transform the urban cities into highly flood-resilient cities. In coordination with State Governments/Urban Local bodies, the program facilitates the implementation of robust engineering with scientific early-warning systems, the framework aims to systematically reduce risk, thereby minimizing the loss of human life and safeguarding valuable public and private property from the devastating impacts of extreme rainfall events.
