



Making cities resilient: Urban Disaster Management Authority (UDMA) in India

Biswanath Dash* 

Department of Humanities and Social Sciences, BITS Pilani Hyderabad Campus, Hyderabad 500078, India

Abstract

This paper examines the provision of Urban Disaster Management Authority (UDMA), a new institutional mechanism, that was introduced by the Disaster Management (Amendment) Act, 2025. This initiative is helpful from the point of view of required autonomy to major cities and urban centers in India to plan and execute disaster risk reduction (DRR) measures. However, it is important that such evolving institutional framework should be considered from a broader disaster resilience framework, incorporating among other climate change adaptation (CCA) measures. This paper using two examples, HYDRAA in Hyderabad and Sustainable Resilience Unit in Visakhapatnam, and argues that the mandate and roles of the UDMA must be developed by integrating it with other related initiatives such as climate mission, smart cities etc.

Keywords: Urban Disaster Management Authority (UDMA), Resilient Cities, India

Received: Nov 17, 2025

Revised: Nov 24, 2025

Accepted: Nov 27, 2025

Citation

Dash, B. (2025). Making cities resilient: Urban Disaster Management Authority (UDMA) in India. *Int. J. Disast. Studies Climate Resil.* 1(2):32–35.

<https://doi.org/10.64866/j.ijdscri.2025.10013>



1 Introduction

The Disaster Management (Amended) Act 2025 has provided several new provisions for disaster risk governance in India. It includes ‘Urban Disaster Management Authority (UDMA), a new institutional mechanism to be established by the state government, for all state capital and other cities having municipal corporation, except for the national capital Delhi, and the Union Territory of Chandigarh (The Gazette of India, 2025). The UDMA will be responsible for planning and execution of disaster risk reduction (DRR) measures similar to that of the District Disaster Management Authority (DDMA) at a district level. Such an approach will be helpful considering most major cities in India are spread over multiple districts giving rise to coordination challenges across those DDMA. Following the DM Act’s notification, several cities have begun the process of constituting UDMA, for example, Chennai has notified a City Urban Disaster Management Authority (CCUDMA) (Jesudasan, 2025), and Visakhapatnam in Andhra Pradesh is in the process of doing so (Peri, 2025). This article explores, the idea of such a new institutional mechanism from the perspective of resilience, and nature of challenges which are involved. The mechanism in two cities,

Hyderabad and Visakhapatnam, are explored to highlight these aspects with a few recommendations.

2 Making Cities Resilient

Fifty-five percent of the world’s population are living in urban areas, which is expected to go further up to 68 percent by 2050. Global cities such as Tokyo, Delhi, Mumbai, Shanghai etc. are not just economic hubs driving job creation and growth, but are also characterized by a surging population with a large influx of migrants leading to settlement in vulnerable areas, unplanned development, often overwhelming institutional capacities. In most cases, different agencies are responsible for looking after disaster risk, climate change and urbanization, thereby posing significant coordination and integration challenges (Birkmann et al., 2016). The urban population in India, is rising rapidly, expected to increase to 951 million in 2050 from 480 million in 2020, and it may go up to 1.1 billion by 2070 (World Bank, 2025). There are approximately 257 municipal corporations in India, out of which about one hundred were covered under the ‘Smart Cities Mission’ launched in 2015. In addition, a large number of smaller towns or municipalities are urbanizing at a faster rate to join soon the category of a million

*Email: biswanath@hyderabad.bits-pilani.ac.in

plus population. The question is, how do we make such urban centers and cities, disaster resilient? It is important at a time when cities in India are faced with increasing challenges from weather extremes. In recent times, severe flooding was witnessed across several major India cities raising question over efficacy of existing mechanism (Jha, 2023). Mitra and Shaw (2023) observe that a revised approach to disaster risk management in India is essential to deal with ‘systemic risk’, a conception that goes beyond dealing with specific hazard to include their interrelations and interactions for example, cumulative or compound hazards or ideas such as multi-risk framework (Hochrainer-Stigler et al., 2023).

Making Cities Resilient (MCR) a campaign, was launched by the United Nations in 2010 (United Nations Disaster Risk Reduction [UNDRR], 2023), which has developed over the years to become an operational framework, complementing implementation of the Sendai Framework (2015–2030) at a local level. The MCR framework comprises ten essentials, that includes ‘organize for resilience’ and ‘institutional capacity’, both emphasizing necessity of agency coordination, and institutional mechanism for effective DRR governance (UN ISDR, 2021). The Rockefeller Foundation has also launched a program in 2013 towards development of 100 Resilience Cities (100RC) spread across the world. In this program, three Indian cities, Chennai, Pune and Surat were included, and a supporting mechanism in the form of an Urban Resilience Unit (URU) was established in 2018 at the National Institute of Urban Affairs, Government of India. The URU in the last several years has brought out several Climate Smart City Assessment Frameworks comprising mainly five parameters which are, Water Management, Waste Management, Urban Planning, Green Cover and Biodiversity, Mobility and Air Quality, Energy and Green Building. In line with the aforementioned framework, cities in India have been ranked for their level of climate resilience (National Institute of Urban Affairs, 2020).

3 Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA): An Integrated Approach

A growing body of literature is highlighting the necessity of integrating DRR measures with that of Climate Change Adaptation (CCA). Several authors have discussed the usefulness of it, for example for its benefit such as optimization of available resources, avoiding duplication of efforts and policy conflicts, or ensuring that respective initiatives are not at cross purpose (Nalau et al., 2016; Thomalla et al., 2006; Hallwright and Handmer, 2021). Dash and Akhter (2023) go a step further, arguing for a combined approach at a local level, that involves not only DRR and CCA but also Ecological Conservation Measures. However, there are a number of challenges constraining an integrative approach, such as weak institutional capacity (Seidler et al., 2018), bureaucratic processes and procedures not facilitating coordination across different sectors (Islam et al., 2020), and mismatch between scales, knowledge and norms (Birkmann and Teichman, 2010). Among generally available means that

can be employed to mainstream an integrated approach, for example strategies, policies and plans, required attention is yet to be given to the role of institutional mechanism. This reflects for example in case of ongoing initiatives relating to climate resilience of cities which appear to be, without necessary institutional linkage with existing DRR mechanism. Take the case of Mumbai City, which has formulated a Mumbai Climate Action Plan (MCAP) in 2022 envisioning climate resilience through sectors such as urban flooding, biodiversity, air quality etc (Brihanmumbai Municipal Corporation (BMC), 2022). The DRR component in this plan is limited to its section on urban flooding and water resource management and no systematic effort is made to provide linkage with Mumbai City Disaster Management Plan. Similar approach is found for a number of other cities as well for example, Jamnagar City (Climate Centre for Cities, 2024). The draft Climate Action Plan for the Chennai City on one hand highlights the predicament of creating appropriate institutional mechanism, stating “Climate change is not a sectoral subject to be dealt on a standalone basis by anyone department” and on the other hand recommends constitution of a separate department for climate change (Greater Chennai Corporation, 2022). It is not clear how such proposed mechanism could synergize with existing DRR institutions such as District Disaster Management Authority or the proposed UDMA. In the following section, two cases are discussed briefly to exhibit how evolving DRR mechanism in a city context if innovated further can lead to a more integrated approach.

4 Hyderabad Disaster Response Assets Protection Agency (HYDRAA)

The Greater Hyderabad Municipal Corporation (GHMC) was formed in 2007, after merging the erstwhile Municipal Corporation of Hyderabad (MCH) with 12 other municipalities and 8 Gram Panchayats from the surrounding areas. The GHMC spread over four districts, Hyderabad, Medchal–Malkajgiri, Ranga Reddy and Sangareddy, provides a range of basic services including disaster management, urban planning, maintenances of road, public parks etc. The rapid expansion of the city has prompted the state government declare the GHMC with its surrounding areas as ‘Telangana Core Urban Region (TCUR)’ with an aim to further expand it to become a global city. As part of the TCUR vision, a dedicated agency named as ‘Hyderabad Disaster Response Assets Protection Agency (HYDRAA)’ was notified in 2024. The mandate of it includes, “planning, coordinating, organizing and implementing the measures for preparedness and prevention of urban disasters, for coordination with other State and National agencies for prompt response and rescue operation in any disaster situation or disaster that may arise in the region” (Government of Telangana, 2024). The agency HYDRAA comprises three wings: assets protection, disaster management, and logistics. From the time of its inception, HYDRAA is receiving wide media attention, largely for its removal of encroachment from various lake areas, as part of its ‘asset protection’ mandate. The restoration of lake system as an initiative can contribute to several risk mitigation functions

such as recharging of ground water, limiting water logging zones, and buffering heat pockets etc. However, it is not clear as yet, the demarcation of responsibilities between the HYDRAA, District Administrations within the GHMC region, and the GHMC, concerning disaster risk governance. For example, can HYDRAA—an agency that works under the Department of Municipal Administration and Urban Development, be responsible for developing an integrated disaster risk management plan for the entire city? To do so requires, a mandate and support from a number of agencies which are working under the GHMC and the District Administration.

5 Sustainability and Resilience Unit (SRU), Visakhapatnam

The case of Visakhapatnam in Andhra Pradesh provides a different example as far as institutional mechanism for DRR is concerned. The city of Visakhapatnam had a population of 1.7 million as per the 2011 census, and is currently the largest in Andhra Pradesh. Its governance apparatus is led by the Greater Visakhapatnam Municipal Corporation (GVMC) formed in 2005, and is further supported by the Visakhapatnam District Administration for example in areas such as disaster management, forest, health, education, fisheries etc. The GVMC which carried out several DRR programs since the early 2000's, established an autonomous body in 2020 called Sustainability and Resilience Unit (SRU), comprising six cells: Disaster Management, Climate Change, Environment, Urban Observatory, Air Quality, and Human Resource Development. Such a dedicated agency for sustainability and resilience at a local government level is unique, and one that is expected to promote synergies across projects executed under different SRU cells. To illustrate, specific initiative such as restoration of barren land within the city areas and further converting them into parks, contributes towards climate change adaptation, flood risk reduction and also in preventing illegal encroachment. Similarly, the idea of integrating environment, with monitoring of air quality, climate change, and disaster management is a step towards creating a much more holistic approach.

There are however several challenges in this experiment, such as defining the mandate of SRU in key areas like urban development planning, drinking water and sanitation etc., or in conception of new infrastructural projects (Dash, 2025). Further, government departments such as Roads and Building, Electricity, Health, Forest, Public Works Department, Education etc. are principally responsible for conceiving new projects which fall within their respective domains and often they are also the ones to oversee projects' execution, maintenances etc. by virtue of their domain expertise. In this background, what role SRU is expected to play in mainstreaming disaster risk reduction? The coordination challenge in this regard are two-fold, bringing line departments working under the Greater Visakhapatnam Municipal Corporation (GVMC) to share the same resilience centric goal. And, defining the mandate and responsibilities for the SRU in a context, where there is already jurisdictional overlapping for agencies under the GVMC and

the District administration. To add to it, there will also be a requirement for coordination with various central, non-government and private agencies and citizens groups as the primary stakeholders.

6 UDMAs for making cities resilient in India

There are at least three important aspects that need to be considered in the institutionalization of the UDMAs for cities in India. The first is, to expand the scope of hazard risk from a historical analysis-based type to include future or emerging risk. The DDMA's exercise of Hazard, Risk and Vulnerability (HRV) Analysis, have been generally on the basis of past occurrences of hazards, thus overlooking futuristic ones particularly those induced due to climate change. The inclusion of 'emerging risk' in the amended Disaster Management Act (2025) should be helpful in this respect to plan for a range of hazards which may not have occurred in the past in a particular city but nevertheless require to be prepared for, and budgeted. For example, new diseases, cloudbursts or sea level rise etc. Greater use of 'urban analytics' or innovative methods to explore, understand and predict features of a city system can help bring out new patterns of urban risk including underlying vulnerability factors (Crooks, 2025).

The second aspect is defining the role and mandate of the UDMAs vis-à-vis climate resilience which is being developed through various other initiatives. Several questions arise in this regard, for example, will the UDMAs be responsible for such activities relating to climate change adaptation? Take the case of urban pollution, a key hazard risk for most Indian cities. In what ways must it be factored into UDMA's operational framework. Similarly, ecological conservation measures or nature-based solutions, be it promoting urban forest, biodiversity, restoration of lake and other water bodies, should be integrated into the UDMA's ambit and plans. The question is more on required clarity over the framework, institutional roles, procedures and legal mandate.

Thirdly, given the increasing recognition of 'urban resilience' (Kapucu et al., 2024), as a concept that provides scope to address a variety of challenges, such as water and air pollution, water scarcity, social and economic inequality, complex interdependent infrastructure, governance etc., it is essential that the UDMAs mandate is incorporated into a sustainable development framework (Majlingova and Kádár, 2025). The Sustainable Development Goals (SDG) 11 for example, envisions that all cities must be made inclusive, safe, resilient and sustainable. A way forward thus can be, integrate DRR and CCA measures towards a set of defined resilience goals as illustrated in the various SDGs. Such resilience goals should be shared responsibilities and it must be embedded in an approach that promotes inclusiveness and citizens' participation. Such collaboration across stakeholders is essential, for example, private sector has a pivotal role in service deliveries in cities and various citizen groups such as Resident Welfare Associations (RWAs) who play an important role.

References

- Birkmann, J., Teichman, K.v., 2010. Integrating disaster risk reduction and climate change adaptation: Key challenges—scales, knowledge, and norms. *Sustainable Science* 5, 171–184. <https://doi.org/10.1007/s11625-010-0108-y>.
- Birkmann, J., Welle, T., Solecki, W., et al. 2016. Boost resilience of small and mid-sized cities. *Nature* 537, 605–608. <https://doi.org/10.1038/537605a>.
- Brihanmumbai Municipal Corporation (BMC), 2022. *Mumbai Climate Action Plan*. Government of Maharashtra. [Mumbai-Climate-Action-Plan-2022.pdf](https://www.bmc.gov.in/Climate-Action-Plan-2022.pdf).
- Climate Centre for Cities, 2024. *Jamnagar City Climate Action Plan*, National Institute of Urban Affairs. Technical Report. Government of India. .
- Crooks, A., 2025. Cities and disasters: What can urban analytics do? *Environment and Planning B: Urban Analytics and City Science* 52, 523–526. <https://doi.org/10.1177/23998083251323145>.
- Dash, B., 2025. Integrating climate change adaptation (cca) into disaster management plans: A study of visakhapatnam district, India. *Public Organization Review* 25, 131–151. <https://doi.org/10.1007/s11115-024-00801-0>.
- Dash, B., Akhter, M.S., 2023. Mainstreaming disaster risk reduction (DRR) and climate change adaptation (CCA) into governance: Srikakulam, Andhra Pradesh, India. *International Journal of Disaster Risk Reduction* 86, 103560. <https://doi.org/10.1016/j.ijdr.2023.103560>.
- Government of Telangana, 2024. *Government Order Urban Development and Municipal Administration GHMC (I) Department*. GO. Ms. No. 99, dated 19-7-24.
- Greater Chennai Corporation, 2022. *Chennai Climate Action Plan Draft Document*. Government of Tamil Nadu. [CCAP_GCC_CSCL_ENGLISH.pdf](https://www.gcc.org.in/CCAP_GCC_CSCL_ENGLISH.pdf).
- Hallwright, J., Handmer, J., 2021. Progressing the integration of climate change adaptation and disaster risk management in Vanuatu and beyond. *Climate Risk Management*, 31, e100269. <https://doi.org/10.1016/j.crm.2020.100269>.
- Hochrainer-Stigler, S., Troglić, R.S., Reiter, K., et al. 2023. Toward a framework for systemic multi-hazard and multi-risk assessment and management. *iScience* 26, 5. <https://doi.org/10.1016/j.isci.2023.106736>.
- Islam, S., Chu, C., Smart, J.C.R., Liew, L., 2020. Integrating disaster risk reduction and climate change adaptation: A systematic literature review. *Climate and Development* 12, 255–267. <https://doi.org/10.1080/17565529.2019.1613217>.
- Jesudasan, D.S., 2025. *Tamil Nadu government forms city-level authority for disaster management in Chennai*. The Hindu. 26 May 2025, accessed from [Tamil Nadu government forms city-level authority for disaster management in Chennai](https://www.thehindu.com/news/national/tamil-nadu-government-forms-city-level-authority-for-disaster-management-in-chennai/) - The Hindu.
- Jha, R., 2023. Understanding and tackling urban floods in India, ORF issue brief, 682. URL: <https://www.orfonline.org/research/understanding-and-tackling-urban-floods-in-india>.
- Kapucu, K., Ge, Y., Rott, E., Isgandar, H., 2024. Urban resilience: Multidimensional perspectives, challenges and prospects for future research. *Urban Governance* 4, 162–179. <https://doi.org/10.1016/j.ugj.2024.09.003>.
- Majlingova, A., Kádár, T.S., 2025. From risk to resilience: Integrating climate adaptation and disaster reduction in the pursuit of sustainable development. *Sustainability* 17. <https://doi.org/10.3390/su17125447>.
- Mitra, A., Shaw, R., 2023. Systemic risk management in India: An analytics perspective. *Progress in Disaster Science* 18. <https://doi.org/10.1016/j.pdisas.2023.100279>.
- Nalau, J., Handmer, J., Dalesa, M., Foster, H., Edwards, J., Kauhiona, H., Yates, L., Welegetabit, S., 2016. The practice of integrating adaptation and disaster risk reduction in the south-west Pacific. *Climate and Development* 8, 365–375. <https://doi.org/10.1080/17565529.2015.1064809>.
- National Institute of Urban Affairs, 2020. *Climate Smart Cities Assessment Framework, Ministry of Housing and Urban Affairs*. Government of India. URL: https://www.nitiforstates.gov.in/public-assets/Policy/policy_files/TNANA0000333.pdf.
- Peri, U., 2025. *Visakhapatnam to get Urban Disaster Management Authority, first in Andhra Pradesh, second in India*. New Indian Express. URL: <https://www.newindianexpress.com/states/andhra-pradesh/2025/Oct/09/visakhapatnam-to-get-urban-disaster-management-authority-first-in-andhra-pradesh-second-in-india>.
- Seidler, R., Dietrich, K., Schweizer, S., Bawa, K.S., Chopde, S., Zaman, F., Sharma, A., Bhattacharya, S., Devkota, L.P., Khaling, S., 2018. Progress on integrating climate change adaptation and disaster risk reduction for sustainable development pathways in south Asia: Evidence from six research projects. *International Journal of Disaster Risk Reduction* 31, 92–101. <https://doi.org/10.1016/j.ijdr.2018.04.023>.
- The Gazette of India, 2025. *The Disaster Management (Amendment) Act 2025*. Ministry of Law and Justice, Government of India. [DM-Amendment-Act-2025.pdf](https://www.mca.gov.in/DM-Amendment-Act-2025.pdf).
- Thomalla, F., Downing, T., Spanger-Sieghfried, E., Han, G., Rockstorm, J., 2006. Reducing hazard vulnerability: Towards a common approach between disaster risk reduction and climate change adaptation. *Disaster* 30, 39–48. <https://doi.org/10.1111/j.1467-9523.2006.00305.x>.
- United Nations Disaster Risk Reduction [UNDRR], 2023. *Making Cities Resilient – Serbia: Report outlining the levels of urban resilience in the Republic of Serbia’s cities and municipalities within the MCR2030 initiative 2021-22*. UNDRR, Brussels. URL: <https://www.undrr.org/media/90440/download?startDownload=20251124>.
- UN ISDR, 2021. Making cities resilient. *Essential One: Organise for Disaster Resilience - Home - Beta Version: Campaign*.
- World Bank, 2025. *Towards Resilient and Prosperous Cities in India*. The World Bank Washington. [Urban-Resilience-India.pdf](https://www.worldbank.org/Urban-Resilience-India.pdf).