



## Disaster Management in Urban India

This editorial is based upon [“Storm Warnings of A Megacity Collapse”](#) which was published in The Hindu on 17/01/2022. It talks about the associated issues of poor disaster management in cities of India.

**For Prelims:** National Disaster Management Authority, Niti Aayog’s report on Reforms in Urban Planning Capacity in India, NITI Aayog.

**For Mains:** Disaster Management in urban areas, How poor disaster management can impact the economic growth of India.

The recent unpredicted spell of staggering rain over Chennai capped a season of repeated monsoon inundation and urban paralysis, highlighting the risks of **urban collapse due to extreme weather events**.

In the past, the catastrophic 2015 flood in Chennai and the great flood of 2005 in Mumbai raised expectations of a major shift in priorities for urban development.

However, despite immense community support and active mobilisation for change, laws were just on paper, and unsustainable changes continued to occur in the urban environment. Permanent, elite constructions were favoured at the cost of ecology.

It is now time the government realises that what urban India needs today is not flashy retrofitted ‘smart’ enclaves but **sound, functional metropolitan cities**.

### Urban Cities and Disaster Management

- **Disaster Susceptibility of India:** According to the [National Disaster Management Authority](#), around 12% of the total land in India is exposed to floods, 68% is vulnerable to droughts, landslides and avalanches, 58.6% landmass is earthquake-prone.
  - Tsunamis and cyclones are a regular phenomenon for 5,700 km of the 7,516-km long coastline.
  - Such vulnerable conditions have placed **India amongst the top disaster-prone countries**.
- **NITI Aayog’s Report for Cities:** In its report on [Reforms in Urban Planning Capacity in India](#), [NITI Aayog](#) cites the Covid-19 pandemic as a revelatory moment that underscores the **dire need for all cities to become healthy cities by 2030**.
  - **Climate impacts are certain to affect cities even more** fundamentally and permanently.
    - It recommends **500 priority cities to be included** in a competitive framework, adopting participatory planning tools, surveys and focus group discussions to assess the needs and aspirations of citizens.

### ▪ Impacts:

- The large-scale uprooting of trees caused by the Cyclones **affects the already depleting green cover** in the urban areas.
- Disasters in **heavily populated urban areas** can lead to **high numbers of human casualties**.
  - Unsafe infrastructure which collapses in an earthquake or tsunami kills more people than any other type of natural hazard, such as a tornado or a storm.
- **Economic losses** from disasters that damage infrastructure can reach huge proportions.
  - The [World Bank](#) estimates that annual disaster losses are already close to \$520 billion and that **disasters push up to 24 million people a year into poverty**.

## Challenges

- **Issues in Planning and Local Governance:** Less than half of all cities have master plans, and even these are **ruled by informality**, since both influential elites and the poor encroach upon commons such as wetlands and river banks.
  - **Neglect of municipal councils, lack of empowerment and failure to build capacity** among municipal authorities have produced frequent urban paralysis in extreme weather.
- **Encroaching Natural Spaces:** The number of wetlands has reduced to 123 in 2018 from 644 in 1956 and the green cover is only 9%, which ideally should have been at least 33%.
  - The encroachment of important commons **reflects the extreme dependence on market forces** to supply affordable urban houses.
  - Most of the suburban investments in housing do not reflect their true value, even if they are layouts 'approved' by the government, because outlying town **panchayats have little capacity or funds to create even basic infrastructure such as water supply, sanitation and roads**.
- **Inadequate Drainage Infrastructure:** Overburdened drainage, unregulated construction, **no regard to the natural topography** and hydro-geomorphology all **make urban floods a man-made disaster**.
  - Cities like Hyderabad, Mumbai **rely on a century-old drainage system**, covering only a small part of the core city.
    - As the city grew beyond its original limits, not much was done to address the absence of adequate drainage systems.
- **Lax Implementation:** Even with provisions of rainwater harvesting, sustainable urban drainage systems, etc, in regulatory mechanisms like the [Environmental Impact Assessment \(EIA\)](#), **adoption at user end as well as enforcement agencies remains weak**.

## Way Forward

- **Role of Local Self Governments:** What is needed is a central role for democratically-elected local governments, to **ensure greater inclusion and a sense of community**.
  - A **top-level department for climate change adaptation** is best suited to serve as a unifier, bringing all relevant departments in a State, such as housing and urban development, transport, water supply, energy, land use, public works and irrigation to **work with elected local governments that set priorities and become accountable**.
- **Holistic Engagement:** Urban floods of large scale cannot be contained by the municipal authorities **alone**, without concerted and focused investments of energy and resources.
  - The **Metropolitan Development Authorities**, NDMA, State revenue and irrigation departments along with municipal corporations should be involved in such work together.
- **Better City Planning:** All dimensions of a city's growth, starting with **affordable housing, play a central role in adapting to future climate change**.
  - They can lower carbon emissions growth even during infrastructure creation if **biophilic design** and green materials are used.
  - **Planned urbanisation can withstand disasters**, the perfect example being Japan which faces earthquakes at regular intervals.
    - The **India Disaster Resource Network** should be institutionalised as a repository for organised information and equipment gathering.
- **Drainage Planning:** Watershed management and emergency drainage plan should be clearly **enunciated in policy and law**.

- Urban watersheds are micro ecological drainage systems, shaped by contours of terrain.
- Detailed documentation of these must be held by agencies which are not bound by municipal jurisdictions, instead, there is a need to **consider natural boundaries such as watersheds** instead of governance boundaries like electoral wards **for shaping a drainage plan.**

## Conclusion

India's cities are the drivers of economic growth with significant production and consumption, however, this sunrise story is threatened by unsustainable urban development in the era of climate change. The need is to develop sound, functional metropolitan cities that can handle floods, heat waves, pollution and mass mobility to keep the engines of the economy running. Urban India would otherwise turn into a subprime investment.

### ***Drishti Mains Question***

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Comment

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