

News from States: Urban Flooding in India

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Problem

Earlier people looked forward to monsoons- farmers in rural areas for their cropping and city dwellers for getting relief from sweltering heat. But now people living in the urban areas dread even the thought of it, as we are now witnessing cases of urban flooding across the country, year after year. The situation is worst in metros like Delhi, Mumbai or Chennai. Mumbai this year got 45% excess rainfall in July. Santa Cruz weather station of the India Meteorological Department (IMD) recorded 1244.6 mm of rain against the normal of 855.7 mm. In July 2021, the city had recorded 1122.6 mm of rain.¹ Many parts of the city remained inundated in waist deep water, throwing city life out of gear.

Notably, Delhi which received less than normal rain, also faced the problem of waterlogging. The Safdarjung observatory of IMD recorded 189.6 mm of rainfall, between June 1 and July 22 this year, which was less than normal of 201 mm. Flooding has been reported in many cities some of which are mentioned below:

- Indian Express on August 25th, 2022 reported water logging causing traffic jams in some parts of Chennai city.
- The Hans India reported on 4th May 2022 that Upper Basthi in Sithaphalmandi faced chaos after rains. The roads, shops and houses were filled with drainage water, which destroyed people's belongings and items in their shops. The residents face such situation every year.
- NDTV reported on 16th August 2019 that 35 crocodiles were rescued from Vadodara city as Vishwamitri river entered several localities. The city and its adjoining areas had received nearly 500 mm of rainfall in a day for many days. On 1st August 2019, a cop in Vadodara city had carried 2 year old in tub on his head in neck deep water.

It has been a persisting problem over the past several years whereby major cities in India have been severely affected. The most notable

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¹Hindustan Times 2022. City got 45% excess rainfall in July, next active spell around August 5, New Delhi: HT.

amongst them are Hyderabad in 2000, Ahmedabad in 2001, Delhi in 2002 and 2003, Chennai in 2004, Mumbai in 2005, Surat in 2006, Kolkata in 2007, Jamshedpur in 2008, Delhi in 2009 and Guwahati and Delhi in 2010. Experts say climate change has made rains exceptionally fierce and less predictable in recent years, and unchecked urban development often leads to flooded streets and homes and causes traffic snarls (BBC, 2022).

Defining the Problem

As a policy issue, the government defines urban floods as ‘the submergence of a usually dry area by a large amount of water that comes from sudden excessive rainfall, an overflowing river or lake, melting snow or an exceptionally high tide. In the Standard Operating Procedure on Urban Flooding, the policy document notes that ‘increasing trend of urban flooding is a universal phenomenon and poses a great challenge to city administration and urban planners word over’. Its impact can be widespread, resulting in cities being inundated from a few hours to several days, leading to temporary relocation of people, damage to civic amenities, deterioration of water quality and risk of epidemics.

Causes

The experts attribute the phenomenon to overburdened drainage, unregulated construction, no regard to natural topography and hydro geomorphology. The other causes include unplanned waste dumping and continuous disregard for natural recharge structures like ponds, wetlands and tanks (Parichha, 2022). A June 2020 Climate Change Assessment Report of the Ministry of Earth Sciences noted that the increased frequencies of heavy rainfall had enhanced flood risk all over India, particularly in urban India. Untreated sewage and toxic chemicals can pose significant threats to public health and water supply.

Resolving the Problem

As a part of its mandate, the National Disaster Management Authority (NDMA) has made efforts to prepare the National Guidelines on Management of Urban Flooding. However, attempts to tackle the problem have faced the challenge of project completion. For example, Brihanmumbai Stormwater Disposal System Project to overhaul the city’s old stormwater drainage system was proposed after the 1985 floods. However, the work finally started after 2005 deluge. The project included building 8 major pumping stations. but it is yet to be completed.

Similarly, in Delhi in 2022 the drainage system is operating under the drainage master plan of 1976. Delhi’s drainage system is now proposed to be redeveloped by 2025. In Bangalore, Comptroller and Auditor

General report highlighted that the Bruhat Bengaluru Mahanagara Palike (BBMP) had not removed 714 encroachments out of the 2626 identified near water bodies. Of the 23 significant encroachments, 16 were not even on BBMP's list (Kumar & Gera, 2022). Ministry of Urban Development came out with SOP for managing the urban floods.

Objectives of Standard Operating Procedures (MoUD, 2017)

- To minimize the loss of life and damages to property and to ensure restoration and rehabilitation.
- To illustrate a concise chart, listing major executive actions required in response to urban flooding
- To list necessary tasks for preparedness, response relief and restoration required to be undertaken by the line agencies and departments involved.
- To ensure effective integration of tasks/events of each department at every stage of the disaster management process and enable continuous coordination of all actions.
- To enable reporting of actions taken by each agency / department for further review and updating of the existing SOP from past learnings.

Wherever required, teams of the National Disaster Response Force - a specialised force that responds to life-threatening disasters in the country - are deployed in the city as a precautionary measure.

NDMA has decided to address urban flooding as a separate disaster, delinking it from floods. While it may not be easy, multi-pronged efforts need to be made with multi-agency convergence and coherent Action Plans.

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