



Flood Situation in Kerala

For Prelims: Flood, Landslides, Chalakudy River, Madhav Gadgil Committee, National Disaster Management Authority (NDMA)

For Mains: Urban Flooding, Disaster Management in India

Why in News?

Kerala once again stares at a **flood-like situation**, similar to the one in 2018, with high intensity rain triggered by **strong monsoon winds**.

- In addition, a low-pressure system is expected to form within 2-3 days over the **Bay of Bengal**, which is likely to aggravate the rains.

What Happened in 2018 Kerala Floods?

- In August 2018 following a torrential rainfall, Kerala witnessed its **worst floods since 1924**.
- The dams were stored to the brim. Too much water was stored and consequently, the gates had to be opened.
 - At least **35 of 50 large dams were opened** for releasing water onto the already flooded areas downstream.
- With time, **silt deposition** had considerably reduced the holding capacity of the dams and the nearby rivers, leading to flooding of embankments and levees.
 - **Encroachment**, which decreased the dam's built-in area (further reducing the capacity), **sand mining** and **rampant felling of trees** and **clearing of forest** in the **Western Ghats** also played a major factor in the Flood.

What do we know about Floods?

- It is an overflowing of water onto land that is normally dry. Floods can **occur during heavy rains**, when **ocean waves come on shore**, when **snow melts quickly**, or when **dams or levees break**.
- Damaging flooding may happen with only a few inches of water, or it may cover a house to the rooftop.
- Floods **can occur within minutes or over a long period**, and **may last days**, weeks, or longer. Floods are the **most common and widespread of all weather-related natural disasters**.
- **Flash floods** are the most dangerous kind of floods, because they combine the destructive power of a flood with incredible speed.

Why Frequent Floods in Urban Areas?

- **Unplanned Development:** Unplanned development, **encroachments** in riparian zones, **failure of flood control structures, unplanned reservoir operations, poor drainage** infrastructure, **deforestation, land use change** and sedimentation in riverbeds exacerbate floods.
 - When rainfall is heavy, the river breaches the embankments and destroys habitations along the banks and on the sandbars.
- **Unplanned Urbanisation:** Flooding in the cities and the towns has become a frequent phenomenon.
 - The reason for this is **indiscriminate encroachment of waterways and wetlands, inadequate capacity of drains** and **lack of maintenance** of the drainage infrastructure.
 - **Poor waste management** also exacerbates the problem by blocking drains, canals and lakes.
- **Neglecting Pre-Disaster Planning:** History of flood management shows that focus of disaster management has largely been on post-flood recovery and relief.
 - Many reservoirs and Hydro-electric plants do not have enough gauging stations for measurement of flood level, which is the principal component for flood prediction and forecast.
- **No Heed to Gadgil Committee Recommendations:** In 2011 the [Madhav Gadgil committee](#) recommended to declare roughly 1,30,000 sq. km area as environmentally sensitive zone (spanning Gujarat, Karnataka, Kerala, Maharashtra and Tamil Nadu).
 - However, none of the six states agreed with its recommendations with **Kerala particularly objecting** to the proposed ban on mining, restrictions on construction activities and embargoes on hydroelectricity projects.
 - The result of this negligence can now be clearly witnessed in terms of frequent floods and landslides.

Way Forward

- There's certainly a case for **greater coordination amongst forecasting agencies and reservoir management authorities** to ensure the timely opening of dam spillways and create holding capacity in the reservoirs to absorb excess rainfall.
 - A **comprehensive flood management plan** is also needed to ensure Disaster preparedness.
- All dimensions of urban growth, starting with affordable housing, play a central role in adapting to future climate change.
 - **Planned urbanisation can withstand disasters**, the perfect example being Japan which faces earthquakes and even Tsunamis more often than others.
- **Watershed management and emergency drainage plan** should be clearly enunciated in policy and law.
 - There is a need to consider natural boundaries such as watersheds instead of governance boundaries like electoral wards for shaping a drainage plan.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Mains

Q. Major cities of India are becoming vulnerable to flood conditions. Discuss. **(2016)**

Q. The frequency of urban floods due to high intensity rainfall is increasing over the years. Discussing the reasons for urban floods, highlight the mechanisms for preparedness to reduce the risk during such events. **(2016)**

Source: [TH](#)

