Mains Topics

Fiscal Fault Lines in India's Disaster Response

Context

The 2024 Wayanad landslides exposed increasing centralisation and growing tensions within India's fiscal federal architecture for disaster response amid rising climate shocks.

Disaster Management Act, 2005– Three Tier Structure

Institutional framework at the National Level	● **Ministry of Home Affairs (MHA):** It coordinates with disaster affected states, line ministries, National Disaster Management Authority (NDMA), National Disaster Response Force (NDRF), National Institute of Disaster Management (NIDM), Home Guards and Civil Defence, and Armed Forces etc. ● **National Disaster Management Authority (NDMA):** It is the **apex body** for disaster management, constituted under the DM Act, 2005 and **headed by the Prime Minister of India.** ● **National Platform for Disaster Risk Reduction (NPDRR):** It is a multi-stakeholder and multi- decision making body on disaster management. o It is **chaired by the Union Home Minister** with other ministers as its members. ● **National Executive Committee: Chaired by the Union Home Secretary** it acts as the coordinating and monitoring body for disaster management in India. ● **The Cabinet Committee on Security (CCS):** It is involved in decision making if the disaster has serious security implications. ● **National Institute of Disaster Management (NIDM):** It is the nodal agency responsible for **human resource development, capacity building, training, research, documentation and policy advocacy** in the field of disaster management. ● **National Disaster Response Force (NDRF):** The NDRF is a specialist response force that can be deployed in a threatening disaster situation or disaster.
Institutional Framework at State Level	● **State Disaster Management Authority:** Chief Minister as the ex-officio Chairperson. o It is responsible for laying down the State Disaster Management Policy and approving the State DM Plans in accordance with the guidelines laid down by the Union. ● **State Executive Committee:** It is responsible for coordinating and monitoring DM related activities in the state. o The Chief Secretary of the state is its ex-officio chairperson. o It lays down the guidelines for preparation and implementation of

	national and state DM plans.
Institutional Framework at the District Level	● At the district level, the **District Disaster Management Authority (DDMA), headed by the District Collector/District Magistrate**, is responsible for overall coordination of the disaster management efforts and planning.

Fund Disbursal System for Disaster Response in India

India follows a **two-tier disaster-financing structure** under the Disaster Management Act, 2005, **supported by periodic Finance Commission grants.**

- **State Disaster Response Fund (SDRF):** Primary source of funds for immediate post-disaster relief.
  - **Funding Pattern:**
    - **75:25 ratio** (Union:State) for most States.
    - **90:10 ratio** for North-Eastern and Himalayan States.
    - Allocated based on Finance Commission recommendations.
- **National Disaster Response Fund (NDRF):** Used for "calamities of severe nature" requiring additional central assistance.
  - **Funding Pattern:** Entirely **Union-funded** through budgetary support and National Calamity Contingency Duty.
- **Finance Commission Grants: 15th Finance Commission (2021–26):** Allocated **₹1.6 lakh crore** for disaster risk management across India.
  - Divided it into **Response funds (SDRF/NDRF) and Mitigation funds** (newly institutionalised).

International Commitments

- **Sendai Framework for Disaster Risk Reduction (2015–2030):** India has committed to reducing mortality, economic losses, critical infrastructure damage, and improving early warning coverage; national plans align directly with its four priorities.

Pros of India's Multi-Tier Disaster Response Structure

- **Clear division of responsibilities improves coordination and reduces confusion during crises.** National bodies set policy, States plan, and Districts execute, ensuring structured and orderly response.
- **Faster on-ground action through empowered district authorities.** DDMAs headed by District Collectors enable immediate evacuation, relief, and emergency measures without waiting for higher approvals.
- **Specialised national capabilities strengthen local response.** NDRF provides professional search-and-rescue support while States and districts handle relief and shelter, creating complementary capacity.
- **Uniform but flexible planning across all levels.** National, State, and District Disaster Management Plans ensure standardisation while allowing local adaptation based on specific hazards.
- **Scalable resource mobilisation during major disasters.** Local resources are used first, followed by State funds (SDRF) and, for severe calamities, national assistance (NDRF and NDRF teams), ensuring tiered escalation of support.

- **Enhanced accountability and preparedness through statutory roles.** Each tier has legally defined duties, improving monitoring, compliance, and long-term capacity-building.

Current Challenges in Disaster Response

- **Rising gap between assessed losses and actual financial assistance undermines State capacity.**
  - **E.g.,** Kerala's Wayanad landslides (2024) incurred ₹2,200 crore in losses but received only ₹260 crore from the Centre, reflecting widening fiscal asymmetry.
- **Outdated relief norms do not match present reconstruction and livelihood-restoration needs.**
  - **E.g,** Compensation ceilings like ₹4 lakh for death and ₹1.2 lakh for fully damaged houses have not been revised for nearly a decade despite rising inflation and construction costs.
- **Slow, discretionary fund release mechanisms delay timely response.**
  - **E.g.,** NDRF assistance requires multi-layer clearances (IMCT ⟶ NEC ⟶ HLC), causing significant delays in events such as **Cyclone Gaja (2018) and Karnataka floods (2019).**
- **Weak risk mapping and hazard-based planning increases exposure to disasters.**
  - **E.g.,** Despite 12.6% of India being landslide-prone and rapid expansion of floodplains, urban planning and Finance Commission allocations remain poorly aligned to actual hazard vulnerability.
- **Urban flooding and climate extremes outpace the preparedness of local bodies.**
  - **E.g.,** Cities like Bengaluru and Chennai face recurring floods due to encroached drains, loss of wetlands, and obsolete drainage systems despite rising extreme rainfall events.
- **Fragmented institutional coordination across agencies hampers integrated response.**
  - Overlapping mandates among NDMA, SDMAs, DDMAs, municipal bodies, and sectoral agencies often lead to delays in evacuation, debris clearance, and relief delivery.
- **Limited community participation and weak local-level resilience planning.**
  - **E.g.,** Panchayats and municipalities often lack trained personnel, resources, and early warning integration, weakening last-mile disaster response.
- **Insufficient focus on long-term mitigation and climate adaptation.**
  - **E.g.,** Most spending still goes to relief and compensation rather than structural mitigation like slope stabilisation, flood-retention systems, and resilient housing.
- **Inadequate early warning dissemination and technological reach in remote areas.**
  - **E.g.,** Events such as the 2023 Sikkim GLOF revealed gaps in sensor networks and communication channels that provided only minutes of warning to communities.
- **Underutilisation of preparedness and mitigation budgets at the State level.**
  - **E.g.,** CAG reports show many States utilize only 50–70% of available disaster-mitigation funds due to administrative delays and project-level constraints.

Recent Government Initiatives for Disaster Resilience

- **Amendment to Disaster Management (Amendment) Act, 2025:** It assigns planning responsibility directly to national and state authorities (National Disaster Management Authority (NDMA) and state equivalents), replacing earlier dependence on executive committees.
- **New Technological & Data-driven Tools**: The government launched **ICR-ER (Integrated Control Room for Emergency Response)** and **NDEM Lite 2.0 mobile app**, and rolled out the **Assam Flood Hazard Zonation Atlas** — aimed at enhancing real-time monitoring, early warning, and disaster preparedness across India.
- **Seismic observatories increased from 80 in 2014 to 168 by February 2025.**
- **The BhooKamp app was launched for real-time earthquake updates.**
- **NDMA's Earthquake Risk Indexing (EDRI) project** assesses earthquake risks in 50 cities, with plans to cover 16 more cities.

Way Forward for Disaster Governance in India

- **Adopt objective, data-driven triggers for disaster-fund release** so that assistance becomes automatic rather than discretionary, similar to **FEMA's per-capita damage thresholds in the United States**, which activate federal support without political negotiation.
- **Introduce parametric, satellite-based insurance for high-risk States** to ensure rapid payouts after cyclones, floods, or droughts, following the model of **African Risk Capacity (ARC) and the Caribbean CCRIF**, which disburse funds within 7–14 days.
- **Establish automatic disaster-classification mechanisms** using rainfall intensity, wind-speed, seismic activity, and loss-to-GSDP ratios, on the lines of **Mexico's FONDEN**, which triggered funds when hazard parameters crossed pre-set thresholds.
- **Strengthen early-response financing at the local level** by creating pre-positioned quick-response funds for district administrations, inspired by the **Philippines' Quick Response Funds**, which enable resource deployment within 24–48 hours.
- **Link central assistance to State preparedness and mitigation efforts**—especially land-use planning, resilient housing, and flood-management investments—mirroring **Australia's shared-responsibility model** that ties federal aid to State-level risk-reduction spending.
- **Modernise and index relief norms to inflation** to reflect real reconstruction costs and ensure predictable support, drawing from global standards where compensation frameworks are periodically revised.
- **Build a unified national disaster-risk database** using hazard maps, climate projections, and satellite-derived indices to guide finance allocation, similar to **multi-hazard national databases used in the US, Japan, and EU**.

Conclusion

India's disaster-financing system **is undergoing stress as climate events intensify.** The widening gap between a State's needs and central disbursements—evident in cases like Wayanad—reflects a drift towards conditional and centralised fiscal control. To preserve the **spirit of cooperative federalism, India must shift from a negotiation-driven, bureaucratic approach to a transparent, rules-based, data-driven disaster management architecture.**

By adopting objective triggers, revising funding norms, improving risk-based allocation, expanding State autonomy, and drawing lessons from global best practices, India can rebuild a disaster-response system that is timely, equitable, and resilient—one that meets the constitutional promise of cooperative federalism when it matters most: during crises.

Today's Prelims Topics

Heron MkII UAVs

Context

India has placed fresh emergency procurement orders for additional satellite-linked Heron Mk II Unmanned Aerial Vehicles (UAVs).

About Heron MkII UAVs

- **Manufacturer:** Developed by Israel Aerospace Industries (IAI).
- **Category:** A Medium Altitude Long Endurance (MALE) UAV designed primarily for intelligence, surveillance, and reconnaissance (ISR) missions.
- **Endurance:** Capable of flying up to 35,000 feet, cruising at around 150 knots, and sustaining continuous operations for nearly 45 hours.
- **Capabilities:** Features state-of-the-art sensors, communication-intelligence payloads, and satellite communication (SATCOM) connectivity, allowing long-range and beyond-line-of-sight operations.

Source: The Hindu

Why pollution affects North Indian cities more than south & west

Context

A recent analysis 'Air Quality Assessment of Major Indian Cities (2015–2025)' described why pollution affects northern cities more than southern and western cities in India.

Reasons

- **Geographic Trapping of Pollutants in the Indo-Gangetic Plain:** Northern cities like Delhi, Lucknow, and Varanasi lie in a **landlocked basin surrounded by the Himalayas**, which act as a barrier that prevents polluted air from dispersing, causing pollutants to accumulate for longer periods.
- **Low Wind Speeds and Poor Dispersion Conditions:** The **flat topography and dense urban structures of northern cities** reduce wind flow, slowing horizontal dispersion of pollutants compared to coastal or open-terrain cities in the south and west.
- **Winter Temperature Inversion Intensifies Pollution Build-Up:** During winters, the **planetary boundary layer becomes thinner, trapping cold, dense air under a warmer air layer above;** this "winter inversion" prevents vertical mixing, causing pollutants to remain close to the ground.
- **Lack of Coastal Advantages Available to Southern and Western Cities:** Cities like Chennai, Mumbai, and Visakhapatnam benefit from **stronger sea breezes, higher humidity, and better natural ventilation,** which dilute pollutants faster.
- **Higher Emission Load Across the Northern Region:** The Indo-Gangetic Plain records concentrated sources of pollution—**stubble burning, vehicular emissions, industrial clusters, brick kilns, thermal plants, and biomass use**—making baseline pollution levels much higher than in south and west India.
- **Seasonal Meteorological Patterns Aggravate Winter Pollution in the North:** While monsoon winds and rainfall help disperse pollutants, the **dry winters** of northern India **provide no cleansing mechanism,** allowing pollution levels to spike sharply each year, unlike the relatively consistent air-flow patterns in southern and western regions.

Source: Indian Express

Hornbill festival

Context

Hornbill festival was started in Nagaland.

About Hornbill Festival

- It is a 10 day annual tourism promotional event organised by the Nagaland State Govt. to showcase its rich and traditional cultural heritage in all its ethnicity, diversity and grandeur.
- It is named after the **Hornbill bird** given its association with the socio-cultural life of the Nagas through folklore, dances, songs and usage of the **bird's feather as motifs on ceremonial attires and men's headgear.**
- It was started in **2000.**

Facts

- **Pakke Paga Hornbill Festival (PPHF)** is celebrated in Arunachal Pradesh.
- It is celebrated by the Nyishi **community (largest ethnic group in Arunachal Pradesh).**

About Hornbill

- Hornbills are called **"gardeners or farmers of the forest"** for playing a key role in dispersing seeds of tropical trees.
- They are one of the biggest **frugivores (fruit-eating birds) in the Asian rainforest.**
- Great Hornbill is the **state bird of Kerala and Arunachal Pradesh. (Not of Nagaland)**
- **Diversity:**
  - There are about **62 hornbill species world-over.**
  - **India is home to 9** of them including the Great Hornbill, the Malabar Pied, Hornbill and the Rufous-necked Hornbill.
- **Range:**
  - It is found in the **Indian subcontinent and Southeast Asia.**
  - **Major Habitat in India:** Namdapha National Park (highest density of hornbills across Asia) & Western Ghats.
- **Threats:** Illegal logging, forest clearance, hunting for meat & medicinal value of body parts.
- **Conservation Status:**
  - **IUCN:** Vulnerable
  - **WPA :** Schedule I
  - **CITES:** Appendix I.

Source: Indian Express

Kashi Tamil Sangamam 4.0

Context

The Ministry of Education is set to conduct Kashi Tamil Sangamam (KTS) 4.0 from 2 December 2025.

About Tamil Snagamam 4.0

- **Previous Editions:** The first KTS was held in 2022, followed by editions in 2023 and February 2025.
- **Theme:** The 2025 edition is centred on *"Learn Tamil – Tamil Karkalam"*.
- **Objective:** To encourage Tamil learning across the country and enhance appreciation for India's classical linguistic and literary traditions.
- **Vision:** Inspired by the idea of strengthening cultural, linguistic and civilizational bonds between Tamil Nadu and Kashi under the spirit of *Ek Bharat Shreshtha Bharat*.
- **Coordinating Institutions:** IIT Madras and Banaras Hindu University (BHU), Varanasi.

- **Participant Categories:** Students, Teachers, Writers and Media Professionals, Agriculture and Allied Sectors, Professionals and Artisans, Women, and Spiritual Scholars and Practitioners.
- **Major Initiatives Under KTS 4.0:**
  - **Sage Agasthya Vehicle Expedition (Tenkasi to Kashi):** A symbolic journey recalling the Pandiyan ruler Adi Veera Parakrama Pandiyan's efforts to promote cultural unity, including his construction of a Shiva temple and renaming of the region as Tenkasi (Dakshin Kashi), while showcasing shared heritage from Chera, Chola, Pandya, Pallava, Chalukya and Vijayanagara eras.
  - **Teaching Tamil in Varanasi Schools:** Under the "Tamil Karkalam" campaign, 50 Tamil teachers proficient in Hindi will teach Tamil to students in Kashi.
  - **Tamil Learning Study Tours for Uttar Pradesh Students:** Three hundred college students from Kashi will travel to Tamil Nadu for a 15-day Tamil learning programme supported by the Central Institute of Classical Tamil (CICT), with host institutions arranging academic and cultural exposure tours.

Source: PIB

Biological Weapons Convention

Context

India hosted the international conference "50 Years of BWC: Strengthening Biosecurity for the Global South" in New Delhi

About Biological Weapons Convention

- **Formal Name:** The Convention is officially titled "The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction."
- **Definition of Biological Weapons:** These weapons involve the deliberate spread of disease-causing agents—such as bacteria, viruses, fungi, prions, or rickettsiae—or toxins derived from living organisms to harm or kill humans, animals, or plants.
- **Established in:** 1975.
- **Membership:** The BWC has near-universal adherence with 188 States Parties (India joined in 1974) and 4 Signatory States — Egypt, Haiti, Somalia, and Syria.
  - **Non-Party States:** Five countries—Israel, Chad, Djibouti, Eritrea and Kiribati—have neither signed nor acceded to the Convention.
- **Review Mechanism:** States Parties convene roughly every five years to assess the functioning of the Convention and adapt it to evolving scientific, technological, and security environments.
- **Key Features:**
  - It is the first multilateral disarmament treaty to outlaw an entire class of weapons of mass destruction (WMD).
  - The BWC bans the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons.
  - It builds upon and strengthens the 1925 Geneva Protocol, which had prohibited only the use—but not the possession—of biological weapons.
  - Implementation Support Unit (ISU) assists in administrative coordination, supports implementation efforts, and promotes universalization as mandated by Review Conferences.

Source: The Hindu

Khiamniungan Tribe

Context

Recently, the Prime Minister of India referred to the Khiamniungan tribe in his 'Mann Ki Baat' address.

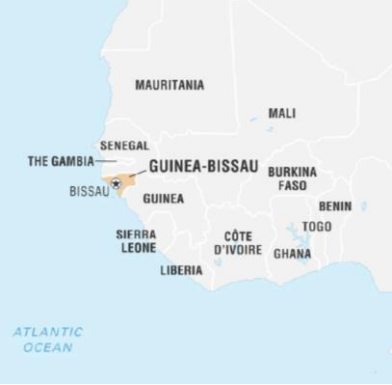
About Khiamniungan tribe

- **Distribution:** Eastern Nagaland (India) and north-western Myanmar.
  - Their **settlements lie in mountainous and riverine regions**, spreading **up to the Chindwin River in Myanmar.**
- **Beliefs:** Follow **animistic, nature-centric beliefs**.
  - Rituals often include animal sacrifice and symbolic offerings.
  - The **village priest (Am-pao)** plays a central role in ceremonies.
- **Economy:** Known for **traditional cliff-honey harvesting practices**
- **Major Festivals:** Tsokum Sumai and Khaotzao Sey Hok-ah Sumai.

Source: PIB

Species in News

Guinea-Bissau



News? Military rule was implemented in Guinea-Bissau.

About Guinea-Bissau

- **Location**: Situated in Western Africa.
- **Land Boundaries:** Shares borders with Senegal to the north and Guinea to the east and south.
  - **Islands:** Includes the Bijagós (Bissagos) archipelago along with several other offshore islands.
  - **Maritime Boundary:** Bordered by the Atlantic Ocean on its western side.
- **Key Geographical Features:**
  - **Fouta Djallon plateau**, **Boé Hills, Corubal basin and the Gabú Plain**
  - **Major Rivers: Geba, Corubal, Cacheu, and others.**

Source: DD News