



## Fire Safety in India

**For Prelims:** [National Building Code \(NBC\) 2016](#), [Bureau of Indian Standards \(BIS\)](#), [Model Building Bye Laws 2016](#).

**For Mains:** Provision Regarding Fire Safety in India, Issues Leading to Urban Fire in India, Measures to Improve Fire Safety in India

[Source: TH](#)

### Why in News?

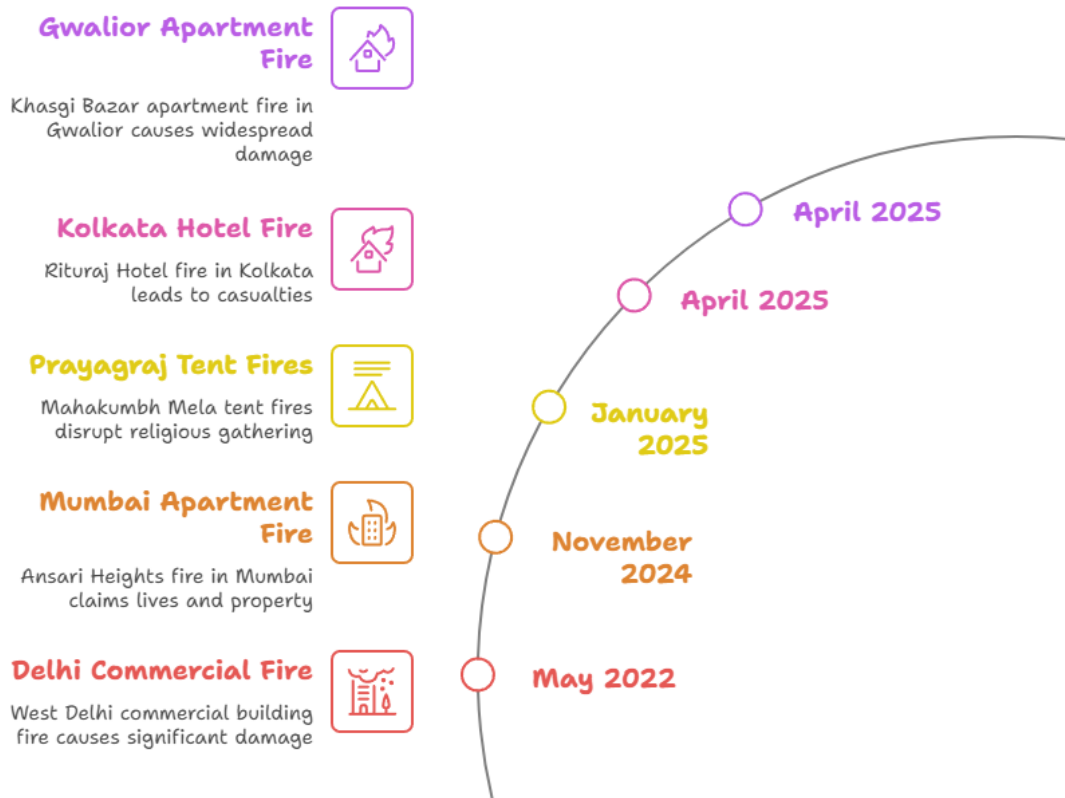
Recent **fires** in **overcrowded buildings** across India have become **disturbingly common**, such as a **hotel fire** in **Kolkata** killing 14, including children, and a **blaze** in **Ajmer** claiming 4 lives.

**Note:** According to the **Accidental Deaths and Suicides in India (ADSI)** report by the **National Crimes Records Bureau (NCRB)**, as many as **7,435 people** were **killed** in over **7,500 fire accidents** in 2022.

- Fire Service is a **State subject** and has been included as a **Municipal function** in the **XII Schedule** of the Constitution of India under **Article 243(W)**.

### Major Fire Accidents in India

## Major Fire Accidents in India



## Why Are Urban Areas Prone to Deadly Fires?

- **Urbanisation and Infrastructure Issues:**
  - **Illegal Constructions:** Unauthorized buildings violate the **3-meter setback** rule, blocking **ventilation** and **fire access**. Even approved buildings often use **non-fire-resistant materials**, with **old wiring** and **overloaded systems** raising fire risks.
  - **Poor Urban Planning:** Congested layouts and narrow lanes **delay the arrival of fire engines and hinder rescue operations**. While [National Building Code \(NBC\) 2016](#) mandates **two enclosed staircases of at least 1 meter width for buildings over 15m**, many older buildings with **just one staircase** become **deadly** during fires.
- **Governance Challenges:**
  - **Political Interference:** Illegal colonies are often **regularized during elections** without fire safety upgrades, while **stricter rules** like Delhi's 2019 fire safety amendments have been **rolled back** under pressure from builders.
  - **Lack of Public Awareness:** Residents and businesses often **ignore fire drills** and get trapped due to **unfamiliarity with exits**, while commercial spaces are **misused** for **storage in stairwells** or **illegal factories** in basements.
- **Industrial and Commercial Oversights:**
  - **Faulty Machinery and Poor Maintenance:** Overheated equipment or unserviced Heating, ventilation, and air conditioning (HVAC) systems in workplaces.
  - **Unsafe Handling of Hazardous Materials:** Chemical spills or gas leaks in factories triggering explosions.

- **Climate-Driven Threats:**
  - **Severe heat:** Extreme heat caused by **climate change** leads to **excessive use of air conditioners**, which can **overload electrical systems**, and in some cases result in **AC compressor bursts**, increasing the risk of **fire incidents** in **urban areas**.

## What are the Key Fire Safety Regulations in India?

- **National Building Code (NBC):** NBC, developed by the [Bureau of Indian Standards \(BIS\)](#), was **first** introduced in **1970**, with its **third edition** released in **2016**.
  - It serves as the **primary standard** for fire safety in India, offering guidelines on general **construction, maintenance, exit routes, and fire safety measures** for buildings.
  - State governments are required to **integrate** its recommendations on **minimum fire safety** and **rescue protocols** into their local bylaws.
- **Model Building Bye Laws 2016:** It ensures fire safety through its key provisions like use of **fire-resistant materials** for construction, installation of **fire alarms and detection systems**, adequate natural light and **ventilation** to avoid smoke buildup etc.
- **Fire Prevention and Fire Safety Act, 2005:** It is designed to ensure **fire safety** in buildings and must be upheld by all states to **consolidate and update laws** related to fire prevention and safety.
- **Model Bill to Provide for the Maintenance of Fire and Emergency Service for the State, 2019:** It offers a model framework for states to **manage fire and emergency services** effectively.
- **Scheme for Expansion and Modernization of Fire Services in the States 2023:** It was launched by the Central Government in **2023** after the **15th Finance Commission** recommended **Rs 5,000 crore** to strengthen **fire services** at the state level.
- **Fire Safety Week:** Union Health Ministry observes **Pan-India 'Fire Safety Week'** from **21st to 25th April** to **raise awareness about fire prevention and safety practices** across the country.
- **NDMA Guidelines:** The National Disaster Management Authority (NDMA) has also laid out guidelines on **fire safety at homes, schools, and hospitals**.

## How can Urban Areas be Made Fire-resilient?

- **Infrastructure Modernization:**
  - **Smart Infrastructure:** Lowered **sidewalks** aid fire engine access, while **AI detection, self-regulating grids, and fire-resistant materials** boost fire safety. **Retractable staircases** offer extra emergency exits in high-rises.
  - **Retrofitting Fire-Retardant Materials:** **Retrofitting buildings** with **fire-retardant materials** (such as flame-resistant paints, coatings, and insulation) can reduce the speed and intensity of a fire.
- **Overhauling Firefighting:**
  - **More Breathing Apparatuses:** Increasing the number of **breathing apparatuses** for **firefighting personnel** ensures more **firefighters** can enter smoke-filled buildings to conduct rescues without suffocating.
- **Safe Industrial Practices:**
  - **Industrial risk management:** Industries should **phase out** the use of **hazardous materials** and adopt **safe storage protocols**, ensuring that any chemicals or substances that could contribute to a fire are handled with **strict safety measures**.
- **Climate Resilience:**
  - **Innovative Strategies:** **Green spaces** as firebreaks, **water recycling systems** for firefighting reserves, and **predictive analytics** to forecast fire risks can enhance fire prevention and response strategies.

## Conclusion

The threat of deadly urban fires is **not static**—it **evolves with climate change, population density, and technological complexity**. However, cities are not powerless. By embracing **innovation**,

**collaboration, and proactive governance**, urban areas can transform into **fire-resilient ecosystems** capable of withstanding tomorrow's challenges. The blueprint for fire-resilient cities exists; **now is the time to build it.**

**Drishti Mains Question:**

Q. Unplanned urbanization and population density have exacerbated fire hazards in Indian cities. Discuss with examples.

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