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Daily News Analysis

The Hindu Important News Articles For UPSC CSE

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India's Index of Industrial Production (IIP) surged to a 23-month high of 7.3% in June 2026, up from 5.1% in May 2026. Driven primarily by strong performance across manufacturing (7.8%), electricity (10.6%), and capital goods (14.2%), this broad-based expansion reflects resilient domestic demand and steady capital expenditure. However, emerging headwinds—such as uneven monsoon distribution and geopolitical volatility in West Asia—raise questions about the sustainability of this growth momentum in the coming quarters.

Industrial growth hits 23-month high of 7.3%

Good tidings

Strong performance in manufacturing, electricity, and capital goods has fuelled the growth in June 2026, official data show

SOURCE: MOSPI

T.C.A. Sharad Raghavan
NEW DELHI

India's industrial growth hit a near two-year peak of 7.3% in June 2026, fuelled by strong performance in manufacturing, electricity, and capital goods, official data released on Tuesday showed.

Analysts, however, caution that this strong performance might not continue in the face of a lower-than-expected monsoon, and continued uncertainty due to the war in West Asia.

The data on the Index of Industrial Production (IIP), released by the Ministry of Statistics and Programme Implementation, showed that the index's growth in June was the fastest since July 2024, a 23-month high. The index had grown 5.1% in May 2026.

Within the index, the manufacturing sector grew at a 23-month high of 7.8% in June 2026, compared with 5.5% in May, and 2.4% in June of last year.

"The sharp uptick reflects broad-based strength in industrial activity, supported by improving manufacturing output, resilient domestic demand, and sustained momentum in investment-led sectors," Shashwat Singh, Fundamental Analyst at Bajaj Broking said.

The heatwave in several parts of the country in June drove growth in the electricity and gas supply sector to a 25-month high of 10.6%, up from 9.9% in May.

Dim outlook ahead

The capital goods sector also saw growth accelerating to 14.2% in June 2026, up from 3.45% in June last year. However, analysts say that despite this growth, the outlook for the months ahead is not as positive.

"While this reflects steady capital expenditure execution, our forward-looking credit outlook adopts a cautious stance," Vikrant Chaturvedi, Associate Director at Brickwork Ratings said. "The 9.3% growth in intermediate goods supports near-term supply chain stability, yet the broader macroeconomic landscape is clouded by significant risks."

The prospect of a below-normal monsoon threatens rural consumption and poses upward inflation pressure while regional tensions in West Asia continue to drive oil price volatility, according to him.

Sector-Wise Breakdown of Growth Drivers

- **Manufacturing Output (7.8%):**
  - Serves as the primary driver of IIP expansion, with 19 out of 23 manufacturing sub-groups posting positive growth.
  - Notable growth in electrical equipment (34%) and automotive manufacturing (17.5%) highlights strong domestic industrial demand.
- **Electricity & Energy Demand (10.6%):**
  - Reached a 25-month high, driven largely by summer heatwaves that spiked power demand across domestic and commercial sectors.
  - A favorable low-base effect from the previous year also supported this acceleration.
- **Capital Goods Expansion (14.2%):**
  - Reflects robust private investment and ongoing public infrastructure spending.
  - Suggests business confidence in capacity expansion over the medium term.
- **Intermediate Goods Growth (9.3%):**
  - Highlights strengthening supply chain linkages and steady raw material demand within factory production networks.
- **Consumer Goods Recovery:**
  - Consumer durables grew by 7.7% and non-durables by 4.9%, pointing to a gradual revival in urban private consumption.

Key Challenges & Growth Headwinds

- **Monsoon Risks and Rural Demand:**
    - Sub-normal or spatial distortion in monsoon rainfall threatens agricultural output and rural income levels, potentially softening rural consumer spending.
- **Global Geopolitical Volatility:**
    - Escalating conflicts in West Asia create crude oil price volatility, widening India's current account balance and raising domestic input costs.
- **Base-Effect Distortion:**
    - A portion of the statistical jump across sectors stems from lower growth baselines in the corresponding period of the previous fiscal year.
- **Modest Mining Output (1.0%):**
    - Sluggish growth in mining and quarrying points to underlying constraints in raw material extraction and seasonal disruptions.

Static Dimensions & Core Concepts

A. Index of Industrial Production (IIP)

- **Definition:** A short-term indicator that measures the volume of physical production across industrial sectors over a specific period relative to a base year.
- **Compiling Authority:** National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI).
- **Sectoral Weights:**
    - Manufacturing: ~77.63%
    - Mining: ~14.37%
    - Electricity: ~7.99%
- **Use-Based Classification:** Primary Goods, Capital Goods, Intermediate Goods, Infrastructure/Construction Goods, Consumer Durables, and Consumer Non-Durables.

B. Core Industries Index

- Comprises **8 Core Industries** representing approximately 40.27% of the total IIP weight.
- **Order of Weights:** Refinery Products > Electricity > Steel > Coal > Crude Oil > Natural Gas > Cement > Fertilizers.

C. Capital Goods vs. Intermediate Goods

- **Capital Goods:** Physical assets used to produce other goods or services (e.g., heavy machinery, machine tools). Serves as a primary indicator of gross fixed capital formation (GFCF).
- **Intermediate Goods:** Semi-finished inputs used in the production process (e.g., yarn, steel sheets). Reflects operational supply chain activity.

Way Forward

- **Crowding-In Private Investment:** Leverage public capital expenditure to incentivize private sector investments in high-value manufacturing sectors.
- **Strengthening MSME Supply Chains:** Expand targeted access to credit and formalization incentives for Micro, Small, and Medium Enterprises (MSMEs) to maintain growth in intermediate goods.
- **Policy Support for Rural Consumption:** Enhance direct support through rural infrastructure development, climate-resilient agriculture initiatives, and rural wage support programs.
- **Energy Transition Strategy:** Expand renewable energy capacity to mitigate power generation deficits during peak demand periods without over-relying on thermal power.

Conclusion

The 7.3% growth in June 2026 demonstrates the structural resilience of India's manufacturing and capital goods sectors. To translate this temporary momentum into long-term economic growth, policy must focus on strengthening private investment, stabilizing input costs, and shielding the domestic economy from external geopolitical and climatic shocks.

UPSC Prelims Practice Questions

Question: With reference to the Index of Industrial Production (IIP), consider the following statements:

1. It is compiled by the National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation (MoSPI).

2. Manufacturing has the highest weight in the IIP.

3. It is a short-term indicator measuring the volume of industrial production.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Ans: b)

UPSC Mains Practice Questions

Question: What is the Index of Industrial Production (IIP)? Discuss its significance as an indicator of economic activity in India.**(10 Marks, 150 Words)**

Page 06 :GS III :Environment/ Preliminary Examination

The Ministry of Environment, Forest and Climate Change (MoEFCC) reissued its draft notification proposing an **Ecologically Sensitive Area (ESA)** spanning **56,825.7 sq. km** across six Western Ghats states. Reissued for the seventh time in over a decade after the previous draft lapsed, the notification aims to restrict hazardous commercial and industrial activities to preserve a global biodiversity hotspot. However, persistent federal frictions regarding boundaries, village inclusion, and local livelihoods highlight the central challenge of balancing conservation imperatives with socio-economic development.

Key Highlights of the Draft Notification

- **Coverage Area:** Retains the proposed ESA at **56,825.7 sq. km**, spanning six states:
    - **Karnataka:** 20,668 sq. km
    - **Maharashtra:** 17,340 sq. km
    - **Kerala:** 9,993.7 sq. km
    - **Tamil Nadu:** 6,914 sq. km
    - **Goa:** 1,461 sq. km
    - **Gujarat:** 449 sq. km
- **Prohibited Activities:**
    - Complete ban on mining, quarrying, and sand mining.
    - Prohibition of new thermal power plants.
    - Restriction on 'Red Category' polluting industries and large construction projects (>20,000 sq. m).

Centre reissues draft on Western Ghats eco-zone

Move comes amid the continuing differences with six States over the areas to be included in the ecologically sensitive area; States worried about notification's impact on farming, infrastructure

Jacob Koshy
NEW DELHI

The Union Environment Ministry has reissued, for the seventh time in over a decade, its draft notification proposing an ecologically sensitive area (ESA) across the Western Ghats, after the previous draft lapsed on July 27 without being finalised.

The latest draft, issued on July 27, 2026, will remain open for public objections for 60 days before the Centre considers issuing a final notification. The notification reiterates that once finalised, it would prohibit mining, quarrying, sand mining, new thermal power plants, certain industries and large construction projects within the ESA, while regulating activities such as hydel power generation.

The fresh notification underscores the Centre's inability to resolve long-standing differences with the six Western Ghats States – Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu – over the precise villages and regions that should be included within the eco-sensitive zone. The States had raised concerns over the impact of the ESA declaration on agriculture, plantations, infrastructure, and development.

The notification itself notes that an expert committee constituted in 2022 is continuing to examine objections from the States regarding "the correct names and area of villages to be included in the ecologically sensitive area" as well as other suggestions submitted by the State governments.

The latest notification retains the proposed ESA at 56,825.7 sq. km, spread across the six States, with Karnataka accounting for 20,668 sq. km, Maharashtra 17,340 sq. km, Kerala 9,993.7 sq. km, Tamil Nadu 6,914 sq. km, Goa 1,461 sq. km and Gujarat 449 sq. km.

The latest notification retains the proposed ecologically sensitive area at 56,825.7 sq. km, spread across the six States. FILE PHOTO

No changes

A comparison of the latest draft with the previous notification issued in July 2024 shows no substantive changes in the notified area, State-wise extent or regulatory provisions. The list of villages proposed for inclusion also remains unchanged in places highlighted during earlier consultations. For instance, the 13 villages in Kerala's Wayanad district across Mananthavady, Sulthan Bathery and Vythiri taluks that figured in the previous draft continue to be included in the 2026 notification.

The dispute over protecting the Western Ghats dates back to 2011, when a panel chaired by late ecologist Madhav Gadgil recommended that the entire 1,29,000 sq. km mountain chain be treated as ecologically sensitive, with graded levels of protection. Following objections from the States, a high-level working group chaired by K. Kasturirangan reviewed the proposal and recommended that about 37% of the Western Ghats, covering 59,940 sq. km of natural landscape, be designated an ESA. The notification records that Kerala subsequently carried out its own field verification exercise, reducing the proposed ESA within the State from 13,108 sq. km recommended by the high-level working group to 9,993.7 sq. km.

- **Regulated Activities:**
    - Hydel power projects regulated strictly under existing environmental safeguards and stream-flow norms.

- **Status of Settlements:**
    - Critical landslide-prone regions (such as 13 villages across Mananthavady, SulthanBathery, and Vythiri taluks in Kerala's Wayanad district) remain included despite local resistance.

Major Concerns and State-Level Objections

- **Livelihood & Agriculture Fears:**
    - States argue that strict ESA constraints will hamper agriculture, cash-crop plantations (tea, coffee, rubber), and infrastructure development.
- **Public Resistance & Displacement Risk:**
    - Local communities fear restrictions on land usage, property rights, housing construction, and traditional forest-dependent livelihoods.
- **Boundary Discrepancies:**
    - States allege that remote sensing data used for identifying human habitations vs. natural landscapes is inaccurate, necessitating ground-level physical verification.
- **Federal Delays & Governance Deficit:**
    - The cycle of issuing and lapsing draft notifications every 540 days reflects political hesitancy and an inability to build inter-state consensus.

Chronology of Policy Committees

- **Madhav Gadgil Panel (WGEEP) : 2011:** Recommended designating the entire 1,29,000 sq. km mountain chain as ecologically sensitive. Proposed three levels of Ecologically Sensitive Zones (ESZ 1, 2, 3) with strong community-led governance (Gram Sabhas). States rejected it as overly restrictive.
- **Kasturirangan Committee (HLWG) :2013 :** Adopted a pragmatically scaled-down approach, recommending ~37% (59,940 sq. km) of the Western Ghats as ESA (Natural Landscape). It allowed economic activities in Human-Dominated Landscapes (~63%).
- **State-Level Ground Verifications : 2014-2022 :** States conducted field verification to exclude human settlements and plantations. Kerala reduced its proposed ESA area from 13,108 sq. km to 9,993.7 sq. km.
- **Draft Notifications Re-issuances : 2014-2026** :MoEFCC issued multiple draft notifications (7th draft in July 2026) while an Expert Committee (constituted in 2022) continues to examine state-level objections.

Static Dimensions & Core Concepts

A. Significance of the Western Ghats

- **Geographic Extent:** Runs ~1,600 km parallel to India's western coast, covering six states.
- **Ecological Value:** Recognized as a UNESCO World Heritage Site and one of the world's 36 "Biodiversity Hotspots".
- **Hydrological Role:** Serves as the catchment area for major peninsular river systems (Godavari, Krishna, Kaveri) supplying water to over 240 million people.
- **Climate Regulation:** Acts as a major carbon sink and influences the South-West Monsoon rainfall pattern across mainland India.

B. Legal Basis of Ecologically Sensitive Areas (ESAs)

- **Statutory Framework:** ESAs are notified under **Section 3(2)(v)** of the **Environment (Protection) Act, 1986**.
- **Objective:** Create "shock absorbers" around protected ecosystems by regulating human activity to prevent environmental degradation without completely stopping sustainable economic practices.

Way Forward

- **Community-Centric Conservation:** Shift from top-down administrative mapping to bottom-up participatory conservation involving local Panchayats and Gram Sabhas.
- **Granular Cadastral Mapping:** Use high-resolution GIS satellite imagery paired with mandatory ground verification to clearly demarcate natural habitats from farmland and human habitations.
- **Incentivizing Eco-Friendly Practices:** Provide financial incentives, carbon credits, and organic farming subsidies for local farmers practicing sustainable agriculture within the ESA.
- **Disaster-Resilient Regional Planning:** Prioritize eco-sensitive zoning in fragile districts (e.g., Wayanad, Idukki, Uttara Kannada) that face heightened risks of severe landslides and flash floods due to extreme climate events.

Conclusion

Repeatedly reissuing draft notifications without finalization creates policy uncertainty and leaves a ecologically fragile region vulnerable to unregulated exploitation and climate hazards. A balanced consensus—protecting core ecological integrity while safeguarding local livelihoods—is imperative to secure the long-term ecological and hydrological stability of Peninsular India.

UPSC Prelims Practice Questions

Question: With reference to the Western Ghats Ecologically Sensitive Area (ESA), consider the following statements:

1. Ecologically Sensitive Areas are notified under the Environment (Protection) Act, 1986.

2. The objective of an ESA is to regulate environmentally harmful activities while permitting sustainable livelihoods.

3. Mining and quarrying are proposed to be prohibited within the notified Western Ghats ESA.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Ans: d)

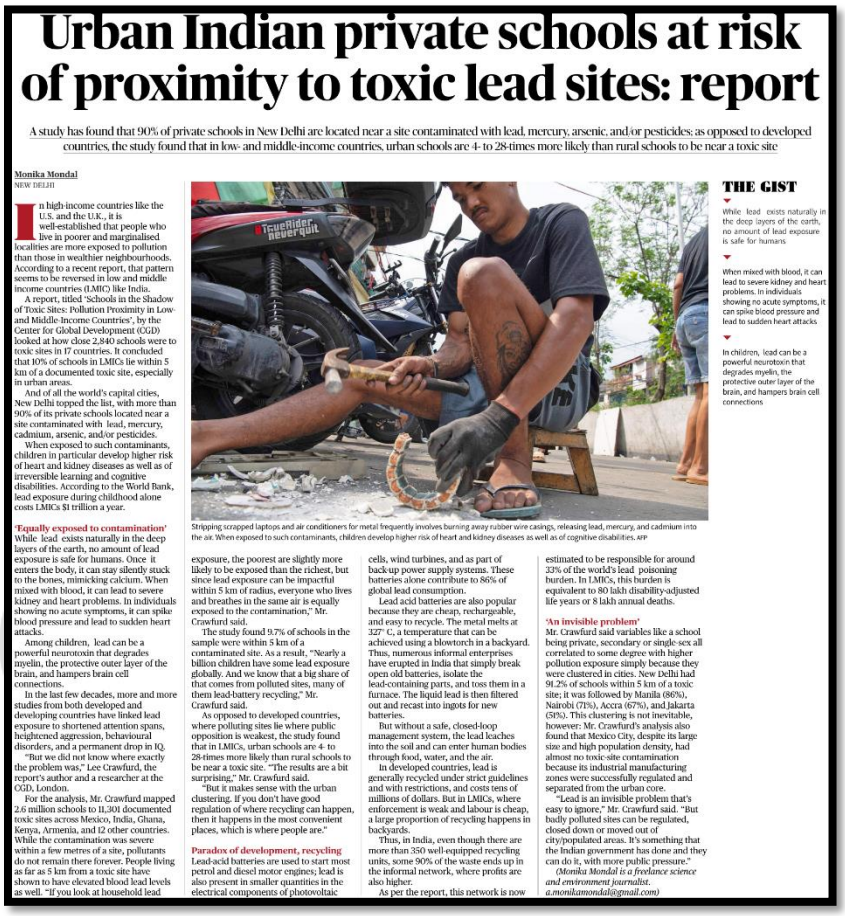
UPSC Mains Practice Questions

Question: What are Ecologically Sensitive Areas (ESAs)? Explain their role in balancing conservation with sustainable development.**(10 Marks, 150 Words)**

Page 07 :GS II :Social Justice / Preliminary Examination

A global report by the Center for Global Development (CGD) titled 'Schools in the Shadow of Toxic Sites: Pollution Proximity in Low- and Middle-Income Countries' has revealed a stark environmental paradox in Low- and Middle-Income Countries (LMICs) like India. Unlike developed nations where environmental hazards disproportionately impact lower-income rural areas, urban schools in LMICs—particularly private schools—are **4 to 28 times more likely** to be situated within a 5 km radius of toxic contamination sites. Crucially, **New Delhi topped global capital cities**, with over **91.2% of its private schools** located near sites contaminated by heavy metals (lead, mercury, cadmium, arsenic) and pesticides.

Key Findings & The "Development Paradox"



Urban Indian private schools at risk of proximity to toxic lead sites: report

A study has found that 90% of private schools in New Delhi are located near a site contaminated with lead, mercury, arsenic, and/or pesticides; as opposed to developed countries, the study found that in low- and middle-income countries, urban schools are 4- to 28-times more likely than rural schools to be near a toxic site

Monika Mondal
NEW DELHI

In high-income countries like the U.S. and the U.K., it is well-established that people who live in poorer and marginalised localities are more exposed to pollution than those in wealthier neighbourhoods. According to a recent report, that pattern seems to be reversed in low and middle income countries (LMIC) like India.

A report, titled 'Schools in the Shadow of Toxic Sites: Pollution Proximity in Low- and Middle-Income Countries', by the Center for Global Development (CGD) looked at how close 2,840 schools were to toxic sites in 17 countries. It concluded that 10% of schools in LMICs lie within 5 km of a documented toxic site, especially in urban areas.

And of all the world's capital cities, New Delhi topped the list, with more than 90% of its private schools located near a site contaminated with lead, mercury, cadmium, arsenic, and/or pesticides.

When exposed to such contaminants, children in particular develop higher risk of heart and kidney diseases as well as of irreversible learning and cognitive disabilities. According to the World Bank, lead exposure during childhood alone costs LMICs $1 trillion a year.

'Equally exposed to contamination'

While lead exists naturally in the deep layers of the earth, no amount of lead exposure is safe for humans. Once it enters the body, it can stay silently stuck to the bones, mimicking calcium. When mixed with blood, it can lead to severe kidney and heart problems. In individuals showing no acute symptoms, it can spike blood pressure and lead to sudden heart attacks.

Among children, lead can be a powerful neurotoxin that degrades myelin, the protective outer layer of the brain, and hampers brain cell connections.

In the last few decades, more and more studies from both developed and developing countries have linked lead exposure to shortened attention spans, heightened aggression, behavioural disorders, and a permanent drop in IQ.

"But we did not know where exactly the problem was," Lee Crawford, the report's author and a researcher at the CGD, London.

For the analysis, Mr. Crawford mapped 2.6 million schools to 11,301 documented toxic sites across Mexico, India, Ghana, Kenya, Armenia, and 12 other countries. While the contamination was severe within a few metres of a site, pollutants do not remain there forever. People living as far as 5 km from a toxic site have shown to have elevated blood lead levels as well. "If you look at household lead exposure, the poorest are slightly more likely to be exposed than the richest, but since lead exposure can be impactful within 5 km of radius, everyone who lives and breathes in the same air is equally exposed to the contamination," Mr. Crawford said.

The study found 9.7% of schools in the sample were within 5 km of a contaminated site. As a result, "Nearly a billion children have some lead exposure globally. And we know that a big share of that comes from polluted sites, many of them lead-battery recycling," Mr. Crawford said.

As opposed to developed countries, where polluting sites lie where public opposition is weakest, the study found that in LMICs, urban schools are 4- to 28-times more likely than rural schools to be near a toxic site. "The results are a bit surprising," Mr. Crawford said.

"But it makes sense with the urban clustering. If you don't have good regulation of where recycling can happen, then it happens in the most convenient places, which is where people are."

Paradox of development, recycling

Lead-acid batteries are used to start most petrol and diesel motor engines; lead is also present in smaller quantities in the electrical components of photovoltaic cells, wind turbines, and as part of back-up power supply systems. These batteries alone contribute to 86% of global lead consumption.

Lead acid batteries are also popular because they are cheap, rechargeable, and easy to recycle. The metal melts at 327° C, a temperature that can be achieved using a blowtorch in a backyard. Thus, numerous informal enterprises have erupted in India that simply break open old batteries, isolate the lead-containing parts, and toss them in a furnace. The liquid lead is then filtered out and recast into ingots for new batteries.

But without a safe, closed-loop management system, the lead leaches into the soil and can enter human bodies through food, water, and the air.

In developed countries, lead is generally recycled under strict guidelines and with restrictions, and costs tens of millions of dollars. But in LMICs, where enforcement is weak and labour is cheap, a large proportion of recycling happens in backyards.

Thus, in India, even though there are more than 350 well-equipped recycling units, some 90% of the waste ends up in the informal network, where profits are also higher.

As per the report, this network is now estimated to be responsible for around 33% of the world's lead poisoning burden. In LMICs, this burden is equivalent to 80 lakh disability-adjusted life years or 8 lakh annual deaths.

'An invisible problem'

Mr. Crawford said variables like a school being private, secondary or single-sex all correlated to some degree with higher pollution exposure simply because they were clustered in cities. New Delhi had 91.2% of schools within 5 km of a toxic site; it was followed by Manila (86%), Nairobi (71%), Accra (67%), and Jakarta (51%). This clustering is not inevitable, however: Mr. Crawford's analysis also found that Mexico City, despite its large size and high population density, had almost no toxic-site contamination because its industrial manufacturing zones were successfully regulated and separated from the urban core.

"Lead is an invisible problem that's easy to ignore," Mr. Crawford said. "But badly polluted sites can be regulated, closed down or moved out of city/populated areas. It's something that the Indian government has done and they can do it, with more public pressure."

(Monika Mondal is a freelance science and environment journalist. a.monikamondal@gmail.com)

Stripping scrapped laptops and air conditioners for metal frequently involves burning away rubber wire casings, releasing lead, mercury, and cadmium into the air. When exposed to such contaminants, children develop higher risk of heart and kidney diseases as well as of cognitive disabilities. AFP

THE GIST

While lead exists naturally in the deep layers of the earth, no amount of lead exposure is safe for humans

When mixed with blood, it can lead to severe kidney and heart problems. In individuals showing no acute symptoms, it can spike blood pressure and lead to sudden heart attacks

In children, lead can be a powerful neurotoxin that degrades myelin, the protective outer layer of the brain, and hampers brain cell connections

- **Reversal of Global Environmental Justice Dynamics:**
  - **High-Income Countries (HICs):** Strict zoning regulations push polluting industries away from affluent city centers to marginalized or low-income peripheries.
  - **LMICs:** Weak zoning enforcement and rapid urban clustering result in informal, highly toxic industrial operations (e.g., backyard battery dismantling) flourishing directly within dense urban cores near schools and housing.
- **Global Capital City Ranking (Schools within 5 km of Toxic Sites):**
  1. **New Delhi, India:** 91.2%
  2. **Manila, Philippines:** 86%
  3. **Nairobi, Kenya:** 71%
  4. **Accra, Ghana:** 67%
  5. **Jakarta, Indonesia:** 51%
- **Root Cause — The Informal Recycling Network:**

- Lead-acid batteries account for **86% of global lead consumption**.
- Despite India having over 350 formal, well-equipped recycling units, approximately **90% of lead waste enters the informal sector**.
- Due to low melting temperatures (327°C), informal operators use simple open-air furnaces, releasing toxic heavy metal fumes and slag directly into urban air, soil, and water tables.

Health & Economic Implications

- **Childhood Neurotoxicity:**
  - Lead mimics calcium in the body, depositing in bones and the bloodstream.
  - In children, it acts as a potent neurotoxin that degrades **myelin** (the brain's protective sheath), permanently impairing synaptic connections.
  - **Consequences:** Irreversible IQ loss, shortened attention span, heightened behavioral aggression, and learning disabilities.
- **Adult & Systemic Health Risks:**
  - Chronic lead exposure triggers severe cardiovascular conditions (hypertension, sudden heart attacks) and chronic kidney disease.
- **Macroeconomic Cost:**
  - According to the World Bank, childhood lead exposure costs LMICs nearly **$1 trillion annually**.
  - Globally, the informal lead exposure burden accounts for approximately **80 lakh Disability-Adjusted Life Years (DALYs)** and **8 lakh deaths per year**.

Policy & Regulatory Framework in India

- **Batteries Waste Management Rules, 2022:**
  - Introduced **Extended Producer Responsibility (EPR)** mandating battery manufacturers to collect and channel used batteries to registered formal recyclers.
  - Emphasizes minimum percentage recovery targets for materials (lead, lithium, nickel).
- **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016:**
  - Regulates the handling, storage, and processing of heavy metal scrap to prevent open burning and leaching.
- **E-Waste (Management) Rules, 2022:**

- Covers the informal stripping of circuit boards and cooling units (air conditioners/laptops) that release cadmium and lead fumes.

Challenges in Implementation

- **Enforcement Deficit in Informal Hubs:** Lack of regular monitoring by State Pollution Control Boards (SPCBs) allows illegal back-alley smelting units to operate undetected inside residential areas.
- **Economic Arbitrage:** Informal recyclers offer higher payout prices for scrap metal because they evade tax, environmental compliance, and safety equipment costs.
- **Absence of Buffer Zones:** Urban planning failures and delayed Master Plan implementation mean schools are approved in mixed-use industrial-residential clusters without mandatory environmental clearances.

Way Forward

- **Strict Urban Zoning & Demarcation:** Emulate models like **Mexico City**, which successfully separated industrial manufacturing zones from school and residential clusters through stringent land-use policy enforcement.
- **Formalizing the Informal Sector:** Integrate informal scrap collectors into the formal supply chain by setting up cluster-based safe recycling parks equipped with modern scrubbers and effluent treatment plants (ETPs).
- **School Buffer Standards:** Amend National Building Code guidelines to enforce a mandatory safe distance (minimum 1–2 km) between designated educational zones and industrial/waste handling units.
- **Regular Blood Lead Level (BLL) Screening:** Integrate routine BLL testing into national child health programs (e.g., Rashtriya Bal SwasthyaKaryakram - RBSK) in vulnerable urban hotspots.

Conclusion

The high proximity of urban Indian schools to toxic lead sites underscores the urgent need to look beyond traditional ambient air pollution metrics and tackle industrial soil and heavy-metal contamination. Protecting children's cognitive health requires stringent urban land-use planning, enforcement of Extended Producer Responsibility (EPR), and aggressive formalization of the battery recycling economy.

UPSC Prelims Exam Study Questions

Question: With reference to the Battery Waste Management Rules, 2022, consider the following statements:

1. They introduce the concept of Extended Producer Responsibility (EPR).

2. Producers are responsible for collecting and ensuring environmentally sound recycling of used batteries.

3. The Rules cover batteries used in electric vehicles as well as portable and industrial batteries.

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Ans:d)

PSC Mains Exam Study Questions

Question: Discuss the environmental and public health risks associated with informal recycling of lead-acid batteries in India. **(10 Marks, 150 Words)**

Page 09 :GS III :Environment / Preliminary Examination

India's tiger conservation model under **Project Tiger (1973)** is universally celebrated as a flagship success, increasing wild tiger numbers from **1,411 in 2006 to 3,682 in 2022** (representing over **70% of the global wild tiger population**). However, this population expansion, coupled with habitat saturation inside protected core reserves, has shifted 35–40% of wild tigers into human-dominated, non-protected landscapes.

The launch of the **Tigers Outside Tiger Reserves (TOTR) initiative** marks a paradigm shift—transitioning from fortress-based conservation to a **proactive, landscape-level governance model** that balances species survival with human safety and rural livelihoods.

Co-existing with tigers outside reserves

India's tiger conservation story is widely regarded as one of the world's most extraordinary wildlife recoveries – a species brought back from near extinction through sustained political commitment, scientific management, and decades of on-ground protection. Since the launch of Project Tiger in 1973, the country's network of protected areas has expanded from nine reserves covering 18,278 sq km to 58 reserves spanning 84,488 sq km, accounting for nearly 2.6% of India's landmass. India's tiger population has risen from 1,411 in 2006 to 3,682 in 2022, firmly establishing the country as home to over 70% of the world's wild tigers. This success has now created a new conservation frontier – the growing proportion of tigers living outside protected areas.

Although national datasets do not conclusively link rising tiger numbers with increasing human-tiger conflict, forest departments across several landscapes report a steady escalation in such incidents. As territorial carnivores require extensive home ranges, tigers disperse naturally when core habitats reach saturation. Consequently, more tigers are moving beyond protected boundaries into human-dominated fringes. According to the National Tiger Conservation Authority, 35-40% of India's tiger population now lives outside designated Tiger Reserves. This reality has prompted the Ministry of Environment, Forest and Climate Change to launch the Tigers Outside Tiger Reserves (TOTR) initiative.

Beyond protected boundaries

The growing tiger population reflects healthy breeding groups, functional habitats, and well-connected forest corridors. However, when tigers move beyond protected areas into landscapes interwoven with villages, farms, roads and other human infrastructure, interactions with people become inevitable, leading to human fatalities, livestock depredation, accidental encounters, prolonged rescue operations, and heightened public anxiety. Each incident carries ecological, social, and political consequences, placing enormous pressure on forest departments and district administrations.

The objective of the TOTR is to establish a scientifically grounded, landscape-based framework for conserving tigers outside protected areas while safeguarding human lives and livelihoods. Rather than responding to conflict only after it occurs, the initiative seeks to shift the approach from reactive crisis management to proactive, science-driven governance built on technology, preparedness, and community participation.

The TOTR is being launched as a targeted pilot rather than a nationwide rollout, recognising that long-term policy must be anchored in evidence generated under real field conditions.

The All-India Tiger Estimation (2022) recorded tiger presence across 212 forest divisions. Based on this assessment, 40 forest divisions across nine States have been selected for the first phase of the TOTR implementation. The participating States include Uttarakhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Telangana and Assam.

The TOTR rests on two complementary pillars. The first focuses on reducing human-tiger conflict and strengthening field protection. This includes upgrading communication systems, deploying rapid response teams, improving rescue infrastructure, and ensuring coordinated action during emergencies. The second pillar emphasises long-term coexistence. Conservation outside protected areas cannot succeed without the trust and participation of local communities. Awareness programmes, community engagement, timely compensation and treating villagers as partners are central to the initiative. Tigers and people now co-occur across vast shared landscapes, making structured coexistence essential for long-term stability.

Among these, streamlined and timely compensation mechanisms are critical. Although States have their own frameworks, delays often erode public trust and fuel resentment. States must simplify procedures and invest in sustained outreach to build confidence among rural families living alongside tigers.

The role of States

Participating States will also need to invest strategically in both technology and institutional capacity. The programme rightly emphasises the use of modern conservation tools such as camera traps, GPS-enabled monitoring systems, drones and AI to strengthen surveillance, improve early warning systems and enable evidence-based decision-making. However, technology alone cannot resolve human-tiger conflict. Its effectiveness will ultimately depend on the strength of the institutions that support it. Building public confidence requires well-trained forest staff, veterinarians, and rescue teams capable of responding rapidly in conflict situations.

The TOTR underscores a broader national imperative: strengthening the governance of shared landscapes where ecological processes and human livelihoods intersect daily. The initiative signals a shift from viewing tiger conservation solely through the lens of protected areas to recognising the wider mosaic of reserve forests and other lands that now support dispersing tigers.

If executed with the same determination that made Project Tiger a global benchmark, the TOTR could become India's defining conservation initiative of the century proving that people and large carnivores can share space safely.

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The objective of the Tigers Outside Tiger Reserves initiative is to establish a scientifically grounded, landscape-based framework for conserving tigers outside protected areas while safeguarding human lives

Key Facts & Statistical Context

- **Expansion of Protected Area Network:** Grown from 9 reserves (18,278 sq. km) in 1973 to **58 reserves covering ~84,488 sq. km** (~2.6% of India's landmass).
- **Dispersal Dynamics:** According to the National Tiger Conservation Authority (NTCA), **35% to 40% of India's tigers reside outside designated Tiger Reserves**.
- **TOTR Pilot Scope:** Pilot implementation across **40 selected forest divisions** in 9 key range States (Uttarakhand, UP, Rajasthan, MP, Maharashtra, Karnataka, Tamil Nadu, Telangana, and Assam).

3. Key Issues Driving Tigers Outside Reserves

- **Territorial Saturation:** Tigers are solitary, territorial apex predators requiring extensive home ranges. Core zones of established reserves are reaching ecological carrying capacities, forcing young and dispersing tigers to seek new territories.
- **Fragmented Wildlife Corridors:** Linear infrastructure (highways, railway tracks, canal networks) and agricultural expansion fragment natural corridors, forcing dispersing tigers into farm fringes and villages.

- **Escalating Human-Wildlife Conflict (HWC):** Interactions in shared landscapes frequently lead to livestock depredation, accidental human casualties, retaliation killings, prolonged rescue operations, and widespread social unrest.

4. The Two Pillars of the TOTR Initiative

The TOTR initiative addresses conflict through a structured dual-pillar strategy:

Pillar I: Immediate Conflict Reduction & Field Protection

- **Infrastructure & Mobility Upgrades:**Modernizing forest department communication networks, rapid response units, and specialized rescue equipment.
- **Real-time Surveillance:** Deploying artificial intelligence (AI) models, GPS-enabled patrolling, camera trap networks, and drones for early warning systems.
- **Emergency Readiness:** Equipping Rapid Response Teams (RRTs) with veterinary support and tranquilization capabilities for swift field operations.

Pillar II: Long-Term Coexistence & Community Partnership

- **Trust-Building & Sensitization:** Shifting from treating local villagers as law enforcement subjects to active conservation partners.
- **Streamlined Ex-Gratia & Compensation:** Fixing bureaucratic delays in compensating crop loss, livestock kill, or human injury/death to mitigate community anger.
- **Grassroots Involvement:** Deploying community volunteers (e.g., *Bagh Mitras*) and eco-development committees to report tiger movements and reduce panics.

Related Static Dimensions (UPSC Mains Core Content)

A. Legal & Regulatory Framework

- **Wildlife Protection Act (WPA), 1972:** Sections 38V & 38W mandate the notification of core and buffer areas in Tiger Reserves. TOTR extends active management protocols beyond buffer areas into Reserve Forests and Territorial Divisions.
- **National Tiger Conservation Authority (NTCA):** Statutory body under Section 38IV of WPA 1972 providing overarching guidelines for corridor management, Standard Operating Procedures (SOPs) for human-tiger conflict, and camera-trap assessments.

B. Ecological Principles Involved

- **Metapopulation Dynamics:** Tiger survival depends on connected sub-populations (metapopulations) exchanging genetic material via corridors to avoid inbreeding depression.

- **Matrix Habitats:** Land use outside protected areas acts as a "matrix" that can either facilitate or block animal movement depending on land-use policies.

C. Economic & Governance Dimensions

- **State CAMPA Funds:** Financing monitoring, community outreach, and habitat restoration outside tiger reserves using Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds.
- **Inter-Departmental Coordination:** Effective TOTR execution requires synergy between Forest, Revenue, Police, District Administration, and Public Works Departments (PWD).

Challenges in Managing Tigers Outside Reserves

- **Institutional Skill Gap:** Territorial forest staff outside reserves are traditionally trained in silviculture and forest revenue enforcement, not active carnivore management or emergency tranquillization.
- **Erosion of Public Trust:** Delayed compensation payouts create resentment against wildlife and increase risks of illegal poisoning or electrocution traps.
- **High Population Density:** Unlike fenced or remote core reserves, non-reserve landscapes feature dense human settlements, fragmented croplands, and heavy road traffic.

Strategic Recommendations / Way Forward

- **Institutionalize Eco-Friendly Infrastructure:** Mandate green infrastructure (underpasses, overpasses, canopy bridges) for linear development projects cutting through identified dispersal corridors.
- **Direct-Benefit Transfer (DBT) for Compensation:** Implement digital, hassle-free DBT systems for livestock kill verification and instant compensation to prevent retaliatory killings.
- **Capacity Building for Territorial Staff:** Train territorial forest personnel and local youth as frontline first-responders equipped with veterinary tools and conflict-defusal skills.
- **Community-Led Eco-Tourism:** Share revenue generated from eco-tourism directly with Panchayats in shared landscapes to build tangible economic stakes in tiger persistence.

Conclusion

The success of Project Tiger over the past five decades proved that India could save an apex predator inside protected walls. The **Tigers Outside Tiger Reserves (TOTR) initiative** represents the next frontier: proving that human development and large carnivore conservation can co-exist within shared landscapes. By fusing cutting-edge surveillance technology with community trust and institutional agility, India can set a global benchmark for landscape-level wildlife governance.

UPSC Prelims Practice Questions

Question: With reference to the Tigers Outside Tiger Reserves (TOTR) Initiative, consider the following statements:

1. It aims to strengthen the conservation and management of tigers in non-protected landscapes.

2. It emphasizes rapid response mechanisms, technology-enabled monitoring, and community participation.

3. It is implemented under the guidance of the National Tiger Conservation Authority (NTCA).

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Ans: d)

UPSC Mains Practice Questions

Question: Why are an increasing number of tigers found outside notified Tiger Reserves in India? Explain the ecological and governance challenges associated with this trend. **(10 Marks, 150 Words)**

Page 12 :GS III :Indian Economy and Environment / Preliminary Examination

India's renewable energy journey has reached milestone milestones, with total installed solar capacity reaching **162.15 GW**. However, a parliamentary statement revealed that **8,133 GWh of solar power was curtailed** across India during the April–June quarter (Q1).

This mismatch highlights a central structural issue in India's clean energy transition: **generation capacity is expanding faster than grid absorption, transmission infrastructure, and energy storage capabilities**.

Key Data & Statistical Highlights

A. Quarterly Solar Curtailment Breakdown

- **April:** 2,417 GWh
- **May:** 3,235 GWh
- **June:** 2,481 GWh
- **Total Curtailment:8,133 GWh** (Data source: Grid Controller of India Ltd.)

B. Progress of PM Surya Ghar: Muft Bijli Yojana

- **Applications Received:**>75.25 lakh (since launch in Feb 2024).
- **Installations Completed:** ~39.72 lakh rooftop systems.
- **Cumulative Rooftop Capacity Added:** 14,180.90 MW (~14.18 GW) under the scheme.
- **Households Benefited:** Over 48.02 lakh.
- **Financial Outlay Disbursed:** ₹27,343.90 crore released as Central Financial Assistance (CFA).

India curtailed 8,133 GWh solar power to maintain grid security

As on June 30, India's installed solar power capacity stood at 162.15 GW, which included 30.11 GW of rooftop projects, 6.43 GW of off-grid project

The Hindu Bureau
NEW DELHI

India curtailed 8,133 gigawatt-hour (GWh) of solar power during the April-June quarter this year, according to Minister of State for New and Renewable Energy Shripad Yesso Naik.

The curtailment and restriction were instituted to "maintain grid security" and "due to mismatch between commissioning of transmission lines and renewable energy projects, he informed Parliament, quoting figures from the Grid Controller of India.

Curtailment is when power-grid operators limit the power output from generating sources to maintain grid stability.

A total of 2,417 GWh of solar energy curtailment was carried out in April this year, 3,235 GWh in May and 2,481 GWh in June. As on June 30, India has installed solar capacity of up to 162.15 GW, which is inclusive of 125.6 GW of utility scale projects, 30.11 GW of rooftop projects and 6.43 GW of off-grid projects.

PM Surya Ghar

Separately, Mr. Naik also told the upper house that since its implementation in February 2024, the PM Surya Ghar scheme has received more than 75 lakh applications, as on July 22.

More than 39.7 lakh rooftop solar (RTS) systems with a cumulative installed capacity of 14,180.90 MW have been installed, he added. Mr. Naik also said the scheme has reached out to more than 48 lakh households having released ₹27,343.9 crore as Central Financial Assistance (CFA) until June 27.

Wasted energy

Restriction due to mismatch between commissioning of transmission lines and renewable energy projects, MoS tells House

- Curtailment is when power-grid operators limit output from generating sources
- 2,417 GWh of solar energy curtailment was carried out in April this year
- 3,235 GWh of solar energy was restricted in May and 2,481 GWh in June

Causes of Solar Power Curtailment in India

- **Transmission Mismatch:** Renewable Energy (RE) solar parks take 12–18 months to commission, whereas high-voltage Interstate Transmission System (ISTS) lines take 36–48 months due to Land Acquisition and Right-of-Way (RoW) issues.
- **Duck Curve Phenomenon & Intraday Inflexible Load:** Peak solar generation occurs between 11 AM and 3 PM when overall electricity demand is moderate, while evening peak demand lacks solar support. Thermal power plants cannot back down fast enough due to minimum technical loading limits.
- **Lack of Storage Systems:** Insufficient deployment of Battery Energy Storage Systems (BESS) and Pumped Storage Projects (PSP) prevents storing daytime excess generation for evening usage.
- **DISCOM Financial & Grid-Management Stress:** State Distribution Companies often issue informal "must-run" override instructions to limit grid congestion and avoid pay-outs under power purchase agreements (PPAs).

Policy Framework & Corrective Initiatives

A. Central Electricity Regulatory Commission (CERC) Regulations

- **General Network Access (GNA) Regulations:** Transitioning from point-to-point transmission booking to flexible open access across the national grid.
- **Temporary GNA (T-GNA):** Utilizing unutilized interim transmission capacity to evacuate RE power until permanent lines are ready.

B. Thermal Power Flexibility

- **CEA Flexible Operation Regulations:** Mandating existing coal-fired plants to operate down to **40–55% minimum load levels** so grids can prioritize absorbing variable RE during peak sunlight hours.

C. Rooftop Solar Ecosystem

- **PM Surya Ghar: Muft Bijli Yojana:** Decentralized rooftop solar reduces load on transmission grids by promoting localized generation and consumption at point-of-use.

Way Forward / Policy Recommendations

- **Mandate RE + Storage Tenders:** Accelerate tenders combining solar with BESS/PSP to turn variable solar energy into firm, dispatchable power (FDRE).

- **Synchronized Green Energy Corridors (GEC):** Institutionalize joint planning between the Ministry of Power and MNRE so solar plant commissioning matches ISTS line availability timelines.
- **Implement Time-of-Day (ToD) Tariffs:** Lower daytime power tariffs for industrial and commercial consumers to encourage daytime power demand, smoothing out the solar peak.
- **Enforce Strict Compensation Frameworks:** Strictly implement CERC-mandated financial compensation to solar developers for unauthorized curtailment to safeguard investor confidence.

Conclusion

While the **PM Surya Ghar Yojana** showcases rapid democratization of rooftop power, curtailing **8,133 GWh** of solar energy highlights critical grid bottlenecks. To achieve the target of **500 GW non-fossil capacity by 2030**, India must shift focus from expanding raw generation capacity to **grid modernization, storage integration, and transmission synchronization**.

UPSC Prelims Exam Questions

Ques:The PM Surya Ghar: Muft Bijli Yojana primarily aims to:

(a) Establish utility-scale solar parks in desert regions.

(b) Promote rooftop solar installations for households through financial assistance.

(c) Develop offshore wind energy projects.

(d) Provide free electricity exclusively to agricultural consumers.

Ans:b)

UPSC Mains Exam Study Questions

Ques: Why is transmission infrastructure critical for achieving India's renewable energy targets? Explain.**(10 Marks, 150 Words)**

Page :08 : Editorial Analysis

The urban nightmare — a fire with no escape

On June 22, 2026, 15 people gasped to death in a burning building in Aliganj, Lucknow. Trapped behind smoke-filled corridors and sealed exits, they never had a chance. The commercial establishment operating from a residential neighbourhood was a veritable death trap – pigeonhole-sized workstations crammed into an unauthorised structure with no viable fire escape.

It was not merely a building that caught fire, but a system that failed. A tragedy waiting to happen, aided by those whose job it was to prevent it.

All this happened, while the TV channels discussed animatedly U.S.-Iran parleys, where India played no role, and analysts dissected the number of Members of Parliament defecting to the Eknath Shinde-led Shiv Sena. Not aware if there was ever a mention of a collapse of political ethics and morality. But then, do ethics, morality and professionalism figure in urban governance today? Major fires have erupted in cities across India in 2026 on account of failures of urban regulation – signifying abject greed and mismanagement.

On June 3, a fire in a bed and breakfast facility, Malviya Nagar, Delhi, was also caused by illegal construction with no emergency exit. In February, a Bhiwadi garment plant, Rajasthan, which caught fire was an illegal firecracker-manufacturing unit behind closed doors; the fire in a cracker manufacturing unit in Virudhunagar, Tamil Nadu, took place when the factory was running illegally on a Sunday.

Yet, amidst the horror, emerged stories of extraordinary courage. In Delhi's Malviya Nagar fire, a mattress shop owner reportedly emptied his entire stock onto the street to cushion those jumping from the burning building. Young residents rushed forward without waiting for instructions, while police personnel administered CPR, evacuated victims and continued rescue efforts despite injuries to themselves. Such acts of humanity stand in sharp contrast to the institutional failures.

Historical data trends suggest that India sees approximately 13,000-15,000 fire deaths annually, with the summer of 2026 projected to be one of the worst due to extreme heatwaves triggering electrical fires. In the first quarter of 2026, 39 people have died in fires in Delhi alone, even before the summer peak began.

Violations without consequences

The problem extends far beyond Aliganj and Malviya Nagar. Death traps of varying forms exist in countless urban settlements across India. They may differ in appearance but share a common characteristic: everyone knows the violations exist, yet they continue.

This is what makes the present crisis particularly troubling when India today possesses technological capabilities unimaginable even a decade ago. Satellite imagery can identify encroachments. Drones can map illegal constructions. Geographic Information Systems can track land use changes. Digital property databases can identify violations. Artificial intelligence can flag anomalies and real-time dashboards can monitor compliance.

Yashovardhan Azad

Retired Indian Police Service officer, who has served as the Central Information Commissioner, Secretary – Security, Government of India, and Special Director, Intelligence Bureau

Urban neglect, political apathy, and corruption continue to claim lives across India

Is it really difficult for a municipal commissioner, a development authority official, a State government functionary or the Lieutenant Governor to call for a list of establishments operating without licences, fire clearances or in myriad violations of building norms?

The difficulty lies elsewhere. It lies in political pressure and vote-bank calculations and in the thriving informal economies that governments are reluctant to confront and where urban laws and regulations are routinely violated. But, most importantly, it lies in corruption.

Could the fire in Lucknow have been averted? Yes. In 2016, a notice for demolition was given but within two months was withdrawn. It was clearly a political decision. The property stood out as a symbol of political patronage under benign oversight of officials, right in the midst of a prominent locality of the capital. This sends out a message to the lower officials, the enforcers, who then entrench a system of their own beneficiaries, overlooking various violations for monetary benefits.

The Special Investigation Team (SIT) formed to investigate the fire comprised two senior officers, from the IAS and the IPS from the State of Uttar Pradesh, with the report to be submitted to another IAS officer of the government. The head of Lucknow land development Authority is also an IAS officer. In such a situation, can the inquiry yield anything purposeful. If a calamity of this kind results only in a conversation between a closed loop of bureaucrats, can there ever be any meaningful reform? No. But it was certainly possible if the Minister of Urban Development and the head of the capital land development authority were indicted for this tragedy.

This pattern is visible across the country. In Noida, a young professional lost his life after falling into a waterlogged, poorly protected urban hazard. In Indore, celebrated nationally for cleanliness, deaths linked to contaminated water supply raise disturbing questions about basic civic safeguards. Bengaluru, India's technology capital, repeatedly grinds to a halt after heavy rains. Mumbai, India's financial capital, continues to struggle with flooding despite decades of investment and repeated expert recommendations.

A common thread

Different cities. Different governments. Different political parties, but the same outcome. The real concern is the absence of accountability and governance deficit. What happened after Delhi's basement coaching centre tragedy? Arrests were made. Committees were constituted. Headlines were generated. Yet, illegal and unsafe basement operations continue to flourish in many cities.

How many inquiry reports have fundamentally altered urban governance? How many officials have faced meaningful consequences years after disasters? How many systemic reforms have followed repeated tragedies? India has actually become adept at managing outrage and far less effective in preventing a recurrence of man-made tragedies.

At the heart of the problem lies a governance structure that nobody wishes to discuss honestly. For over three decades, since the 74th Constitutional Amendment, India has spoken of empowering urban local bodies. Yet, most city governments remain weak. Every Chief Minister is the de facto mayor for all cities in his/her State and municipal corporations have responsibility without authority. Elected representatives have visibility without power. Important functions remain scattered across development authorities, municipal corporations, public works departments, water boards, transport agencies and numerous specialised bodies.

A flooded road belongs to one agency, a drain to another, land to a third and enforcement to a fourth. Citizens, meanwhile, simply see government. This fragmentation has created a dangerous accountability vacuum.

Fix governance first

The answer therefore is not another scheme. Indian cities are already overflowing with schemes, missions, projects and programmes. Every few years a new initiative comes up with a new acronym and fresh funding. The problem is not the absence of schemes, but the absence of governance. A number of well-meaning schemes lie buried under corruption and mismanagement. Cities require empowered local institutions, professional urban management, clear accountability and fearless enforcement. Technology must become an instrument of compliance rather than a showcase of modernisation. Most importantly, governments must find the political courage to dismantle entrenched systems of tolerated illegality. Officers, the enforcers, look away fearing a clash with political vested interests.

The victims of Lucknow and Delhi fires did not die because India lacks fire safety laws. They died despite those laws. That is the distinction policymakers must understand. Urban governance is ultimately measured not by the number of projects inaugurated, smart-city dashboards installed or schemes announced, but by the number of tragedies prevented. The real test of governance is whether an ordinary citizen can work, live, study, shop or sleep in a building without fear of dying because somebody chose to ignore the rules.

Will this tragedy become yet another file, another enquiry and another forgotten headline? Or will it finally compel us to confront the uncomfortable truth that India's cities are not merely growing beyond their capacity but are increasingly failing the very citizens they were meant to serve?

GS Paper III: Disaster Management

UPSC Mains Exam Practice Questions: Urban fire disasters in India are largely governance failures rather than technological failures. Discuss. (**10Marks, 150 Words)**

Context :A devastating commercial building fire in Aliganj, Lucknow—where 15 individuals lost their lives trapped behind smoke-filled corridors and unauthorized structures—serves as a stark reminder of India's urban safety crisis. This tragedy, alongside recent major fires in Delhi, Bhiwadi, and Virudhunagar, highlights systemic regulatory breakdown rather than isolated accidents.

While India advances technologically and economically, its rapid urbanization remains severely compromised by illegal constructions, unbridled commercialization of residential zones, political patronage, and an accountability vacuum across municipal governance.

Magnitude & Context of Urban Fire Hazards in India

- **High Annual Fatality Rates:** Historical data trends indicate that India records approximately 13,000 to 15,000 fire-related deaths annually.
- **Extreme Weather Vulnerability:** The escalating frequency of extreme heatwaves during summer triggers electrical overloading and short circuits, significantly elevating urban fire risks.
- **Pervasive Illegal Conversions:**Unauthorised commercial operations inside residential buildings—often featuring pigeonhole workstations, lack of emergency exits, and highly combustible storage—convert urban spaces into active death traps.

Root Causes of Repeated Urban Disasters

- **Institutionalized Political Patronage & Corruption:** Enforcement notices issued by municipal authorities are frequently withdrawn or stayed under political influence, fostering a culture of impunity where field enforcers regularly overlook blatant building code violations.
- **Conflict of Interest in Probes:** Special Investigation Teams (SITs) and executive inquiries are typically composed of senior bureaucrats overseeing other bureaucrats in a closed loop, rarely assigning political or administrative liability to decision-makers.
- **Tolerated Illegality:** Urban municipal enforcement often turns a blind eye to illegal firecracker units, unapproved basement conversions, and unpermitted bed-and-breakfasts due to local vote-bank dynamics and informal economic dependencies.
- **Inquiry Fatigue & Symbolic Action:** Crisis management routinely follows a predictable pattern—public outrage, superficial arrests, high-level committees, and news headlines—without leading to long-term structural reforms or sustained enforcement.

Fundamental Bottlenecks in Urban Governance

- **Institutional Fragmentation:** Urban administration is divided across disconnected agencies—Municipal Corporations, Urban Development Authorities, Public Works Departments (PWD), Water Boards, and Fire Services. This creates a severe accountability vacuum where responsibility is constantly shifted between bodies.
- **Unrealized 74th Constitutional Amendment:** Although the 74th Amendment Act (1992) aimed to empower Urban Local Bodies (ULBs), municipal corporations remain financially dependent and administratively subordinate to State-level executive departments.
- **Responsibility Without Authority:** Elected mayors and city councils often possess public visibility without real executive power, while state-appointed bureaucrats and Chief Ministers exercise de facto administrative control.

Related Static Dimensions

A. Statutory & Constitutional Framework

- **74th Constitutional Amendment Act, 1992:** Mandates the devolution of 18 functional items listed in the Twelfth Schedule (including urban planning, regulation of land use, and fire services) to ULBs.
- **National Building Code (NBC) of India 2016:** Standardized code published by the Bureau of Indian Standards (BIS) detailing fire and life safety requirements, exit dimensions, and structural design standards.
- **Disaster Management Act, 2005:** Provides the legal framework for hazard mitigation, assigning local authorities the mandate to formulate safety and emergency response plans.

B. Institutional & Regulatory Guidelines

- **NDMA Guidelines on Fire Services (2012):** Emphasizes modernizing urban fire departments, conducting periodic third-party safety audits, and enforcing strict occupancy certifications.
- **Fire Safety Clearance Mechanisms:** Mandatory Fire No-Objection Certificates (NOC) required under local municipal acts for commercial and high-rise structures.

The Technology vs. Governance Implementation Gap

India possesses advanced urban monitoring tools—such as satellite imagery, Geographic Information Systems (GIS), drone mapping, AI anomaly detection, and digital property databases. However, these tools remain underutilized because the core bottleneck is an absence of political and administrative will rather than a lack of technological capability.

Key Policy Recommendations & Way Forward

- **Fix Accountabilities at the Top:** Hold heads of Development Authorities, Municipal Commissioners, and Urban Development Ministers directly accountable for persistent safety violations within their jurisdictions.
- **Empower Urban Local Bodies (ULBs):** Fully implement the 12th Schedule of the 74th Amendment by granting genuine administrative authority, financial autonomy, and unified operational control over urban safety to city mayors and municipal councils.
- **Unified Single-Window Enforcement:** Eliminate inter-agency overlap by creating a single, unified urban safety authority responsible for structural inspections, land-use compliance, and fire clearance issuing.
- **Automate Violation Detection via Tech:** Mandate the integration of real-time GIS mapping and AI drone surveillance directly with public dashboards to flag unauthorized construction and auto-generate non-discretionary legal notices.
- **Independent Fire Safety Audits:** Establish third-party, non-governmental safety auditing agencies whose clearances are mandatory for utility connections (electricity, water, gas) in commercial establishments.

Conclusion

The fatal fires in Lucknow and Delhi demonstrate that Indian citizens are not dying from a lack of safety laws, but from an institutional failure to enforce them. The ultimate test of urban governance lies not in smart city dashboards or infrastructure projects, but in guaranteeing that citizens can live and work without fear of preventable urban disasters. Fixing urban governance requires dismantling systems of tolerated illegality, empowering local institutions, and replacing administrative deflection with direct political and executive accountability.