

The Hindu Important News Articles & Editorial For UPSC CSE

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In April 2026, India's retail inflation, measured by the Consumer Price Index (CPI), accelerated to a 13-month high of 3.5%. While this figure remains comfortably within the Reserve Bank of India's (RBI) tolerance band of 2% to 6%, the upward trajectory—driven by food and service costs—signals emerging supply-side pressures. Notably, this data is the first to reflect the full monthly impact following the escalation of the conflict in West Asia, highlighting the link between global geopolitics and domestic price stability.

Pricey food, dining out push retail inflation to a 13-month high of 3.5%

T.C.A. Sharad Raghavan
 NEW DELHI

Retail inflation quickened to a 13-month high of 3.5% in April 2026, although still coming in lower than what was expected by most economists. The price rise was largely driven by higher food inflation as well as higher prices at restaurants as they passed on higher fuel prices to consumers.

Data on the Consumer Price Index (CPI) for April showed that inflation quickened from the 3.4% registered in March, the first month following the start of the war in West Asia.

"The April inflation reading came in softer than expectations," Upas-

Price pressures

Retail inflation continued its accelerating trend in April 2026, with food and restaurant costs driving the uptick



na Bhardwaj, chief economist at Kotak Mahindra Bank said, a sentiment echoed by Madan Sabnavis, chief economist at the Bank of Baroda as well as Rajni Thakur, chief economist at L&T Finance.

"However, the outlook remains clouded with upside risks amid supply side

disruptions from geopolitics and El Nino," Ms. Bhardwaj said.

Inflation in the food and beverages category climbed to 4% in April from 3.7% in March.

Simultaneously, inflation in the restaurant and accommodation services sector quickened sharply

to 4.2% in April from 2.9% in the previous month.

Ease in transport

Notably, inflation in the transport sector stood at -0.01% in April as compared to 0% in the previous month.

This, according to Ms. Thakur, was more because of the passenger transport services sector rather than the price at which goods were transported.

"While food prices have nudged higher by around 30 basis points, overall transportation prices have actually eased," Ms. Thakur said. "This is largely on account of easing prices for the services sector, while prices of transport of goods have increased by 7.6% in the month."

Key Highlights of the Inflation Data

1. Drivers of the Surge

- **Food and Beverages:** Inflation in this category rose to **4%** from 3.7% in March. Perishable items like tomatoes (up 35%) were major contributors, though some staples like onions and potatoes remained in deflation.
- **Service Sector (Dining & Accommodation):** Restaurant prices jumped to **4.2%** (from 2.9%). This "pass-through" effect occurs when businesses transfer higher input costs (like commercial fuel and raw materials) to the end consumer.

2. The Transport Divergence

- **Headline Transport Inflation:** Stood at **-0.01%**, appearing stable at first glance.
- **The Internal Shift:** This stability is deceptive. While **passenger transport services** (like bus/rail fares) eased, the **cost of transporting goods** surged by **7.6%**. This suggests that while people are traveling cheaper, the "freight cost" of moving essential commodities is rising, which usually precedes a wider price hike in the coming months.

3. New CPI Base Year (2024)

- It is vital to note that as of January 2026, India transitioned to a **new CPI base year (2024=100)**.
- The weightage of **Food and Beverages** has been reduced (from ~45.8% to ~36.7%), while the share of **Services and Housing** has increased, reflecting modern consumption patterns.

PSC Analysis: Major Challenges & Risks

A. Supply-Side vs. Monetary Policy

The current inflation is primarily **supply-driven** (geopolitics and weather) rather than demand-driven. The RBI's Monetary Policy Committee (MPC) faces a dilemma: raising interest rates (Hawkish stance) may not fix a supply shortage caused by a war in West Asia or a bad monsoon, but it might be necessary to prevent inflation from becoming "entrenched."

B. The "El Niño" & Geopolitical Threat

- **Geopolitics:** The war in West Asia has disrupted shipping routes and increased crude oil volatility. Even if domestic fuel prices are managed, the "freight cost" surge (7.6%) acts as a hidden tax on all goods.
- **Climate Risks:** Forecasts of an **El Niño** year threaten the Kharif crop cycle. If the monsoon is deficient, food inflation (already at 4%) could breach the RBI's 6% upper limit.

C. Impact on the Common Man

Inflation at 3.5% might look statistically low, but the high concentration in **Food and Dining** disproportionately affects the poor and the middle class, as a larger share of their disposable income is spent on these "essential" and "semi-essential" categories.

Conclusion

The April 2026 inflation reading is a "yellow flag" for the Indian economy. While the headline number is still below the RBI's **4% medium-term target**, the underlying pressure in food and logistics is significant. Moving forward, the government's ability to manage supply chains and the RBI's precision in liquidity management will be tested by the dual headwinds of a volatile West Asia and an unpredictable monsoon. For a "Viksit Bharat," maintaining price stability amidst global chaos remains the primary macroeconomic challenge.

UPSC Prelims Exam Practice Question

Ques: Which of the following best explains the term "pass-through effect" in inflation economics?

- (a) Reduction in taxes leading to lower consumer prices
- (b) Transfer of subsidy benefits directly to consumers
- (c) Transfer of increased input costs by producers to consumers
- (d) Increase in exports due to currency depreciation

Ans : c)

UPSC Mains Exam Practice Question

Ques: Distinguish between demand-pull inflation and cost-push inflation. Why does supply-side inflation pose a policy dilemma for the Reserve Bank of India? **(150 Words)**



The decision by Chinese Foreign Minister Wang Yi to skip the BRICS Foreign Ministers' meeting in New Delhi (May 14–15, 2026) highlights the competing diplomatic priorities of major powers. While Beijing officially cites "scheduling conflicts" due to a high-profile visit by U.S. President Donald Trump, the move underscores the delicate state of India-China bilateral relations and the internal frictions currently testing the BRICS+ expansion.

China's Foreign Minister set to skip BRICS meet in Delhi

Beijing cites 'scheduling reasons' and states that Chinese Ambassador to India Xu Feihong will be present; it expresses readiness to work with all BRICS members to support India as the Chair

Ananth Krishnan
BEIJING

There will be no high-level representation from Beijing at Thursday's meeting of BRICS Foreign Ministers in New Delhi because of "scheduling reasons", the Chinese Foreign Ministry said on Tuesday.

The May 14-15 meeting coincides with the visit to China by U.S. President Donald Trump, who lands in the Chinese capital on Wednesday. Foreign Minister Wang Yi will be in Beijing for Mr. Trump's visit. China will not be sending any other high-level official for the meeting, the Foreign Ministry indicated.

"Due to scheduling reasons, Chinese Ambassador to India Xu Feihong will represent Foreign Minister Wang Yi at this Foreign Ministers' Meeting," the Foreign Ministry said, adding that "China attaches great importance to and actively



External Affairs Minister S. Jaishankar with Chinese Foreign Minister Wang Yi in Beijing on July 14, 2025. AP

participates in BRICS cooperation, and is always committed to deepening the BRICS strategic partnership and consolidating the positive momentum of unity and cooperation among BRICS countries."

"We stand ready to work with all BRICS members to support India, as the Chair, in successfully hosting the BRICS Foreign Ministers' Meeting and promoting the high-quality development

of 'BRICS Plus' cooperation," the statement said.

Spokesperson of the Ministry of External Affairs Randhir Jaiswal said on Tuesday at a weekly press briefing that the meeting scheduled for May 14-15 will be chaired by External Affairs Minister S. Jaishankar. Visiting Foreign Ministers and heads of delegations from member and partner countries, including Russian Foreign Minister Ser-

gey Lavrov and Iranian Foreign Minister Abbas Araghchi, will also call on Prime Minister Narendra Modi. "The discussions will focus on pressing global and regional issues of mutual concern among member states of BRICS," Mr. Jaiswal said, adding that the second day would see discussions on reviewing the group's evolution and future direction, and reforms of global governance and the multilateral system. The gathering this week takes place against the backdrop of the crisis in West Asia and divisions within the grouping, leading to doubts over whether the meeting will yield a joint statement. A meeting in New Delhi last month of Deputy Foreign Ministers and Special Envoys of the 11-nation BRICS grouping ended without a joint statement, as delegates from the United Arab Emirates and Iran sparred over the war in West Asia.

Analysis of Key Themes

1. The "Scheduling Conflict" and Strategic Signaling

- **The U.S.-China Factor:** Foreign Minister Wang Yi's presence in Beijing for President Trump's visit suggests that China currently prioritizes stabilizing its relationship with the U.S. over multilateral participation in India.
- **Level of Representation:** By sending Ambassador **Xu Feihong** instead of a high-ranking official from Beijing, China is maintaining its presence without lending the meeting the "diplomatic weight" usually associated with Foreign Minister-level talks.

2. Internal Friction within BRICS+

The grouping, which expanded recently to 11 nations (including Iran, UAE, Ethiopia, and Egypt), is facing growing pains:

- **The West Asia Crisis:** Deep divisions exist regarding the conflict in West Asia. The failure to produce a joint statement at the previous Deputy Foreign Ministers' meeting due to UAE-Iran sparring indicates that "consensus" is becoming harder to reach.
- **BRICS Plus Cooperation:** While China expressed verbal support for India's chairmanship and "high-quality development" of BRICS Plus, the lack of ministerial representation signals a more cautious approach to India-led initiatives.

3. India's Role as Chair

Despite the absence of Wang Yi, India remains at the center of the "Global South" discourse:

- **Multilateral Leadership:** EAM S. Jaishankar is steering discussions on **reforms of global governance** and the **multilateral system**, pushing the agenda that the UN and other bodies need to reflect modern realities.
- **Bilateral Engagement:** High-level meetings between PM Modi and leaders like Russia's **Sergey Lavrov** and Iran's **Abbas Araghchi** ensure that India remains a primary bridge between traditional powers and the emerging economies of the Middle East.

UPSC Relevant Concepts

Concept	Significance in this Context
BRICS+ Expansion	Testing whether the group can remain a cohesive economic bloc or if it will become a forum for bilateral disputes (e.g., Iran vs. UAE).
Strategic Autonomy	India's ability to host Russian and Iranian ministers while maintaining ties with the West and managing a cold relationship with China.
Global Governance Reform	A core BRICS objective aimed at reducing the dominance of Western-led institutions (IMF, World Bank).

Challenges & Outlook

- **The Joint Statement Hurdle:** The primary challenge for Indian diplomacy this week will be navigating the West Asia crisis to produce a **Joint Communiqué**. A failure to do so for a second consecutive meeting would raise questions about the grouping's efficacy.
- **India-China Relations:** The absence of Wang Yi limits the opportunity for a "sideline" meeting to discuss the ongoing border tensions (LAC), suggesting that a breakthrough in bilateral ties remains distant.

Conclusion

The 2026 BRICS Foreign Ministers' meeting is a litmus test for the grouping's ability to function as a unified voice for the Global South amidst internal discord and external geopolitical shifts. For India, the challenge lies in ensuring that BRICS remains an effective platform for economic and institutional reform, rather than a casualty of the "scheduling reasons" and political disagreements of its most powerful members.

UPSC Mains Exam Practice Question

Ques: "The expansion of BRICS+ has increased its geopolitical relevance but also intensified internal contradictions." Critically examine. (150 Words)



The India Meteorological Department (IMD) has launched a pioneering "block-level" monsoon forecast model, covering approximately 3,200 blocks across 15 states. By transitioning from district-level to block-level (1-km resolution in some areas), the IMD aims to bridge the "last-mile" gap in agricultural planning. This system is designed to provide farmers with actionable intelligence to navigate the challenges of a "below normal" monsoon predicted for 2026 due to the **El Niño** phenomenon.

IMD unveils 'block-level' monsoon forecast model

It has been a long-standing aim of IMD to provide hyper local forecasts to help farmers time their sowing precisely; however, the system might face a formidable test this year in light of El Nino

Jacob Koshy
NEW DELHI

Ahead of the monsoon, the India Meteorological Department (IMD) on Tuesday unveiled a new forecast system that will, for the first time, generate "block-level" forecasts of the season's arrival over 15 States. The system comprises about half of India's roughly 7,200-odd blocks.

Historically, such estimates are available, at best, over States or at the level of districts. For instance, it is known that the monsoon arrives in Mumbai around June 10 and in Delhi, around June 29. However, the inherent variation of the monsoon is such that even within a district, several blocks and villages remain rainless despite the monsoon having officially "arrived" in the district.

It has been a long-standing aim of the IMD to provide hyper-local forecasts to address this shortcoming to enable farmers to time their sowing precisely. At the new system's core are two forecasting models whose predictions are "blended" to sharpen ac-



At the new system's core are two weather forecasting models whose predictions are blended to sharpen accuracy. C. VENKATACHALAPATHY

curacy. From the date of the monsoon's onset in Kerala, it can use AI-based analysis, the IMD's trove of nearly a century of detailed meteorological data and global weather models, to give the monsoon's itinerary with unprecedented granularity, Science Minister Jitendra Singh said at a press briefing.

Forecasts for 4 weeks

This was a system specifically developed at the request of the Ministry of Agriculture and Farmers' Welfare, whose existing advisory system is built to deliver forecasts in a roughly weekly format. The blend-

ing framework, developed by the Indian Institute of Tropical Meteorology, a research institute of the Ministry of Earth Sciences, is designed to feed directly into the Ministry's pipeline and issue probabilistic forecasts for four weeks.

Currently, this system can be used to provide forecasts to 3,196 blocks across 15 States and one Union Territory. Two trial runs have already been completed successfully, according to a press statement. "These States are part of the monsoon core zone, which are the regions that are largely rainfed and are most sensitive to southwest monsoon

dynamics," M. Ravichandran, Secretary to the Ministry, said at a press briefing. "Of course, going ahead we aim to extend this all over India but that requires more observational data."

Mr. Ravichandran told *The Hindu* that the system would face a formidable test this year given that the IMD and global models were expecting "below normal" rainfall in light of a developing El Niño – frequently causing weak monsoon rain in India – from July.

On Tuesday, the IMD launched a monsoon forecast model specifically for Uttar Pradesh with a 1-km resolution (indicative of granularity) that is valid for 10 days. This, Mr. Singh said, was because of a very extensive coverage of automatic weather stations in the State that allowed a weather model called Mithuna (which works at a 12.5-km resolution) to be "downscaled" to 1 km.

"We are encouraging other States to share their data with us that will allow their forecasts to be generated with higher resolution," Mr. Ravichandran added.

Technical Breakdown: How it Works

1. The Blending Framework

Developed by the **Indian Institute of Tropical Meteorology (IITM)**, the system uses a "blending" technique:

- **Data Fusion:** It combines AI-based analysis with a century's worth of historical meteorological data.

- **Model Downscaling:** It takes the **Mithuna model** (12.5-km resolution) and "downscales" it to higher resolutions. In **Uttar Pradesh**, this has reached a granular **1-km resolution** due to a dense network of automatic weather stations.

2. Probabilistic Forecasting

Unlike traditional "all-or-nothing" forecasts, this system provides **probabilistic forecasts for four weeks**. This helps the Ministry of Agriculture issue precise advisories for:

- **Sowing Windows:** When to plant seeds based on specific arrival dates in a block.
- **Irrigation Management:** Planning water use if the block-level forecast shows a "dry spell" despite district-wide rain.

UPSC Analysis: Implications for Agriculture & Economy

A. Precision Agriculture & Food Security

The Indian monsoon is notoriously erratic. A district might be marked as "monsoon arrived," yet specific blocks within it remain dry. Hyper-local data allows for **Precision Agriculture**, reducing the risk of "sowing failure," which is a major cause of rural debt.

B. The El Niño Factor (2026 Context)

The system faces a "trial by fire" this year. El Niño—the warming of the central and eastern Pacific Ocean—is strongly correlated with deficient monsoons in India.

- **Monsoon Core Zone:** The model specifically targets 15 states in the "core zone" that are primarily rainfed. In a year of "below normal" rain, knowing exactly *when* and *where* a light shower will occur can save a crop cycle.

C. Federalism in Science

The model's success depends on **State-Centre cooperation**. The 1-km resolution in Uttar Pradesh was only possible because the state shared its local weather station data. This sets a precedent for **Cooperative Federalism** in disaster and climate mitigation.

Key Comparison: Old vs. New Model

Feature	Traditional District Model	New Block-Level Model
Spatial Resolution	~25 km to 50 km	1 km to 12.5 km
Target Audience	Policy Makers / Regional Planners	Individual Farmers / Block Officers
Primary Data	Satellite & Large Weather Stations	AI-Blended Historical Data + Local Stations
Advisory Nature	General (e.g., "Rain in Lucknow")	Specific (e.g., "Rain in Bakshi Ka Talab block")

Conclusion

The shift to block-level forecasting represents the "**democratization of weather data.**" By providing four-week probabilistic forecasts, the IMD is moving from mere "prediction" to "risk management." However, the ultimate success of this model will depend on how effectively these high-tech alerts are communicated to the farmer on the ground through the **Kisan Suvidha** or local extension services. As climate change increases the frequency of extreme weather events, such "downscaled" models will be the backbone of India's climate resilience strategy.

UPSC Prelims Exam Practice Question

Ques: El Niño is generally associated with which of the following impacts on the Indian monsoon?

- (a) Intensification of monsoon rainfall in all parts of India
- (b) Deficient or below-normal monsoon rainfall
- (c) Complete withdrawal of the southwest monsoon
- (d) Increase in winter rainfall over peninsular India only

Ans :b)

UPSC Mains Exam Practice Question

Ques: Discuss the significance of hyper-local weather forecasting in improving agricultural resilience in India. How can block-level forecasting transform rural risk management?(150 Words)



The Chief Justice of India (CJI) recently unveiled two landmark digital initiatives: 'One Case, One Data' (OCOD) and 'Su-Sahayak'. While these represent a leap toward a "paperless" and efficient judiciary, they bring to the forefront a critical debate: **Can technology enhance the "speed" of justice without compromising the "equity" of justice?**

Analysis of the New Initiatives

1. One Case, One Data (OCOD)

- **Concept:** A unified data platform that creates a single, persistent digital "fingerprint" or trail for a legal dispute as it moves from subordinate courts to the High Courts and the Supreme Court.
- **Benefits:**
 - **Standardization:** Overcomes the fragmented software practices currently used across various districts.
 - **Efficiency:** Reduces manual verification, provides accurate judicial statistics, and identifies "bottlenecks" where cases are stuck for years.
 - **Transparency:** Allows for reciprocal access to records between different levels of the judiciary.

2. Su-Sahayak

- **Concept:** An AI-powered chatbot integrated into the Supreme Court's website.
- **Function:** Assists users in navigating complex legal information, including case status, cause lists, judgments, and e-services. It builds upon previous tools like **SUVAS** (translation) and **SUPACE** (data processing).

UPSC Analysis: Risks and Challenges

A. The Digital Divide & Economic Barrier

The editorial highlights a transition from "physical hurdles" to "digital hurdles":

- **Capital Intensity:** Large law firms can afford the scanners, cloud storage, and high-speed tech required for OCOD. However, **independent practitioners** at the taluka and district levels may be financially sidelined.

Data and justice

As courts adopt AI, care must be taken on the potential for abuse

In the latest step in a long-standing effort to digitise the judiciary, Chief Justice of India (CJI) Surya Kant announced two initiatives from the Bench, called 'One Case, One Data' (OCOD), a unified judicial data platform, and 'Su-Sahayak', an AI-powered chatbot on the Supreme Court of India website. OCOD promises a unified digital trail for a dispute as it moves through various courts, linkages between court records and litigant actions (such as appeals), easier access to various documents, lower need for manual verification, reciprocal access to High Courts and other courts, and more accurate judicial statistics. It is notable considering the wide variation in software practices and records quality across India's thousands of district and subordinate courts. If the programme succeeds, standardised data could also allow administrators to determine where cases are held up and ease procedural bottlenecks, and improve data-based decision-making overall. 'Su-Sahayak' has been integrated into the Court website's front-end to help users navigate case status, cause lists, orders and judgments, e-services, and frequently asked questions. As with any major state-backed technology rollout in India, questions about interoperability, integrity of legacy records, restricting access to private information, and staff skilling remain. By aspiring to a centralised digital fingerprint for each case, OCOD also bears the risk of misuse.

While the CJI said that these new tools will improve "access to justice", their introduction risks deepening the digital divide. OCOD may require lawyers to maintain digital scanners, cloud backup options, and updated software. Metropolitan corporate firms can easily absorb these costs but independent practitioners in the district and taluka levels will lack the capital. The system may also introduce digital middlemen to help litigants who cannot navigate the e-filing portal, potentially creating a new layer of unregulated costs. While the government has launched assistants with voice-first capabilities, such as Jan Sahayak, 'Su-Sahayak' is primarily text-based and could exclude people who are not comfortable typing or navigating complex website menus. The state and the judiciary must ensure that the AI model is not biased against marginalised communities who were historically disproportionately arrested or denied bail. India's courts have generally been more comfortable with AI for assistance than for substantive reasoning. 'Su-Sahayak' follows SUVAS, to translate judgments, and SUPACE, which processes facts and legal precedents. The line must continue to hold as the judiciary adopts more powerful tools that have already tempted practitioners in other domains to abuse them.

- **Digital Middlemen:** Just as "touts" existed for physical paperwork, a new class of unregulated digital middlemen may emerge to help illiterate or tech-illiterate litigants navigate e-filing portals, adding to the cost of justice.

B. AI Bias & Substantive Reasoning

- **Algorithmic Bias:** If AI models are trained on historical data that reflects social biases (e.g., higher arrest rates for certain communities), the AI might "automate" discrimination in matters like bail or sentencing.
- **The "Line of Control":** Indian courts currently use AI for **assistance** (translation, data sorting). The editorial warns against moving toward **substantive reasoning** (letting AI decide cases), as human empathy and constitutional nuance cannot be replicated by code.

C. Data Privacy & Integrity

- **Legacy Records:** Transitioning millions of old, physical files into a "centralized digital fingerprint" risks data corruption or loss of integrity.
- **Privacy:** A centralized platform makes it easier for state or private actors to engage in "judicial profiling" if strict access controls are not implemented.

Evolution of AI in Indian Judiciary

Tool	Purpose
SUVAS	Translates judicial documents and judgments from English into vernacular languages.
SUPACE	An assistant tool to collect and analyze relevant facts and legal precedents.
Su-Sahayak	A front-end AI chatbot for user-friendly navigation of court services.
OCOD	A backend unified data infrastructure for the entire judicial lifecycle.

Conclusion: The Way Forward

The digitisation of the judiciary must not be an end in itself but a means to achieve **Social Justice**. To prevent the "potential for abuse," the state must:

1. **Subsidize Tech:** Provide digital infrastructure support to small-scale lawyers in rural areas.
2. **Voice-First Integration:** Upgrade 'Su-Sahayak' with multi-lingual voice capabilities to include the visually impaired and the non-literate.
3. **Human-in-the-Loop:** Ensure that AI remains a "clerk" and never the "judge," maintaining the sanctity of human judicial reasoning.

The "OCOD" model has the potential to solve the plague of judicial pendency, but only if the "Digital Fingerprint" it creates does not become a tool for surveillance or exclusion.

UPSC Prelims Exam Practice Question

Ques: Which of the following best explains the term "algorithmic bias"?

- (a) Delay caused by outdated computer systems
- (b) Errors in internet connectivity affecting AI outputs
- (c) Systematic discrimination embedded in AI systems due to biased training data
- (d) Excessive dependence on human judges in digital systems

Ans: c)

UPSC Mains Exam Practice Question

Ques: "Digitisation of the judiciary can improve efficiency, but it may also create new forms of exclusion." Critically examine in the context of recent digital judicial initiatives in India. **(250 Words)**



Page 10 GS III : Disaster Management

The tragic Vivek Vihar fire (May 2024) is a symptom of a larger "silent" crisis: the **non-linear growth of electrical load** in India. As extreme heat drives the installation of millions of air-conditioners (ACs), older buildings wired for simple "fan-and-bulb" loads are failing. With electrical faults accounting for nearly **75–80% of urban fires**, India faces a systemic challenge in forensic analysis, safety standards, and consumer awareness.

Addressing India's electrical fire risks

A pre-dawn fire in Vivek Vihar that killed nine, record electricity demand of 256 GW, and numerous air-conditioners switching on simultaneously, highlight a surge in power consumption and raise concerns over the growing risk of electrical fires in India.

EXPLAINER

Kalyan Mangalapalli

The story so far:

Just after 3.48 a.m. on May 3, 2026, fire tore through a four-storey building in Vivek Vihar, East Delhi, killing nine. The suspected origin is an air-conditioner blast or short circuit. Delhi Fire Service data attributes over 80 per cent of fires in the capital to electrical faults; Mumbai Fire Brigade, analysing 26,855 incidents over five years, attributes nearly three in four to the same cause. These are reported attributions, not forensic findings, the gap matters. The National Crime Records Bureau (NCRB) recorded 7,566 fire accidents and 7,435 deaths in 2022, with electrical short circuit consistently among the largest single causes, but most incidents land in a catch-all 'other' category, meaning electrical causes are likely under-counted. India's electricity demand hit 256.11 GW on April 25, 2026, against air temperatures of 47 degrees, roughly double the early-2010s peak. Cooling already pulls about 50 GW at peak; that could rise to 180 GW by 2035. Indians bought 15.4 million ACs in 2025; the IEA expects the installed base to climb from 93 million units in 2024 to 240 million by 2030. Each new unit is a non-linear load plugged into wiring sized, in older buildings, for fans and bulbs.

The vulnerability of older houses to electrical fires

The Forum for European Electrical Domestic Safety (FEEDS) estimates 132 million obsolete electrical installations across the EU, roughly half the residential stock more than 30 years old and never renovated. The structural problem is the same in any electrifying economy: renovation rates lag behind the build rates of decades past. India appears to lie in the same category of electrical-fire vulnerability as Europe, but its main issue lies less in the age of its housing stock and more in the combination of rapid load growth, low-voltage installation quality, and weak maintenance. A fan-and-bulb circuit installed in 1985 is now expected to carry a 1.5-tonne inverter AC, an induction hob, a geyser, an EV charger and a string of phone chargers. None of these existed when the wires were sized.

The risks posed by air-conditioners

Air-conditioners concentrate every risk mentioned above. They are the largest non-linear load most homes will ever own; start-up current can be six to eight times running current; and they are wired into circuits often shared with other heavy appliances.

There is a second, slower problem: harmonics. Every inverter-driven AC, like every UPS, LED driver, MRI and EV charger, draws current in jagged pulses that inject distortion at multiples of 50 Hz. In three-phase buildings, certain harmonic orders add up in the neutral conductor, a wire never sized to be load-bearing, and quietly heat it. Supporting studies found that high inverter density on Delhi and West Bengal low-voltage networks raised voltage and current harmonic distortion beyond IEEE 519-2014 limits, while a hospital study in Dharwad recorded unbalanced load, non-zero neutral current, and THD above IEEE-519 guidance. Add a loose joint and you have an ignition source against insulation.



Tragic aftermath: A four-storey building in Vivek Vihar, where at least nine people died and two others were injured in a fire that broke out on May 3, 2026. SHIV KUMAR PUSHPAKAR

The causes of an electrical fire

Electrical fire is a category, not a cause. A peer-reviewed 2025 review in *Fire* identifies six recurring failure modes: short circuits, overloads, loose or oxidised connections, series and parallel arc faults, ground faults, and equipment ageing. Behind each lies a small set of root causes: counterfeit wire and breakers, undersized circuits for new loads, missed maintenance, poor switchboard terminations, and harmonic distortion that overheats neutrals in three-phase building connections. A loose connection at a socket or breaker terminal is the most common ignition point in U.S. residential electrical fires; it produces a hot spot that burns insulation over months before anything visible happens. India's SUM Hospital (2016) and AMRI Hospital (2011) fires, which together killed 117, both began with electrical short circuits.

Prevention and periodic inspections

Japan made periodic inspection of every domestic electrical installation, every four years, mandatory in the early 1950s; South Korea followed in the 1970s. Recorded fire counts in both countries fell by close to 90 per cent. The EU 2024 Energy Performance of Buildings Directive, in Recital 36, recognises heat pumps, solar photovoltaics, batteries and EV chargers as fire-safety risks.

Lessons for Indian electrical safety standards

The Bureau of Indian Standards publishes SP 30:2023 (National Electrical Code of India 2023). NBC 2016 Part 4 covers fire and life safety, and Indian electrical installations often require contractor

completion and inspectorate approval before energisation; in most EU countries, the utilities typically require an inspection report even before meter connection.

Arc-fault circuit interrupters (AFCI) or arc-fault detection devices are designed to detect hazardous electrical arcs and prevent residential fires by interrupting power before the arcing circuit ignites. Though mandatory in U.S. dwellings since 1999, these devices are essentially absent from Indian residences.

While some specialised industrial or high-end retail channels may offer AFCI-related devices, they are not generally mandated for Indian residences by local building or electrical codes in the same prescriptive manner as in North America. FEEDS notes lower-income tenants are systematically the most exposed, because rented apartment stock is more likely to be older.

Shortage of forensic analysis

The Fire and Security Association of India highlighting a 90% shortage of fire infrastructure points to a systemic capacity problem. Overall, India faces a severe shortage of fire-forensic engineers and a heavy reliance on provisional explanations rather than detailed root-cause analysis, even in major incidents.

Safeguards against electrical fires

In the U.S., the plug-in Ting sensor from Whisker Labs samples voltage 30 million times a second and alerts the homeowner when it detects micro-arcing, that can lead to electrical fires. It is in over a million U.S. homes, distributed free to policyholders by insurers including State Farm and Nationwide, who underwrite its

claim of preventing four in five qualifying electrical fires.

The technology is not the bottleneck; the Indian retail and insurance ecosystem is. There is no consumer-priced equivalent on sale in India, and no certification regime telling a buyer in Chennai which IoT energy meter on Amazon India measures harmonics.

An educated consumer's honest options today: insist on ISI-marked wiring, breakers and stabilisers; never run an AC on a shared, undersized circuit; have a thermography scan of the main panel every two to three years; service ACs annually; and treat any flicker or burning smell as a service call.

Potential measures to address fire safety gaps

First, tie IEEE 519-style harmonic compliance and basic power-quality monitoring to building approvals for hospitals, commercial premises, data centres and EV-charging hubs.

Second, introduce a periodic inspection regime for existing installations, on the Japan-Korea/EU model, triggered by major load additions: rooftop solar, EV chargers, battery storage.

Third, build a published forensic chain after major electrical fires, on the MAIB/NTSB model. Fourth, fix the data: a harmonised dataset across DFS, MFB, NCRB and BIS.

As tens of millions of new ACs switch on to combat 47-degree summers, the gap shall be tested again. The hum is already there. The only choice is whether India listens to it before, or after, the spark. (Kalyan Mangalapalli is an Energy and Emerging Technologies expert.)

THE GIST

Delhi Fire Service data attributes over 80 per cent of fires in the capital to electrical faults, with rapid load growth, poor installation quality, and weak maintenance increasing fire risks.

Air-conditioners are among the heaviest electrical loads in homes, with start-up currents several times higher than running current, and are often wired into circuits shared with other heavy appliances.

ISI-marked electrical equipment, dedicated AC circuits, periodic thermography scans, annual servicing, and immediate attention to flickering or burning smells can help prevent electrical fires.

The Anatomy of an Electrical Fire Risk

1. The "AC Factor": Non-Linear Loads

Air conditioners are not just heavy loads; they are complex ones.

- **Startup Surge:** An AC's startup current can be **6 to 8 times** its running current, causing instant stress on old wires.
- **Harmonic Distortion:** Modern inverter ACs draw current in "jagged pulses." In three-phase buildings, these pulses create **harmonics** that accumulate in the **neutral wire**. Since neutral wires are historically thinner than phase wires, they overheat silently behind walls, creating an invisible ignition source.

2. The Maintenance Gap

Unlike Japan or South Korea, where domestic electrical inspections are mandatory every four years, India lacks a **periodic inspection regime**.

- **Legacy Wiring:** A circuit installed in the 1980s is now expected to power ACs, induction hobs, and EV chargers—none of which were accounted for during original construction.
- **Loose Connections:** A loose wire at a breaker or socket creates "micro-arcing," which generates localized heat over months, eventually charring the insulation.

Comparative Global Safety Standards

Feature	India	USA / EU / Japan
Mandatory Inspection	Generally only at first connection.	Mandatory periodic checks (e.g., every 4 years in Japan).
Arc-Fault Circuit Interrupters (AFCI)	Essentially absent in residential use.	Mandatory in U.S. dwellings since 1999.
Smart Monitoring	Lack of consumer-priced IoT sensors.	Insurer-provided sensors (e.g., Ting) used in millions of homes.
Forensic Analysis	High reliance on "provisional" causes.	Robust forensic chain (NTSB/MAIB model) for root-cause analysis.

UPSC Analysis: Policy & Structural Gaps

A. Infrastructure & Forensic Deficit

The **96% shortage** in fire infrastructure and the lack of forensic engineers mean that "short circuit" becomes a catch-all term for incidents that are never truly understood. Without root-cause analysis, building codes cannot be updated effectively.

B. The "Digital-Physical" Bottleneck

While the **National Electrical Code of India (2023)** exists, its implementation at the residential level is weak. Furthermore, there is no certification regime to help Indian consumers identify which "Smart Meters" or "Stabilizers" actually monitor harmonics or provide arc-fault protection.

C. Socio-Economic Vulnerability

Lower-income tenants in older, rented apartment stocks are most exposed, as they have the least control over the building's core wiring but the highest need for cooling during 47°C summers.

Proposed Measures for a Safer Grid

1. **Harmonic Compliance:** Mandate **IEEE 519-style** compliance for high-density buildings like hospitals, data centers, and EV hubs.
2. **Triggered Inspections:** Introduce a rule where adding a major load (AC, EV charger, Rooftop Solar) triggers a mandatory safety audit of the existing internal wiring.
3. **Modernizing Protection:** Incentivize the use of **Arc-Fault Detection Devices (AFDDs)** which can cut power before a spark turns into a flame.
4. **Data Harmonization:** Create a unified dataset across the Delhi Fire Service (DFS), National Crime Records Bureau (NCRB), and Bureau of Indian Standards (BIS) to accurately track and prevent fire causes.

Conclusion

India's electrical safety cannot remain a matter of "luck." As we transition to a high-load, EV-driven economy, the **National Building Code** must evolve from passive safety (fire extinguishers) to active prevention (AI sensors and harmonic monitoring). The "hum" of millions of ACs is a warning—the choice is to fix the wires now or face the sparks later.

UPSC Mains Exam Practice Question

Ques: Examine the role of non-linear electrical loads and harmonic distortion in increasing fire risks in urban residential buildings. Suggest suitable policy interventions. **(250 Words)**

Managing coexistence in human-wildlife conflict zones

Human-wildlife conflict (HWC) is often framed as a conservation problem. In reality, it is a complex socio-ecological challenge shaped by land use, livelihoods and ecological change. Across continents, interactions between people and wildlife are becoming more frequent and more intense, not because animals are encroaching on human space alone, but because human activity is rapidly transforming natural habitats.

In India, hundreds of people die each year in encounters with elephants, while large numbers of livestock are lost to predators. Similar patterns are reported in parts of Africa, Southeast Asia and Latin America. These conflicts reflect deeper pressures such as habitat fragmentation, agricultural expansion and changing land use. Where biodiversity overlaps with dense human settlement, conflict becomes almost inevitable.

A reflection of ecological imbalance

Geographically, the most severe conflicts occur in South and Southeast Asia and sub-Saharan Africa. Brazil, India, Indonesia, Kenya and Tanzania face recurring challenges involving elephants, big cats and other large mammals. These species require extensive ranges and seasonal movement corridors. When forests are cleared, roads constructed or farms expanded, these natural pathways are disrupted. Wildlife then adapts, often by moving into agricultural landscapes or peri-urban areas in search of food and shelter.

Importantly, animal behaviour in such contexts is rarely "aggressive" in intent. Crop raiding by elephants or livestock predation by carnivores are adaptive responses to ecological constraints. Monkeys and wild boars exploit easily available food near forest edges, while predators turn to livestock when natural prey declines. These patterns reflect ecological imbalance rather than aberrant animal behaviour.

Global responses to HWC show that coexistence is possible when policy moves beyond reactive measures. In Africa, Botswana and Namibia have implemented



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The approach should be scientifically informed, socially just, and ecologically sustainable

community-based natural resource management systems, where local communities share tourism revenues and gain rights over wildlife use. This aligns conservation goals with economic incentives, reducing hostility toward wildlife. In central America in Costa Rica, ecological corridors are integrated into national planning to maintain habitat connectivity. Finland combines real-time wildlife monitoring with rapid compensation systems, reducing both risk and resentment.

These approaches share three key features: strong local participation, reliable economic support and the use of ecological data for planning; they treat conflict as a shared management issue rather than a law-and-order problem.

The complexities in India

In India, significant efforts have been made to address HWC through compensation schemes, technological interventions and legal frameworks. However, given the scale and complexity of the challenge, there remains scope to further strengthen implementation. Compensation mechanisms, while well-intentioned, can benefit from greater timeliness, enhanced coverage and improved accessibility for marginalised communities. Similarly, measures such as solar fencing and early-warning systems have shown context-specific success, but their effectiveness depends on better coordination and ecological planning.

At the policy level, India's legal framework has played a crucial role in wildlife conservation. Going forward, there is scope to better align these frameworks with the evolving realities of human-wildlife interfaces. As land-use patterns and ecological pressures change, adaptive, locally responsive governance approaches can help strengthen coexistence outcomes.

There is a need to carefully assess the practicality and long-term effectiveness of proposed interventions. Suggestions such as fertility control in wild elephants have

occasionally entered public debate; however, experts note that such measures have limited applicability beyond small, intensively managed populations. In the Indian context, where elephants range across vast and fragmented landscapes, the key challenge remains habitat loss, increasing competition for food and water, and growing human-wildlife interface. Therefore, lasting solutions must focus on habitat restoration, ecological connectivity, and community-based conflict mitigation rather than isolated technical fixes.

Evidence from Bhutan and Nepal shows that locally grounded solutions can reduce conflict. Community-managed forests, coordinated grazing and predator-proof livestock enclosures have shown positive results, supported by stable conservation funding mechanisms.

Focus on education and awareness

Climate change is likely to intensify HWC by altering resource availability and forcing both humans and wildlife to adapt. This adds urgency to the need for a shift in perspective. Wildlife cannot be treated as an external threat to be controlled, nor can human livelihoods be side-lined in the name of conservation.

The way forward lies in designing landscapes that accommodate both. This includes securing wildlife corridors, improving land-use planning, strengthening compensation systems, and involving communities as active partners in conservation. Education and awareness can also play a role in rebuilding tolerance and understanding.

HWC is not an anomaly. It is a predictable outcome of how we use land and resources. The challenge is not to eliminate conflict entirely, but to manage it in ways that are scientifically informed, socially just and ecologically sustainable. If approached thoughtfully, coexistence is not only possible, but it is also essential for the future of both people and wildlife.

The views expressed are personal

GS Paper III: Environment

UPSC Mains Exam Practice Question: "Human-wildlife conflict is fundamentally a crisis of habitat fragmentation rather than animal aggression." Discuss with suitable examples from India. (250 Words)

Context : Human-Wildlife Conflict is no longer just a conservation problem; it is a predictable outcome of **rapidly transforming natural habitats**. As human activities—agriculture, infrastructure, and urban sprawl—encroach on seasonal corridors, wildlife is forced to adapt. This adaptation, often viewed as "aggression," is actually a biological response to **habitat fragmentation** and resource scarcity.

The Global & Indian Landscape of Conflict

1. Geography of Conflict

The most intense interactions occur where biodiversity hotspots overlap with high human density.

- **India:** Challenges involve elephants (crop raiding) and big cats (livestock predation).
- **Global Parallels:** Brazil, Indonesia, Kenya, and Tanzania face similar issues due to the extensive range requirements of large mammals.

2. Ecological Imbalance vs. Animal Behaviour

The article clarifies that animals aren't "encroaching" by choice.

- **Adaptation:** Elephants raid crops because their natural corridors are blocked by farms or highways.
- **Prey Depletion:** Predators turn to livestock only when natural prey populations in forests decline.
- **Resource Competition:** Wild boars and monkeys exploit forest edges where human food is easily accessible.

Lessons from Global Best Practices

Country	Strategy	Key Outcome
Botswana & Namibia	Community-based natural resource management.	Revenue sharing from tourism reduces local hostility.
Costa Rica	Ecological corridors in national planning.	Maintains habitat connectivity as a policy priority.
Finland	Real-time monitoring + Rapid compensation.	Reduces both physical risk and economic resentment.
Bhutan & Nepal	Community-managed forests & predator-proof enclosures.	Proven reduction in livestock loss through local participation.

UPSC Analysis: The Indian Context & Policy Gaps

A. Limitations of Technical Fixes

The author critiques "isolated technical fixes" like **elephant fertility control**. While popular in public debate, experts argue these are impractical for India's vast, uncontained elephant populations. The root cause—**habitat loss**—remains unaddressed by such measures.

B. Strengthening Compensation & Governance

While India has robust legal frameworks (Wildlife Protection Act, 1972), the implementation needs:

- **Timeliness:** Delays in compensation for crop loss or death fuel local anger against the Forest Department.
- **Accessibility:** Marginalized communities often find it difficult to navigate the bureaucracy required to claim damages.
- **Adaptive Governance:** Moving away from a "top-down" approach to one that involves local communities as **active partners** rather than just victims.

C. The Climate Change Multiplier

Climate change acts as a **threat multiplier**. Altered rainfall patterns and drying water holes in forests force animals to move toward human settlements earlier in the season, intensifying the frequency of encounters.

The Way Forward: Designing Shared Landscapes

The article argues for a shift from "conflict elimination" to "**conflict management**" through:

1. **Ecological Connectivity:** Identifying and legally protecting wildlife corridors to allow seasonal movement.
2. **Land-Use Planning:** Ensuring that infrastructure (roads/railways) includes eco-bridges and underpasses.
3. **Participatory Conservation:** Integrating local livelihoods with conservation goals (e.g., eco-tourism or sustainable forest produce).
4. **Education:** Rebuilding the traditional Indian ethos of tolerance through awareness programs.

Conclusion

Human-wildlife coexistence is not a luxury but a necessity for ecological sustainability. As Prof. Kumar notes, the goal is a landscape that is **scientifically informed, socially just, and ecologically sustainable**. In the era of the Anthropocene, the survival of the elephant and the farmer are intrinsically linked to how we manage the space between them.