

EDITORIAL HIGHLIGHTS

02-09-2026

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Mother runs marathon barefoot to help fund daughters' education

The Hindu Bureau
MUMBAI

A 47-year-old mother, who works as a cook, won a marathon in Ambajogai region of Maharashtra's Beed district to help fund her two daughters' education.

The video of her feat went viral, where she was seen running in a saree, barefoot, holding her sandals in her hand.

The woman was identified as Ramabai Ranveer, a native of Beed in the Marathawada region. She has been the sole breadwinner of her family since her husband's death.

"I wanted to win. That is all I had on my mind. I will buy books and fulfil other



Ramabai Ranveer taking part in the marathon in Maharashtra's Beed. SPECIAL ARRANGEMENT

needs of my children. I run every day for my children's future...today I ran for myself and the kids," said Ramabai.

The marathon was organised on August 29 from Chhatrapati Shivaji Maharaj Chowk to Bhagyanagar Chowk, a distance of around 3 km.

GS 2: POLITY THE HINDU PAGE: 04

Over 7,200 CBI cases under Prevention of Corruption Act pending trial, says CVC report

The Hindu Bureau
NEW DELHI

Over 7,200 cases probed by the Central Bureau of Investigation (CBI) under the Prevention of Corruption (PC) Act were pending trial as on December 31, 2025. Of these, more than 400 cases were pending for over 20 years, according to the annual report of the Central Vigilance Commission (CVC).

Apart from the 7,229 cases under the Prevention of Corruption (PC) Act awaiting completion of trials, there were 14,083 appeals, revisions, and writ petitions pending under the Act in the High Courts and the Supreme Court. Of them, 3,161 were 10-15 years old, while 1,347 were 15-20 years old, and 739 were over 20 years old.

In 2025, the conviction rate in CBI cases was 71.71%



14,083 appeals, revisions, and writ pleas under the PC Act are pending in HCs and the SC.

against 69.14% for 2024. At the end of the year, 11,510 court cases (including the cases not registered under the PC Act) were pending under trial in various courts.

Last year, the agency had 755 corruption-related cases pending investigation. They included 679 regular cases, 63 preliminary enquiries, and 13 Lokpal references. Of the 679 regular cases, 274 had been pending for over one year. During the year, the

CBI registered 797 regular cases, 177 preliminary enquiries, and recorded 31 Lokpal references.

1,088 vacancies

As of December 31, 2025, sanctioned strength of the CBI was 7,300. However, there were 1,088 vacant positions. The largest vacancy of 672 posts was in the executive ranks. For officers under CVC jurisdiction, 1,460 departmental inquiries were under process during last year, of which 731 were completed. For employees outside its purview, 9,883 departmental inquiries were under process, of which 5,561 were completed.

As many as 34,153 complaints, besides 1,260 carried forward from 2024, were received by the Commission during 2025. It disposed of 35,193 complaints.

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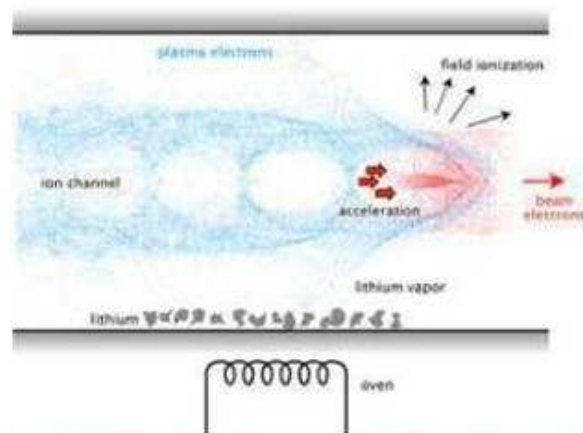
WHAT IS IT?

Wakefield accelerator

Vasudevan Mukunth

When you hear the word 'particle accelerator', you probably think of a giant machine with many complicated parts, and why not? Many of the world's particle accelerators are several hundred metres long. The world's largest science experiment is also an accelerator: the Large Hadron Collider (LHC) in Europe, which uses an assembly of powerful magnets and electric currents to push protons to nearly the speed of light through a 27-kilometre metal tube.

But not all accelerators have to be big. A technology called wakefield accelerator can fit atop a table. Such an accelerator uses a wave of plasma to push charged particles. A plasma is a gas in which some electrons have been pulled out of their atoms, creating a mix of free electrons and positively charged ions. When a laser pulse or beam of charged particles passes through the plasma, it will push the electrons aside. After the pulse or beam has departed, the ions will 'pull' the electrons back. But the electrons will overshoot and then oscillate back and forth, creating a travelling pattern of alternating electric fields. If you inject other electrons into this pattern, at just the right point, they



An illustration of a plasma wakefield accelerator in action. RASMUS ISCHEBECK (CC BY-SA)

can surf the moving electric fields like a surfer on a big ocean wave, drawing energy from the wave itself.

Such wakefield acceleration can produce electric fields that impart more energy to electrons across some small distance than a conventional accelerator might. However, current designs cannot accelerate electrons to more than a few tens of GeV, whereas the LHC can achieve up to three orders of magnitude more.

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The two balance sheets behind every e-waste decision

Every few years, governments and companies replace thousands of computers, servers, networking devices and storage systems. What looks like a routine technology refresh is, in reality, the creation of a valuable mine. Discarded IT equipment contains copper, aluminium, gold, silver, palladium and critical minerals that the world is scrambling to secure. As economies digitise, these growing mountains of electronic waste are among the largest untapped sources of strategic raw materials – and, when poorly handled, hazardous waste. This is the promise of urban mining: recovering valuable materials from products that have already served their purpose, instead of digging deeper into the earth. It begins with recognising that yesterday's electronics can become tomorrow's resource base. The economics, however, are not always straightforward.

The long chain of recycling

Safely recovering materials from electronic waste requires sophisticated technology, secure data destruction, environmentally compliant processing and traceable supply chains, with collection and segregation adding to the cost. Yet the benefits go beyond recovered metals: less virgin mining, stronger domestic supplies of critical materials, lower import dependence and responsible handling of hazardous components.

This helps explain why advanced recycling has yet to become the default choice in India. Procurement in both the public and private sectors often rewards the lowest visible cost: maximise resale value, minimise processing cost. The strategic value of recovering critical minerals, ensuring secure data-destruction, environmental benefits and strengthening domestic industrial capability rarely appears on the invoice.

Every significant public or corporate decision creates two balance sheets. The first is financial and immediate: purchase price, resale value, savings achieved. It is measurable, auditable and reflected in annual budgets. The second is



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The economics of e-waste demand decisions beyond immediate cost savings

strategic. It remains open long after the transaction is complete, recording the consequences of today's decisions: resource security, environmental sustainability, industrial capability, supply-chain resilience, public health and national competitiveness. Good governance, and increasingly good business, depends on managing both. Some investments look expensive at first but can transform economies. Solar power is a good example. Fifteen years ago, it struggled to compete with conventional electricity on cost, and governments that invested early were criticised for paying too much. Today, scale and learning have made solar one of the world's cheapest sources of electricity, while countries that built manufacturing capacity early enjoy advantages that simple cost comparisons could not have predicted.

What organisations must ask

Investment in urban-mining infrastructure looks similarly expensive if judged only against the cost of disposing of a computer. The calculation changes when the value of recovered materials, avoided imports, environmental safeguards, data security and future industrial capability are counted together. Many costs excluded from an initial transaction return later in another form, and more expensive over-time. Pollution becomes health-care expenditure. Resource depletion becomes import dependence and high manufacturing costs. Weak domestic capability becomes strategic vulnerability.

Selecting a recycler solely because it offers the highest resale value may appear prudent. But organisations should also ask whether sensitive data is securely destroyed, whether refurbishment precedes recycling, and whether critical minerals are recovered efficiently and transparently. A marginal gain today can become tomorrow's cybersecurity risk, import dependence, reputational damage and permanent loss of strategic resources. The challenge is not confined to boardrooms. It also shapes public policy. Governments have

traditionally relied on the valuable lowest-price principle to ensure transparency and fiscal discipline. But today's economy increasingly depends on renewable energy systems, batteries, electronics and advanced manufacturing, sectors where the lowest acquisition cost is rarely the lowest lifetime cost.

Many countries are now moving toward life-cycle costing and value-based procurement, asking "which option delivers the greatest long-term public value?" Procurement then becomes a tool of industrial policy, shaping which technologies scale and which capabilities are built. The same principle applies to compliance markets such as Extended Producer Responsibility, where judging compliance only on the cheapest available certificate rewards the lowest-cost provider rather than the highest-quality outcome. Rewarding traceability, recovery efficiency and technological capability would instead draw investment into advanced recycling and strengthen India's domestic supply of critical minerals.

Environmental costs never remain environmental alone; they become economic costs. Governments spend more on remediation, businesses face higher compliance costs, and citizens bear the burden through taxes and lost productivity. The costs may be delayed or redistributed, but are rarely avoided.

The choice made is important

Whether India's discarded computers, servers, batteries and electronics become a strategic national asset or an environmental liability depends on choices made today by governments and businesses alike. Every invoice records a price. Every decision creates two balance sheets. One closes with the transaction. The other continues to shape economic resilience and industrial and national capability. Therefore, the question is: Which decision is it that leaves behind the smallest unpaid bill?

The views expressed are personal

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Untouchability and the idea of 'purity'

How does Indian law define 'untouchability'? How has the Supreme Court interpreted 'purity and pollution'? What did the Rajasthan High Court rule on purification? What facts would determine whether the Haldwani ritual amounted to untouchability?

LETTER & SPIRIT

Sahil Hussain Chaudhury

The story so far:

A *shuddhikaran* (purification) ritual was performed at Haldwani's Ramilla ground on August 10, two days after Congress president Mallikarjun Kharge addressed a rally there. Mr. Kharge said the ritual made him feel the "sting of untouchability" and sought legal action, while the organisation that performed it offered a different explanation, citing slogans allegedly raised during the rally and Mr. Kharge's earlier political remarks. The dispute raises a legal question beyond the immediate controversy: what does Indian law regard as untouchability when the alleged wrong is not denial of entry, but the "purification" of a place after a Dalit person has used it?

What does the law prohibit?

Article 17 of the Constitution declares that "untouchability" is abolished, forbids its practice "in any form", and says that enforcing any disability arising from untouchability shall be an offence punishable in accordance with law. The Supreme Court has recognised that Article 17 is enforceable against non-State actors as well.

The Constitution does not define "untouchability".

Parliament gave effect to Article 17 through the Untouchability (Offences) Act, 1955, which was substantially amended and renamed the Protection of Civil Rights Act, 1955 in 1976. The Act punishes the preaching and practice of untouchability and the enforcement of disabilities arising from it.

Some of its provisions address familiar forms of untouchability: preventing entry into a place of worship, imposing social disabilities, or discriminating in access to public facilities and services. But the law is not confined to physically keeping somebody out. Section 7(1)(d) also punishes a person who "insults or attempts to insult, on the ground of 'untouchability', a member of a



Show of dissent: Congress workers march towards the Uttarakhand Secretariat in Dehradun on Tuesday, protesting a 'purification' ceremony at the venue of Mallikarjun Kharge's Haldwani rally. PTI

Scheduled Caste".

The law can reach conduct beyond denial of access, but the fact that an act affects or humiliates a Scheduled Caste person does not by itself answer whether Section 7(1)(d) is attracted. The provision requires the insult to be "on the ground of 'untouchability'".

How has the Supreme Court interpreted Article 17?

The Supreme Court addressed the scope of Article 17 in *Sukanya Shantha v Union of India* (2024), while striking down caste-discriminatory provisions in prison manuals and reviewing its earlier Article 17 jurisprudence.

The court described untouchability as connected to the caste system and its interconnected notions of "purity and pollution". These ideas, it said, have been used to reinforce caste hierarchy and influence whom people associate with and how they treat one another. Article 17 rejects such notions.

The judgment also explains why the absence of a definition does not necessarily confine the scope of Article 17. It noted that even a broadly worded definition could become restrictive because discrimination can manifest itself through the "manifold complexities" of social life. Article 17 must therefore be capable of reaching untouchability in its

different forms and manifestations.

The court then stated the principle directly: "There cannot be any stigma attached to the existence, touch or presence of any person."

The court's reasoning is therefore not confined to familiar forms of exclusion. It also addresses the underlying caste idea of pollution: discriminatory treatment based on a person's touch or presence.

What has the court said about such practices?

In *Surya Narayan Choudhary v State of Rajasthan* (1988), the Rajasthan High Court considered discrimination against Dalit devotees at the public Shrinathji temple in Nathdwara.

The court was told that Dalit devotees were permitted to enter only after undergoing a process of purification.

Crucially, the High Court held that Dalit devotees could not be subjected to an additional condition for temple entry that did not apply to other devotees, and specifically directed that the reported purification practice be discontinued, holding it discriminatory and violative of Articles 14, 15 and 17.

At Nathdwara, purification was imposed on Dalit devotees before they could enter a temple on equal terms. At Haldwani, the ritual occurred after Mr. Kharge had already used the venue, and

the reason for it is disputed. The *Surya Narayan Choudhary* case therefore does not decide the present controversy: it establishes the narrower proposition that caste-specific ritual purification imposed on Dalits as a condition of equal access can violate Article 17.

Where is the legal boundary?

Article 17 and the Protection of Civil Rights Act must also be distinguished from the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989, which creates separate criminal offences with their own ingredients.

Section 3(1)(c), for example, deals with intentionally insulting or intimidating an SC/ST member with intent to humiliate them in a place within public view, when committed by a person who is not an SC or ST. In *Hitesh Verma v State of Uttarakhand* (2020), the Supreme Court said that not every insult to an SC/ST person attracts the provision: the insult or intimidation must be connected to the victim belonging to the protected community. More recently, in *Gunjan @ Grijja Kumari v State* (NCT of Delhi) (2026), the Supreme Court reiterated that "public view" is an essential requirement for the offence.

What would establish untouchability?

If evidence were to show that the venue was regarded as requiring cleansing because caste-based notions of pollution were attached to Mr. Kharge's touch or presence, the reasoning in *Sukanya Shantha* case and the caste-specific purification considered in *Surya Narayan Choudhary* case would become directly relevant. If, on the other hand, the ritual was undertaken for reasons unconnected with caste, including the reasons cited by the organisers, its timing after Mr. Kharge's rally would not by itself establish untouchability.

The word *shuddhikaran* cannot answer that question. The legal issue is the connection, if any, between the ritual and caste-based notions of pollution. (Sahil Hussain Choudhury is an advocate and Constitutional law researcher from Assam)

THE GIST

Article 17 abolishes untouchability in all forms, while the Protection of Civil Rights Act, 1955 penalises its practice, including insults based on untouchability.

The Supreme Court has linked untouchability to caste-based notions of 'purity and pollution', holding that Article 17 can address different forms of discriminatory treatment based on a person's touch or presence.

Whether the Haldwani ritual amounts to untouchability would depend on evidence of a caste-based connection; the word 'shuddhikaran' or the ritual's timing alone would not establish it.

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CACHE

India's data centre boom is colliding with its climate reality

India's data centre expansion is attracting billions in investment, but rising electricity and water demand, transmission bottlenecks, heat generation are straining already stressed resources; a national framework with enforceable standards is needed to manage these costs and protect consumers

Soumya Sarkar

India is in the middle of a data centre gold rush. Global tech giants — Google, Meta, Amazon, Microsoft — have committed billions to build facilities across the country. The government estimates that data centres will drive nearly \$200 billion in investment over the coming decade.

Many States in the country are competing fiercely for a piece of the pie. Maharashtra wants to be the data centre capital of the country. Telangana has declared data centres as "essential services." Karnataka is reviewing its policy to attract more. Rajasthan is offering tax exemptions and cheap land. All eyes are on the opportunity, but none on the cost.

Data centre capacity in India has nearly tripled from 520 megawatts in 2020 to nearly 1.5 gigawatts today. By 2030, it is projected to hit 6.5 GW, which is a fourfold expansion in just four years. Electricity demand from these facilities is expected to rise from about 13 terawatt-hours (TWh) in 2024 to roughly 57 TWh by 2030. The Union Ministry of Power estimates that artificial intelligence alone will add 26.3 gigawatts of new demand by 2031-32.

No policy document, at the Central or State level, has assessed what guaranteed power costs the grid that is already strained under 45°C heat, or where the water will come from for cooling, or what the thermal load from thousands of servers will do to regions already teetering on dangerously high temperatures.

The resource reality

A 100 MW data centre consumes about 2 million litres of water daily. That is equivalent to the daily use of roughly 6,500 households. India's data centres consumed an estimated 150 billion litres of water in 2024-25. By 2030, that figure is projected to more than double to 358 billion litres annually.

The water use matters because data centres are clustering in India's most water-stressed regions. Rajasthan extracts 147.1% of its annual groundwater recharge, the second highest rate in the country. Several groundwater assessment units in Maharashtra are classified as semi-critical. Telangana's Irrigation Minister confirmed in May 2026 that 16 districts were under groundwater stress. Hyderabad's surface water supply dropped 20% during the summer of 2024 due to poor monsoon recharge, forcing the water board to ration supply. Mumbai's reservoirs stood at just 44.5% of capacity in March 2026.

The water these facilities consume is not accounted for in any State policy. None of the policies require public disclosure of daily water consumption. None require a hydrogeological assessment before approval. None mandate that water sourcing must not compete with agriculture or municipal supply.

The electricity situation is equally concerning. India's power grid is already straining under record demand. Maharashtra's peak power demand hit 27,230 MW in April 2026, the highest ever handled by the State utility. Two-year waits for 220 kV grid interconnections across the country are already lengthening project timelines.

Transmission constraints are also



GETTY IMAGES

becoming a critical bottleneck. India curtailed 300 GW-hours of renewable energy in the first quarter of 2026 alone, simply because the grid could not carry it, according to an analysis of Central Electricity Authority data by Ember Energy, a specialised consultancy. Over the past five years, India has met only about 80% of its annual transmission targets. One in four major transmission schemes is running a year or more behind schedule. As a result, 20 GW of renewable energy capacity faces connectivity delays of more than four months.

Rajasthan and Gujarat, which house the bulk of India's utility-scale solar and wind, face the longest queues at pooling stations. The problem has become structural in the country. Solar projects are being built faster than the wires to carry their power. This matters because data centres need reliable, uninterrupted electricity. If renewable energy cannot reach them, the power will come from coal, adding to the burden of carbon emissions that India is trying to curtail.

The heat they generate

Data centres do not just consume power and water. They also generate heat. And that heat makes the places around them hotter. A March 2026 study from the University of Cambridge, analysing 20 years of NASA satellite data, found that data centres raise land surface temperatures by an average of 2°C within a 10 km radius, with extreme cases reaching 9.1°C. The study estimates that approximately 340 million people globally live within these affected zones.

This is not a distant problem. Mumbai's land surface temperature has already risen from 40.9°C in 2003 to 47.3°C in 2023, an increase driven largely by urbanisation and heat-trapping infrastructure. Hyderabad's urban heat island intensity ranges from 5.74°C to

6.82°C, even as its urban area doubled between 2001 and 2020. The city recorded temperatures above 43°C in the summer of 2024.

The Cambridge finding creates a feedback loop. Data centres generate heat. That heat raises ambient temperatures. Higher ambient temperatures increase cooling demand. Increased cooling demand raises electricity consumption. Higher electricity consumption, unless fully renewable, increases emissions. And those emissions contribute to the very climate change that is making India hotter in the first place.

The governance gap

The data centre policies of various States offer generous incentives in the form of electricity duty exemptions, transmission charge waivers, stamp duty relief, and fast-track clearances. But they impose virtually no conditions. None of the major State policies require a grid impact assessment before commissioning. None require mandatory renewable energy sourcing. None require thermal load assessment for surrounding communities. Telangana's policy is particularly revealing. It classifies data centres as "essential services," guaranteeing them uninterrupted power even during shortages. In a State where 16 districts face groundwater stress and temperatures have reached 47°C, this is a policy choice with direct consequences.

Maharashtra's policy originally required 100% renewable energy for core operations. In June 2026, the State reduced that requirement to 50%, a dilution framed as improving project viability.

Gujarat's new Data Centre Policy 2026-29 mandates at least 50% green energy sourcing. Karnataka's IT minister told the State Assembly in March 2026

that the State was reviewing its policy over water and energy concerns. Tamil Nadu has linked incentives to renewable compliance. But these are exceptions, not the norm. And even where mandates exist, enforcement and verification remain weak.

"There is a risk that a significant part of the associated infrastructure cost could eventually be socialised," said Vibhuti Garg, Director, South Asia at the Institute for Energy Economics and Financial Analysis (IEEFA), a think tank. "Where broader grid infrastructure is required, government support or appropriate financing mechanisms could help ensure that the cost is not simply transferred to consumers through higher electricity tariffs."

"Governments should introduce phased power and water use standards with enforceable benchmarks," said Prateek Aggarwal, Senior Programme Lead at Council on Energy, Environment and Water, a Delhi-based think tank. "A national AI Energy Star rating would let buyers and regulators compare how energy-efficient a facility or model actually is."

What needs to change

India's generation pipeline can absorb the additional demand from data centres. The Union Ministry of Power says capacity is not the constraint. The constraint is market design and transmission infrastructure.

Aggarwal argued that "India needs climate-intelligent power markets that price grid services separately, where short-term markets pay for ramping, storage, and demand response." Ember's analysis points to another near-term solution in the form of battery storage at renewable pooling stations. Roughly 3-4 GW of two-hour storage could have absorbed most of the curtailed generation in early 2026, according to its calculations. The technical pieces are in place but the gap is regulatory and commercial.

IEEFA has suggested that coastal locations offer advantages such as proximity to near-shore wind and solar, and access to seawater for cooling without desalination. But for now, most data centres are clustering around existing tech hubs of Mumbai, Hyderabad, Bengaluru, and the National Capital Region. These are precisely the places where water and grid stress are already most acute.

A national sustainability framework would help. It would establish minimum standards for renewable energy sourcing, water consumption disclosure, grid impact assessment, and thermal load evaluation. It would create a common set of expectations for investors and a common set of protections for consumers. It would also recognise that environmental constraints are economic constraints, and that ignoring them only creates larger costs later.

Data centres are not optional. They are critical infrastructure for India's digital future. The question is not whether India should build them. The data centres will be built. It remains to be seen whether they will be built in a way that protects India's water, power grid and climate, or in a way that leaves future generations to pay the bill.

(Soumya Sarkar is an independent journalist based in New Delhi and Kolkata)