



CURRENT AFFAIRS for UPSC

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DreamIAS



INTERNATIONAL

REPUBLICAN RUMBLINGS

President Donald Trump, under pressure from a segment of his support base, has instructed his Attorney General, Pam Bondi, to request a court to unseal grand jury transcripts related to sex offender and former friend of the President, Jeffrey Epstein. While Mr. Trump had vowed, even during his presidential campaign, to unveil the files, in recent days he has faced mounting pressure to supply all relevant and new information pertaining to the case. The latest turn in the murky saga relating to Mr. Trump's prior association with Epstein, the former financier who died by suicide in a New York prison cell in 2019 while awaiting trial on sex trafficking charges, came after a report claimed that Mr. Trump, in 2003, sent a "bawdy" birthday letter to Epstein with references to a shared "secret". Mr. Trump has filed a libel lawsuit against the newspaper and its publisher Rupert Murdoch. He went on to post, on the Truth Social platform, "Based on the ridiculous amount of publicity given to Jeffrey Epstein, I have asked Attorney General Pam Bondi to produce any and all pertinent Grand Jury testimony, subject to Court approval. This SCAM, perpetuated by the Democrats, should end, right now!".

Mr. Trump's publicity woes regarding Epstein have been compounded, however, not due to any action by Democrats, but the fact that far-right MAGA groups, including conspiracy theorists such as QAnon, who believe that the U.S. government, media, and financial worlds are controlled by elites associated with a global child sex trafficking operation, have been applying pressure on the administration within Republican circles. Even prior to the latest report linking Mr. Trump and Epstein, the President had said that some "stupid Republicans... have fallen into the net" in asking for more information to be released. Now, it is possible that lawmakers in the House of Representatives will have the opportunity to vote on the decision to release the documents relating to the prosecution of Epstein, relying on a legislative mechanism known as a "discharge petition". A bipartisan team, led by Republican Thomas Massie and Democrat Ro Khanna, has proposed this petition under the moniker of the "Epstein Files Transparency Act", which, if it is passed with 218 signatures, could require the Attorney General to "make publicly available ... all unclassified records, documents, communications, and investigative materials in the possession of the Department of Justice..." relating to Epstein. Mr. Trump may soon discover that while it helps his policy agenda to have a federal government trifecta and a sympathetic Supreme Court, his political prospects ultimately rest upon his support base, and it is one that is capable of abruptly turning the tide against him.

U.S. TO PULL OUT OF UNESCO AGAIN, 2 YEARS AFTER REJOINING

The Trump administration's decision to withdraw the United States from UNESCO, announced on July 22, 2025, marks a troubling retreat from multilateralism. This move, set to take effect by December 2026, echoes a similar exit during Trump's first term and a Reagan-era withdrawal in 1984. The stated reasons—UNESCO's alleged "anti-Israel bias" and its focus on "divisive social and cultural causes"—fail to justify abandoning an organization dedicated to education, science, and cultural preservation.

UNESCO, despite its imperfections, plays a vital role in global cooperation. From safeguarding World Heritage Sites like the Grand Canyon to advancing Holocaust education and combating antisemitism, its work fosters shared humanity. The U.S. departure risks ceding influence to other powers, notably China, which has filled gaps left by previous absences. The Biden administration's



2023 decision to rejoin UNESCO recognized this, aiming to counterbalance competing influences in areas like AI ethics and cultural preservation.

Critics of UNESCO, including the Trump administration, point to its 2011 recognition of Palestine as a member state as evidence of bias. Yet, UNESCO's Director-General Audrey Azoulay has emphasized the organization's reforms and its role as a forum for consensus, with diversified funding reducing U.S. contributions to just 8% of its budget. Withdrawing now, when political tensions have arguably eased, seems more ideological than pragmatic.

This exit undermines U.S. leadership on global issues like education and cultural heritage. It also risks isolating American communities seeking UNESCO designations, from World Heritage Sites to Creative City status. Rather than withdrawing, the U.S. should engage to reform and shape UNESCO's agenda. Walking away only diminishes America's voice in a world that needs cooperative solutions more than ever.

IS ISRAEL COMMITTING GENOCIDE IN GAZA?

The story so far:

In January 2024, South Africa initiated proceedings against Israel at the International Court of Justice (ICJ), alleging that Israel's military campaign in Gaza amounted to genocide. The application was filed just over two months after the Hamas-led attacks of October 7, 2023. Although the court has not yet ruled on the merits of the charge, it has issued a series of binding provisional measures, including repeated directives to ensure the unimpeded delivery of humanitarian aid into Gaza. These interim orders reflect the court's preliminary assessment that a "plausible" risk of genocide exists. In the months since, conditions in Gaza have grown increasingly dire. In March, Israel violated a six-week ceasefire and resumed its assault on the besieged enclave. Entire neighbourhoods have been reduced to rubble, families decimated, and access to food, water, and electricity remains critically limited. As the humanitarian crisis worsens, a global consensus is emerging. Heads of state, senior United Nations officials, and leading international jurists are increasingly characterising Israel's conduct in Gaza as genocidal.

What is genocide?

The term genocide was coined in 1944 by Polish-Jewish jurist Raphael Lemkin and formally recognised as a crime under international law by the UN General Assembly (UNGA) in 1946. In the aftermath of the horrors of the Holocaust, the UNGA unanimously adopted the Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention) in 1948. The Convention defines genocide as acts committed with "the intent to destroy, in whole or in substantial part, a national, ethnic, racial, or religious group". It is considered the gravest of international crimes, and its prohibition constitutes a non-derogable peremptory norm (jus cogens) of international law.

Because of its status as a jus cogens norm, the duty to prevent and punish genocide gives rise to an erga omnes obligation — one owed to the international community as a whole. This means that all states, regardless of their direct involvement in a conflict, are legally bound to act against genocide wherever it occurs. It is on this basis that South Africa, a party that is technically unrelated to the conflict in Gaza, claims standing to bring the case to the ICJ.

Proving that genocide has occurred requires establishing two essential elements: the act itself and the intent behind it. The first element, known as actus reus, refers to one or more of five specific



acts committed against a protected group. These include killing members of the group; causing them serious bodily or mental harm; deliberately inflicting conditions intended to bring about the group's physical destruction; imposing measures to prevent births within the group; and forcibly transferring children to another group.

Equally critical is the mens rea, or mental element, which requires not just a general intent to carry out these acts, but a specific intent (*dolus specialis*) to destroy the group, in whole or in part. This rare intent is what sets genocide apart from other mass atrocities. While other crimes may involve the indiscriminate or deliberate killing of civilians as individuals, genocide is characterised by the targeting of individuals as members of a group, with the aim of annihilating the group's capacity to survive or reconstitute itself as a political, social, or cultural entity.

What are the main claims against Israel, and how has Israel responded?

Francesca Albanese, the UN Special Rapporteur on the situation of human rights in the Palestinian territories, told the Human Rights Council last year that there were reasonable grounds to believe Israel had crossed the threshold for committing genocide. In her report, she pointed to the systematic destruction not only of residential areas but also of critical infrastructure, including hospitals, universities, mosques, water systems, agricultural zones, and cultural heritage sites, as evidence of a policy aimed at making Palestinian life in Gaza unsustainable. Her assessment has been echoed by prominent rights organisations such as Human Rights Watch, Amnesty International, and the European Center for Constitutional and Human Rights.

The scale of destruction appears to lend further credence to these claims. In June, a UN Commission of Inquiry found that Israeli air strikes, shelling, burning and controlled demolitions had destroyed more than 90% of schools and university buildings across the Gaza Strip. According to local health authorities, over 58,000 people have been killed, including more than 17,000 children. Gaza now reportedly has the highest per capita number of amputee children in the world. As the starvation crisis deepens, civilians have reportedly been shot while waiting in queues for food and essential supplies.

In its submission to the ICJ, South Africa accused Israel of "weaponising international humanitarian law" to shield its actions from accountability. Since the outset of the genocide proceedings, Israel has maintained that its military campaign targets Hamas and not civilians, who it claims are affected only as collateral damage. Ms. Albanese has described this approach as "humanitarian camouflage," arguing that Israel has systematically distorted key humanitarian norms, such as those on human shields, collateral damage, safe zones, evacuations, and medical protection, to blur the distinction between civilians and combatants. This strategy, she argues, not only obscures the real human cost of the conflict but also undermines the core tenets of international humanitarian law.

Why is proving genocidal intent difficult?

Establishing genocidal intent is notoriously difficult, as states rarely articulate such intent overtly. Accordingly, the ICJ has held that intent may be inferred from circumstantial evidence, such as the scale and nature of atrocities, patterns of conduct, and dehumanising rhetoric by state officials. In its submission to the ICJ, South Africa cited several statements by senior Israeli leaders as indicative of genocidal intent. For instance, Israeli Prime Minister Benjamin Netanyahu vowed that the enemy would "pay a huge price" and pledged to reduce parts of Gaza "to rubble." Other officials have referred to Palestinians as "human animals" and called for their "total annihilation."



However, the ICJ's evidentiary standard for proving genocidal intent remains stringent and has come under increasing criticism.

In *Croatia v. Serbia* (2015), the court held that such intent could only be inferred from a pattern of conduct if "this is the only inference that could be reasonably drawn" from the acts in question. This rigid standard effectively precludes a finding of genocide if any alternative motive appears plausible. In 2023, several states, including Canada, the Netherlands, the U.K., Germany, France, and Denmark, raised concerns over this high bar in a joint declaration filed in the genocide case instituted by Gambia against Myanmar. They cautioned that such a restrictive approach risks making genocide "near-impossible" to prove. Instead, they proposed a "balanced approach," urging courts to weigh all available evidence and discard inferences that are clearly unreasonable. In other words, the presence of other conceivable motives should not automatically negate a finding of genocidal intent.

This view is consistent with international criminal jurisprudence. Both the International Criminal Tribunal for the Former Yugoslavia (ICTY) and the International Criminal Tribunal for Rwanda (ICTR) have recognised that genocidal intent can coexist with other motives. In *Prosecutor v. Goran Jelisić* (2001), the ICTY held that "the existence of a personal motive does not preclude the perpetrator from also having the specific intent to commit genocide." However, even under the ICJ's exacting standard, several experts believe that Israel's conduct fulfils the criteria for genocide.

In November last year, Israeli genocide scholar Shmuel Lederman acknowledged that the operational patterns of the Israeli Defence Forces closely mirrored the incendiary rhetoric of senior officials. Similarly, Omer Bartov, a professor at Brown University and former Israeli soldier, recently wrote in *The New York Times* that both official rhetoric and developments on the ground had led him to the "inescapable conclusion" that Israel is committing genocide against the Palestinians.

What is the road ahead?

A final verdict by the ICJ on South Africa's genocide allegations against Israel is likely to take years, as it must follow extensive hearings on jurisdiction and the merits of the case. By the time a judgment is rendered, the devastation in Gaza may already be irreversible, particularly in light of Israel's continued non-compliance with the court's binding provisional measures. As a result, the proceedings are increasingly being seen as a litmus test for the credibility of the so-called "rules-based international order".

Within the UN framework, a strong case has emerged for suspending Israel from the UNGA, citing its persistent violations of the Charter and binding Security Council (UNSC) resolutions. Article 6 of the Charter permits the expulsion of a member state by the Assembly on the UNSC's recommendation if it consistently breaches the Charter's core principles. In 2024, the UNGA adopted a resolution calling for economic sanctions on Israel, including an arms embargo.

Yet, major Western powers, including France, the U.K., Germany, and Canada, have confined their responses to muted diplomatic criticism, particularly following the collapse of the ceasefire in Gaza in March. The U.S., in particular, has continued to shield Israel from accountability by repeatedly vetoing most UNSC resolutions demanding an immediate ceasefire. In the absence of decisive multilateral action, one can only hope that President Donald Trump may once again intervene and nudge Mr. Netanyahu to agree to a renewed ceasefire and bring an end to the ongoing bloodshed.



SECTARIAN WOUNDS

Last week's violence in southern Syria, which saw the killing of hundreds from the Druze community, was a grave reminder of the country's deep-rooted sectarian tensions, now ruled by a former Sunni jihadist. When the Hayat Tahrir al Sham (HTS), formerly an al-Qaeda affiliate, captured power in Syria in November 2024, its leader Ahmed al Sharaa (who until recently was known as Abu Mohammed al-Jolani) pledged to protect the rights of all communities. But the realities on the ground tell a different story. Syria is approximately 80% Sunni, with minorities including Alawites, Shias, Christians and Druze making up the rest. The ascent of the HTS triggered widespread anxiety among these groups. These fears were only reinforced when violence erupted against the Alawites, the sect of former President Bashar al-Assad, in March in the western coastal region. Hundreds were killed in days long attacks orchestrated by pro-government militias, most of them jihadists. It took only four months before the next atrocity unfolded — this time in Sweida, a Druze heartland in the south. Clashes initially broke out between Druze and local Bedouin members, which prompted Mr. Sharaa to send in security forces. What followed was a massacre.

The sectarian violence escalated into a regional crisis after Israel began bombing Syrian government forces and military infrastructure in Sweida and Damascus. While Israel does have a Druze minority of its own, its claims of humanitarian intervention ring hollow in the context of its ongoing genocidal war on Gaza. Israel has long conducted strikes in Syria — earlier, its targets were Hezbollah and Mr. Assad's troops. Now that the HTS is in power, Tel Aviv does not want a consolidated Syrian military presence near its border. These internal and external pressures have left Mr. Sharaa vulnerable. Syria, which witnessed coups and counter-coups in the 1950s and 1960s, achieved some stability under the secular Baathist rule in the 1970s. When the Baathist regime became a dynastic dictatorship, cracks began to emerge in the political and social consensus that Hafez al-Assad, Bashar's father, had built, to culminate in a devastating civil war. The best chance for Mr. Sharaa to redeem himself and Syria was to rebuild a pluralistic state, with Kurds, Alawites, Christians and Druze enjoying equal rights. Instead, his push to establish a centralised Islamist regime in Damascus has deepened the sectarian wounds. And the HTS's armed jihadists, who go on killing sprees against minority dissenters, are pushing the country towards disintegration. Unless Mr. Sharaa takes urgent steps to rein in his fighters and rebuild a national consensus, Syria risks descending deeper into chaos.

PKK'S DISARMAMENT OFFERS HOPE FOR KURDS, BUT REGIONAL CONCERNS PERSIST

The Kurdistan Workers' Party (PKK - Partiya Karkari Kurdistan) decision to begin disarming, marked by a symbolic ceremony on July 11, 2025, in northern Iraq, signals a potential end to a 40-year conflict that has claimed over 40,000 lives. This historic shift, prompted by imprisoned leader Abdullah Öcalan's call to transition from armed struggle to democratic politics, offers Turkey a rare chance to close a painful chapter. Yet, the path to lasting peace hinges on mutual trust and bold reforms—challenges that Ankara must not sidestep.

The PKK's move, with 30 fighters burning their weapons in Sulaimaniyah, is more than symbolic. It follows Öcalan's February 2025 letter urging the group to disband and a May announcement of its dissolution, reflecting a strategic pivot toward political engagement. Turkish President Recep Tayyip Erdoğan has hailed this as a step toward a "terror-free Turkey," framing it as a victory for national unity. But the PKK and pro-Kurdish DEM Party demand concrete steps: constitutional reforms recognizing Kurdish rights, amnesty for fighters, and improved conditions—or even release—for Öcalan, who has been in solitary confinement since 1999.



Scepticism persists. Past peace efforts, like the 2013-2015 ceasefire, collapsed amid violence and political mistrust. Critics, including some Turkish opposition voices, see Erdoğan's support as a political manoeuvre to extend his presidency beyond 2028. Meanwhile, PKK commander Cemil Bayık has warned that full disarmament depends on Öcalan's freedom and democratic guarantees, hinting at potential resistance within the group. Regional dynamics—Turkey's military operations in Iraq and tensions with Syrian Kurdish forces—add complexity, with fears that unaddressed grievances could reignite conflict.

Turkey stands at a crossroads. The disarmament process, backed by over 90% of Kurdish DEM voters, enjoys rare public support. Ankara must seize this moment with reforms that grant Kurds cultural and political rights, such as Kurdish-language education, while ensuring the reintegration of former fighters. Failure to deliver risks squandering this historic opportunity, leaving the region vulnerable to renewed violence. The world is watching—Turkey must choose reconciliation over rhetoric.

HOW JAPAN'S ELECTION OUTCOME MUDDLES THE BOJ'S POLICY PATH

Japan's Upper House election on July 20, 2025, delivered a seismic jolt to its political landscape. The ruling Liberal Democratic Party (LDP) and its coalition partner Komeito lost their majority, securing only 47 of the 50 seats needed in the 248-seat chamber, a historic setback for a party that has dominated Japan's politics for seven decades. Prime Minister Shigeru Ishiba, already weakened by the LDP's loss of the lower house majority in October 2024, now faces mounting pressure to resign as his coalition grapples with governing without control of either chamber. Yet, the real story lies in the surge of right-wing populist parties, signalling a deeper discontent that Japan's leaders cannot ignore.

The far-right Sanseito party, with its "Japanese First" rhetoric, stunned observers by leaping from one seat to 14, capitalizing on voter frustration over soaring rice prices, stagnant wages, and immigration fears. The Democratic Party for the People (DPP) also gained ground, doubling its seats to 22 with pragmatic calls for tax cuts. These gains reflect a generational divide, with younger voters—burdened by taxes supporting an aging population—flocking to anti-establishment voices. Sanseito's YouTube-fuelled rise, echoing global populist trends, tapped into anxieties about Japan's 3.8 million foreign residents, though immigration ranked low among voter concerns compared to inflation.

Ishiba's vow to stay on, citing critical U.S. tariff talks, may buy time, but his leadership is on shaky ground. The LDP's failure to address voter anger over a 2024 political funds scandal and a ¥20,000 cash handout that flopped with 82% disapproval has eroded trust. Meanwhile, opposition parties like the Constitutional Democratic Party (CDP), which held steady at 22 seats, are too fractured to form a united front. This deadlock risks policy paralysis at a time when Japan faces a looming August 1 tariff deadline and a weakening yen, which could exacerbate inflation.

The election's 58% turnout, up 6 points from 2022, shows a public hungry for change. But the rise of Sanseito's xenophobic rhetoric raises alarms about Japan's democratic norms. The LDP must reclaim its conservative base with bold economic reforms, not retreat to nationalism. Japan's stability hinges on addressing the root causes of this populist wave—economic strain and political alienation—before fringe voices reshape its future.



NATIONAL

ANNUAL SHARE OF ABSTENTIONS IN INDIA'S VOTES AT THE UNITED NATIONS REACHES AN ALL-TIME HIGH

An increasingly polarised world has led to India altering its voting strategy at the United Nations in such a way that the proportion of abstentions every year has increased, while the 'yes' votes have reduced, an analysis has found. According to former diplomats, this rise in the share of abstentions could in fact help India establish its own position on various issues.

An analysis by The Hindu of more than 5,500 different resolutions in the UN that India voted on between 1946 and June 2025 shows that the annual percentage of 'yes' votes by India has fallen to 56%, the lowest since 1955. On the other hand, the annual percentage of abstentions has increased to 44%, the highest share in India's history at the UN.

The data show that this change in voting patterns began around 2019.

India's voting pattern remained volatile until the late 1960s, with the percentage of annual 'yes' votes swinging between 20% and 100% during this period. The percentage of abstentions also fluctuated between 0% and 40%.

The subsequent 25 years — between around 1970 and 1994 — saw the magnitude of this volatility decrease substantially. The percentage of annual 'yes' votes during this period ranged between a low of 74% and a high of 96%. Annual abstentions ranged between 8% and 19%.

Between the mid-1990s and 2019, India's voting patterns in the UN became even more stable, with the share of 'yes' votes ranging between 75% and 83%. The share of abstentions ranged between 10% and 17%.

According to former representatives to the UN, the increase in abstentions is simultaneously a reflection of an increasingly polarised world, as well as a reflection of the fact that UN resolutions have become much more complicated.

HANGING FIRE

The clock seems ticking for 37-year-old Indian nurse Nimisha Priya, who is on death row at the Central prison in Yemen's capital Sanaa for the alleged murder of Talal Abdo Mahdi, a Yemeni national. Media reports that emerged two weeks ago had stated that her execution was scheduled on July 16. Her family members and well-wishers felt a glimmer of hope after last minute diplomatic and other interventions resulted in the postponement of her sentence. However, it remained short-lived as a social media post by the victim's brother Abdul Fatah Mahdi said "justice would prevail", and affirmed that "retribution would come regardless of any delays in the execution".

A nurse from Kerala, Nimisha has been imprisoned in Sanaa's central jail since 2017, convicted of murdering Mahdi, her business partner. A native of Kollengode in Palakkad district, she left for Yemen in 2008 with dreams of securing a better future for her parents, who worked as domestic helps. She landed a job at a government-run hospital in Sanaa. She worked there until 2011, before returning to Kerala to marry Tomy Thomas, a daily-wage labourer and native of Thodupuzha in Idukki district.



The civil war in Yemen that resulted in the Houthi rebels gaining control over Sanaa in 2014 shattered Nimisha's dreams. The Government of India issued an advisory in April 2015 asking Indian nationals not to travel to Yemen owing to the adverse political and security situation.

In 2015, Nimisha quit her low-paying hospital job to start her own clinic. However, Yemeni law required nationals to own and operate businesses, forcing her to partner with Mahdi to set up the venture. The same year, Mahdi accompanied her to Kerala when she came home for a month-long holiday. A petition filed by Nimisha's 58-year-old mother, Premakumari, in December 2023 before the Delhi High Court, seeking the Centre's permission to visit her daughter, stated that her relationship with Mahdi deteriorated over time after he allegedly began torturing her and siphoned off all the clinic's revenue.

In July 2017, desperate for a way-out, Nimisha sought advice from a jail warden near her clinic where Mahdi had previously been allegedly imprisoned for various offences. The warden allegedly suggested sedating Mahdi to recover her passport. However, an apparent overdose resulted in his death, says the petition. Nearly a month later, Nimisha was arrested near Yemen's border with Saudi Arabia after Mahdi's dismembered body was discovered in a water tank.

Death penalty

She was sentenced to death by a trial court in Sanaa in 2020 and the Houthi Supreme Political Council dismissed her appeal in November 2023. The appeal court kept open the option of paying blood money (diyah) — in accordance with Shariah law — to the murdered man's family and be pardoned for the crime.

The efforts to release her from prison gained momentum after the formation of Save Nimisha Priya International Action Council, a collective comprising elected representatives, lawyers and human rights activists. But the case had posed significant challenges in view of India's lack of official ties with the Houthis. Ms. Premakumari met her daughter after a long gap at the prison in Sanaa on April 24, 2024 following the Delhi High Court's directive in December 2023 asking the Centre to relax its 2017 notification that barred Indian passport holders from travelling to Yemen. She has been staying in Sanaa since then amid hopes of securing the release of her daughter.

As the deadlock continues, the Indian government says it is in contact with "local authorities" in Sanaa, as well with some "friendly governments" in the region to push for her release. Kanthapuram A.P. Aboobacker Musliar, a religious leader from Kerala, who had reportedly intervened through his friend and Yemeni Sufi scholar Sheikh Habib Umar bin Hafiz to convince the victim's family to pardon Nimisha, says "talks had been under way with Talal's family despite their strong desire for retribution".

MODI'S MALDIVES VISIT: A DIPLOMATIC TRIUMPH FOR REGIONAL STABILITY

Prime Minister Narendra Modi's two-day visit to the Maldives on July 25–26, 2025, marked a pivotal reset in India-Maldives relations, turning a once-fraught partnership into a beacon of regional cooperation. Invited as the guest of honour for the Maldives' 60th Independence Day, Modi's presence in Malé—his first since President Mohamed Muizzu took office in 2023—signalled a mutual commitment to mend ties strained by Muizzu's earlier "India Out" campaign. This visit, coinciding with 60 years of diplomatic relations, underscores India's enduring role as a trusted neighbour in the Indian Ocean.



The visit delivered tangible outcomes. India extended a ₹4,850 crore (\$565 million) line of credit to bolster Maldivian infrastructure, healthcare, and security, alongside initiating talks for a Free Trade Agreement and a bilateral investment treaty. Joint projects, including the inauguration of the Maldives' Ministry of Defence building and the Hanimadhoo airport expansion, reflect India's commitment to the Maldives' development. **Modi's gift of BHISHM health cube sets and 72 vehicles for the Maldivian Defence Ministry** further cemented security ties. These steps, coupled with the introduction of **India's UPI for digital payments, promise to deepen economic and people-to-people connections.**

Muizzu's warm reception and his acknowledgment of India as the **Maldives' "closest and most trusted partner"** mark a stark departure from his 2023 anti-India rhetoric. This shift, bolstered by India's economic aid to avert a Maldivian debt default, highlights **New Delhi's deft diplomacy in countering China's growing influence in the region.** The visit's success lies not just in agreements but in rebuilding trust, with Maldivian leaders across the political spectrum endorsing stronger ties.

Yet, challenges remain. Sustaining this momentum requires addressing lingering domestic sentiments in the Maldives and navigating its balancing act with China. For India, the visit reinforces its **Neighbourhood First policy and MAHASAGAR vision**, positioning it as a reliable partner for maritime security and economic growth. Modi's trip has laid a foundation for a resilient partnership, but both nations must nurture this goodwill to ensure stability in a geopolitically vital Indian Ocean.

THAILAND-CAMBODIA CLASHES: INDIA 'CLOSELY MONITORING SITUATION', ISSUES TRAVEL ADVISORY

As border clashes continue between Thailand and Cambodia, India on Saturday said it was closely monitoring the situation and hoped both sides would take measures for cessation of hostilities.

- The Ministry of External Affairs also urged Indian travellers in both countries to contact embassies in case they needed any assistance.
- "We are closely monitoring the situation along the border between Cambodia and Thailand," said MEA spokesperson Randhir Jaiswal while responding to media queries.
- "India has close and friendly relations with both countries and hopes that both sides will take measures for a cessation of hostilities and prevention of further escalation," he said, adding, "Indian travellers in the region may contact our respective embassies in the two countries for any assistance."
- At least 32 people have been killed and nearly 1,50,000 displaced in the border clashes between the two Southeast Asian countries that erupted on Thursday. Both countries have recalled their ambassadors and Thailand has closed its northeastern border crossings with Cambodia.
- During an emergency meeting on Friday, members of the United Nations Security Council called for de-escalation and urged the regional bloc, the ASEAN (Association of Southeast Asian Nations), to mediate a peaceful solution.

A SLOW REVIVAL



India's decision to restart issuing tourist visas for Chinese nationals is a strong signal that diplomacy over restoring ties rent apart by the LAC military standoff and Galwan clash of 2020 is moving smoothly. Since Prime Minister Narendra Modi and Chinese President Xi Jinping met in Kazan last October, there have been a number of high-level meetings; the Working Mechanism for Consultation and Coordination on India-China Border Affairs (WMCC) has been convened three times. The visa decision comes a month after China reopened the Kailash Manasarovar Yatra pilgrimage. The two sides have also agreed in principle to revive direct flights, and it is hoped visas for journalists will follow. A joint statement last month said that they would hold "certain functional dialogues" to discuss economic issues and trade, presumably to address India's restrictions on Chinese investment, and China's export restrictions on fertilizer and critical minerals. The export restrictions are causing considerable disruption in Indian technology sector companies, and even Japanese and South Korean automotive companies based in India have raised concerns over supply chain issues. The measures are expected to continue to roll out as preparations begin for the expected visit of Mr. Modi for the Shanghai Cooperation Organisation Summit in August. The WMCC held on Wednesday in Delhi discussed preparations for the next meeting of Special Representatives on the China-India boundary question, to discuss dispute resolution; China's Ministry of Foreign Affairs says that it is speaking to India about New Delhi's concerns over the mega-dam project on the Brahmaputra (Yarlung Tsangpo) in Tibet.

However, both sides have been muted about the reason for the rupture in ties in the first place. There has been little discussion over what prompted the Chinese PLA to transgress the LAC in 2020, which led to the Galwan clash, and what guarantees Beijing has given that this would not be repeated. While in December 2024, the government told Parliament that normalcy in ties could only follow the restoration of "peace and tranquillity in the border areas", it appears it is now prepared to continue to normalise other parts of the relationship without achieving troop de-escalation, dismantling of infrastructure in disputed areas and buffer zones that would lead to restoring patrolling to pre-2020 levels. Ties have also been impacted over Operation Sindoor, with revelations that the PLA was in lock-step with Pakistan's army. The government must realise that restoring mechanisms of bilateral ties are not by themselves sufficient for rebuilding trust. Sweeping key issues under the carpet, without some transparency on the path ahead, could put the whole process of reviving relations at risk.

INDIA, CHINA AND THE BRAHMAPUTRA FRONT

Last week, the Chinese government started work on the construction of a massive hydropower project on the Yarlung Zangbo, just before the river bends and enters Arunachal Pradesh, where it is called the Siang. The river then flows into Assam, where it is called the Brahmaputra. The \$170 billion project, linked to Beijing's developmental goals in the Tibetan region, is expected to generate 60 GW of electricity, roughly three times more than the Three Gorges Dam. The project has stirred old anxieties in the river's downstream, especially in Arunachal Pradesh and Bangladesh. Arunachal Chief Minister Pema Khandu has described the Chinese project as a "ticking water bomb". An increase in the Chinese capacity to manipulate the river's flows once the dam is constructed could increase the risks of floods in the country's Northeast, he has said. The fact that very little is known of the project's storage capacity has aggravated the unease. The risk could also stem from sudden surges in downstream flows — from unannounced water releases or from increased discharge as a result of the warming climate or even engineering errors. Hydrology experts fear that the Chinese project could disrupt water flow to the hydro projects proposed in the country's Northeast — the region holds nearly half of India's hydropower potential, over 80 per cent of which remains untapped.



India's Brahmaputra predicament is unlike that of most lower riparian states. The river gains most of its volume only after it enters Arunachal Pradesh, fed by largely river-fed tributaries in the Eastern Himalaya, such as the Lohit and the Dibang. In the Brahmaputra's lower riparian regions, the unpredictability of flood patterns is already a big challenge. The fears about inundation due to the river's changing flows are, therefore, not unfounded. In 2013, India and China signed a MoU on sharing information on river flows. But, by all accounts, Beijing has not always been open to sharing hydrological data. A more effective response to the Chinese dam would be to build up the defences of vulnerable regions in the Northeast. In 2017, when the Yarlung Zangbo dam was still at a planning stage, Niti Aayog had proposed a multipurpose project in the Siang region as a strategic counter to the Chinese hydro station. Besides generating electricity, the project's storage facility can cushion the Northeast from the risks of being flooded by water released from the Chinese dam. However, work on the Siang dam has progressed at a slow pace, largely because a section of the local population has opposed the project. The Ministry of Jal Shakti tasked the National Hydro Power Corporation to prepare a pre-feasibility report but vital investigations have not been conducted.

Fears about displacement and livelihood losses have found expression in the opposition to the Siang project. The political class and technical experts must come together to build safeguards and remove such apprehensions. The work on building storage facilities downstream of the Brahmaputra cannot be postponed.

CHINA, INDIA AND THE CONFLICT OVER BUDDHISM

As headlines trumpet Chinese naval expansion across the Indo-Pacific and India's strategic countermoves in this regard, there is a quieter, higher-altitude contest already reshaping Asia's future. The real geopolitical frontier between India and China lies not in the oceans but in the Himalayas. And at its heart is not oil, trade, or weapons but faith.

What looks like a spiritual tradition rooted in non-violence and mysticism has become, in the 21st century, a geopolitical chessboard. Monasteries that once served as centres of meditation and monastic education now sit at the frontlines of national power games. The reincarnation of lamas has become a matter not just of religion but also of sovereignty. And in regions such as Ladakh, Tawang, and even remote Bhutan, Buddhist culture is increasingly shaped not only by the sacred but also by strategy.

China's campaign has escalated

Both India and China understand that influence over Himalayan Buddhism is influence over identity, and in borderlands where lines on a map are fuzzy, identity is everything. For China, this means turning Buddhism into a tool of statecraft. Since the 1950s, Beijing has worked to dominate Tibetan religious life: it exiled or marginalised independent lamas, co-opted institutions, and, most crucially, claimed the sole right to approve reincarnations. In 2007, the Chinese government formally asserted that any "Living Buddha" must be sanctioned by the state. The message was clear: spiritual legitimacy flows from political authority.

This campaign has escalated in recent years. China now maintains a database of officially recognised reincarnate lamas, monitors monastery activities across Tibet, and has launched an ambitious Buddhist diplomacy campaign across the Himalayas. Sacred sites are being repurposed as instruments of soft power. Roads lead to shrines built with Beijing's help. Conference invitations are extended to Himalayan monks who return home with subtle shifts in loyalty.



Meanwhile, India has largely played catch-up. Hosting the Dalai Lama and the Tibetan exile government since 1959 gave India moral clout but little strategic advantage — until recently. Only in the last decade has New Delhi begun to engage seriously with Buddhism as a tool of influence, promoting its heritage as the Buddha's birthplace and funding regional pilgrimage circuits. Yet, these efforts remain fragmented when compared to China's centralised vision. As one scholar puts it, India practises Buddhist diplomacy: China practises Buddhist statecraft.

Nowhere is the tension more visible than in the looming succession of the 14th Dalai Lama. The spiritual leader who turned 90 in July, has signalled that he intends to reincarnate outside Chinese territory — most likely in India. Beijing, predictably, has vowed to appoint its own Dalai Lama, using the centuries-old "Golden Urn" method.

The result will almost certainly be two rival Dalai Lamas: one recognised by the Tibetan exile community and much of the global Buddhist diaspora, and one endorsed by Beijing and installed in Lhasa under heavy guard.

This schism would not just split Tibetan Buddhism. It would force Buddhist communities across the Himalayan rim — in Ladakh, Sikkim, Arunachal Pradesh, Nepal, and Bhutan — to pick sides. In doing so, it could reshape the geopolitical allegiances of entire regions. If the spiritual figure they revere sits in India, loyalty may deepen toward New Delhi. If he is seated in Lhasa, with Chinese backing and resources, the gravitational pull could shift east.

Already, signs of this tug-of-war are visible. In Arunachal Pradesh, China asserts its claim to Tawang, birthplace of the sixth Dalai Lama — not only through military posturing but also through spurious cultural logic. "It is Tibetan," Beijing summarily argues, "and therefore ours". In Nepal, Beijing has invested heavily in Buddhist infrastructure, especially around Lumbini, the Buddha's birthplace. And in Bhutan, China subtly courts monastic communities even as the kingdom maintains a tight control over religious affairs.

Working on internal disagreements

What is striking is how even internal Buddhist disagreements are now strategic openings. The Karma Kagyu school — one of Tibetan Buddhism's major lineages — has two rival Karmapas, each claiming rightful leadership. China and India have found ways to align with different sides of the split, transforming a spiritual dispute into a proxy conflict. Similarly, the contentious Dorje Shugden sect, ostracised by the Dalai Lama, has found unexpected empathy from Chinese authorities eager to weaken the exile hierarchy.

The battle for Buddhism is not about dogma — it is about who gets to define legitimacy, and in doing so, shape the loyalties of border populations. This is particularly relevant in places such as Ladakh, where the Buddhist identity coexists with a deep nationalist pride that is Indian. India's challenge is to ensure that spiritual allegiance does not drift toward foreign-controlled lineages, especially when those lineages sit across the Line of Actual Control.

It is tempting to dismiss all this as secondary — religious pageantry in the face of realpolitik. But that would be a mistake. In the Himalayas, where territory is often inaccessible and infrastructure scarce, soft power is hard power. A monastery that shifts allegiance is a strategic loss. A high lama that pledges loyalty across the border can change the balance of influence in a valley, or even a district.



And the stakes are only rising. After the Dalai Lama's time, the question of succession will become a global issue. Countries with significant Buddhist populations, from Mongolia to Sri Lanka, may be asked to take sides. The diplomatic fallout could be severe. For India, hosting the next Dalai Lama will be both an opportunity and a challenge: a chance to cement spiritual influence in the region, but also a trigger for intense Chinese pressure.

The stage

In this unfolding story, the Himalayas are not a backwater. They are the stage. The monasteries-in-the-clouds, the chanting monks, the adorned prayer wheels; they are not just relics of a bygone age, but instruments of power in a new one. This is where China and India are already competing — not with missiles, but with a spiritual succession crisis.

And that is why, even as the world watches for signs of confrontation in the oceanic waters of the Indo-Pacific, the real front may lie higher — among the clouds and the cliffs, in the realm where the spiritual becomes geopolitical. The next great struggle between Asia's two giants could well be fought not with submarines and aircraft carriers, but with threngwas (prayer beads in Tibetan) and reincarnations.

A LONG LIST

The decision of the U.S. to designate The Resistance Front (TRF) group that claimed responsibility for the Pahalgam terror attack in April 2025, as a Foreign Terrorist Organization (FTO) and a Specially Designated Global Terrorist is a development that should undergird the global fight against terror. The Ministry of External Affairs has called it "a timely and important step". For one, the U.S. State Department has acknowledged the severity of the Pahalgam attack. It also names the TRF as a "front and proxy" for the Lashkar-e-Taiba (LeT), which Pakistan claims it has rendered "defunct". Even though the U.S. added groups such as the LeT and the Jaish-e-Mohammad to its FTO list in 2001, they have masterminded attacks in India since then. The U.S. has also partially made amends for the TRF's name having been kept out of the UN Security Council (UNSC) resolution condemning the Pahalgam attack, apparently at Pakistan's behest, but with the concurrence of the U.S. and other P-5 members. It is hoped that the designation will now help India's case in designating the TRF at the UNSC, under the 1267 Committee for sanctions, also strengthening the trans-national legal pursuit of those behind the attack.

While this is a positive step, it is necessary to put the Trump's administration's other actions since the Pahalgam attack into perspective. After India launched Operation Sindoor, the U.S. has countered India's narrative on the four-day conflict on several occasions. Mr. Trump, as well as Secretary of State Marco Rubio, have repeatedly made the claim that the U.S. negotiated the India-Pakistan ceasefire, and averted a nuclear conflict by using trade ties as leverage — an equivalence which Pakistan has been happy to endorse. Mr. Trump's unprecedented White House lunch and praise for the Pakistan military chief, Field Marshal Asim Munir, came hours after the government had said that Prime Minister Narendra Modi had cleared the picture with Mr. Trump, and brings into question just how much pressure the U.S. is willing to put on Pakistan to act against terrorism. The Trump administration had held out the promise of doing more to support India in its fight against terrorism by fast-tracking the extradition, in April, of Tahawwur Hussain Rana, who was wanted by India for the 2008 Mumbai attacks. It is hoped that the TRF's listing means that the U.S. is recommitting to that objective. Given that the real challenge lies more in credibly ending Pakistan's support to these groups, New Delhi must focus on its efforts, diplomatic as well as legal, to ensure justice for the victims and to prevent further terrorist acts.



SUPREME COURT ALLOWS KERALA TO WITHDRAW TWO PLEAS AGAINST GOVERNOR

The Supreme Court on Friday allowed the State of Kerala to withdraw two petitions filed against its Governor for his delay in clearing crucial Bills despite stiff resistance from the Centre.

Appearing before a Bench headed by Justice P.S. Narasimha, Attorney General R. Venkataramani said the State was withdrawing on the strength of an April 8 judgment in an identical case concerning the Tamil Nadu Governor. "This is not just a simple withdrawal," Mr. Venkataramani told the top court.

Solicitor General Tushar Mehta asked the court to tag the Kerala petitions against its Governor with a Presidential Reference pending before a Constitution Bench.

The April 8 judgement has prescribed a maximum three-month deadline for both the President and State Governors to act on State Bills sent to them for approval or reserved for consideration under Articles 200 and 201, respectively, of the Constitution.

In May, the President had issued a reference under the advisory jurisdiction of the Supreme Court (Article 143), questioning the court's inherent powers under Article 142 to "impose" timelines and prescribe the manner of conduct of Governors and the President while dealing with State Bills.

CAN PRESIDENTIAL REFERENCE CHANGE A JUDGMENT?

The story so far:

On July 22, the Supreme Court issued notices to the Union Government and all States on a Presidential Reference seeking its opinion on whether the President and Governors can be judicially compelled to act within prescribed timelines on Bills passed by State legislatures. A Constitution Bench led by Chief Justice B.R. Gawai and comprising Justices Surya Kant, Vikram Nath, P.S. Narasimha, and A.S. Chandurkar indicated that detailed hearings would begin around mid-August.

What was the Presidential Reference?

The Reference stems from President Droupadi Murmu's submission of 14 questions following the Supreme Court's April 8 ruling. That decision arose from a petition filed by the Tamil Nadu government challenging Governor R.N. Ravi's delay in granting assent to 10 Bills that had been re-passed by the State legislature, and his subsequent decision to reserve them for Presidential consideration. The judges held that the Governor's prolonged inaction was illegal and, for the first time, imposed judicially enforceable timelines on Governors and the President to act on State Bills. The Presidential Reference broadly seeks clarity on whether courts can prescribe the manner and timeframe within which constitutional authorities must act.

Can the court advise?

Article 143(1) of the Constitution confers advisory jurisdiction on the Supreme Court, empowering it to render opinions on questions of law or fact that are not connected to any ongoing litigation. The only prerequisites are that the President must be satisfied that such a question has arisen or is likely to arise, and that it is of such a nature and of such public importance that it warrants the court's opinion.



However, the court is bound to limit itself strictly to the questions referred by the President and cannot exceed the scope of the Reference.

Can it decline a Reference?

Although the Supreme Court has chosen to entertain the present Reference, it is not bound to do so in every case. In *In Re: The Special Courts Bill (1978)*, the court held that the word “may” in Article 143(1) grants it discretion to decline a Reference. However, it must record reasons for such refusal.

In 1993, the court declined to answer a Reference on the Ayodhya-Babri Masjid dispute, citing the pendency of a civil suit and deeming the Reference “unconstitutional” for violating secularism. The judges also cautioned against the misuse of the court’s advisory opinion for political ends.

Are advisory opinions binding?

The binding force of advisory opinions remains contested. Article 141 of the Constitution states that the “law declared” by the Supreme Court is binding on all courts in India. In *St. Xavier’s College versus State of Gujarat (1974)*, the court clarified that advisory opinions do not amount to binding precedents, though they command significant persuasive authority. Nevertheless, there have been instances where the court has appeared to treat such opinions as authoritative. A notable example is the *R.K. Garg versus Union of India (1981)* case, where Justice P.N. Bhagwati treated the legal reasoning in the Special Courts Bill Reference as a binding precedent. This was despite Justice Y.V. Chandrachud’s explicit caveat in that Reference that the court’s opinion were not binding on other courts. As it stands, any advisory opinion issued in the present presidential Reference would not have binding force. The Supreme Court’s April 8 judgment, delivered in the exercise of its adjudicatory jurisdiction under Article 141, would continue to prevail irrespective of the opinion.

Can the court overturn its April 8 ruling through the Reference?

In its opinion on the Cauvery Water Disputes Tribunal Reference, the Supreme Court underscored that Article 143 cannot be used as a means for the executive to seek a review or reversal of its settled judicial decisions. “When this court in its adjudicatory jurisdiction pronounces its authoritative opinion on a question of law, it cannot be said that there is any doubt about the question of law or the same is *res integra* so as to require the President to know what the true position of law on the question is,” the opinion said. Accordingly, the only valid recourse to challenge the April 8 ruling is through review or curative petitions.

However, in *re Natural Resources Allocation (2012)*, the court held that there is no constitutional bar on its ability to clarify, restate, or even formulate a fresh opinion on a question of law under Article 143(1), so long as the *ratio decidendi* of an earlier judgment remains intact and the rights of parties in the original case are unaffected. The Reference followed the court’s decision quashing the 2G spectrum allocation and mandating auctions as the sole method for spectrum distribution.

However, in 1998, a Presidential Reference was used to modify certain aspects of a previous ruling on judicial appointments. While reaffirming the validity of the collegium system laid down in *Supreme Court Advocates-on-Record Association versus Union of India (1993)*, the court revised the composition and functioning of the collegium, thereby refining the appointment process without overturning the earlier judgment.

While the April 8 judgment is final, its findings on the law may still be refined or elaborated upon by the Constitution Bench hearing the present Reference.



JUSTICE VARMA'S REMOVAL: PROCESS TO BEGIN, SPEAKER TO NAME PROBE PANEL

The process of removal of Justice Yashwant Varma will be set in motion in the Lok Sabha soon with Speaker Om Birla expected to soon announce the constitution of a statutory committee to investigate the grounds on which the removal of the judge is sought, The Indian Express has learned.

- Birla and Rajya Sabha Deputy Chairman Harivansh met Wednesday with Secretaries General of both the Houses and the officials discussed the modalities to finalise the procedure. Union Home Minister Amit Shah also joined the meeting later.
- The discussions took place on a day the Supreme Court said it will set up a bench to hear Justice Varma's plea challenging the legal validity of the in-house inquiry committee which confirmed charges of recovery of unaccounted cash from his official residence in Delhi.
- This comes in the shadow of Vice President Jagdeep Dhankhar's surprise resignation Monday evening and, as The Indian Express reported Tuesday, hours after his decision to accept the Opposition's notice on Justice Varma had rubbed the government the wrong way.
- This had created "confusion," government sources said, because Birla had received a similar notice from Lok Sabha MPs with 145 signatures around 12.30 pm Monday, hours before Dhankhar made the reference to the Opposition notice in the Rajya Sabha.

Do You Know:

- Former Lok Sabha Secretary PDT Achary said that when the Speaker received the notice from Lok Sabha MPs, the process of removal was set in motion. "The Speaker has to admit it. Then the Speaker will appoint a statutory committee, the Speaker does not have to bring it before the House. Because the House has no role at that stage," Achary said.
- Sources said the statutory committee – with one judge of the Supreme Court, one from the High Courts, and a distinguished jurist – will be announced soon. The committee will probe the charges against Justice Varma and submit a report to the Lok Sabha Speaker. If the committee finds him guilty, a motion will be taken up in the Lok Sabha and it will be discussed in detail. The motion will be put to vote and it requires a two-third majority to be passed. Once the process is over the same, will be repeated in the Rajya Sabha.
- Justice Varma challenged the conclusions of the report by the three-member in-house judicial panel. The three-judge panel, headed by Chief Justice Sheel Nagu of the Punjab and Haryana High Court, conducted the inquiry for 10 days, examined 55 witnesses and visited the scene of the fire that started at around 11.35 pm on March 14 at the official residence of Justice Varma, then a sitting judge of the Delhi High Court and now in the Allahabad High Court.
- Acting on the report, then CJI Khanna wrote to President Droupadi Murmu and Prime Minister Narendra Modi recommending the judge's impeachment.

CJI TO FORM BENCH TO HEAR PLEA FILED FOR JUSTICE VARMA

Chief Justice of India B.R. Gavai on Wednesday said he will constitute a Bench for hearing a petition filed on behalf of Allahabad High Court judge, Justice Yashwant Varma, challenging the in-house



inquiry procedure and the then-Chief Justice Sanjiv Khanna's recommendation to the President and Prime Minister, in the month of May, to remove the judge from office.

The Chief Justice said he, however, would not be part of the Bench.

Constitutional issues

Mr. Sibal said the petition has raised several constitutional issues with respect to the recommendation made by Chief Justice Khanna (now retired) for the removal of Justice Varma.

The petition in the Supreme Court argued that the in-house inquiry process was a "parallel, extra-constitutional mechanism" designed for the judiciary to usurp Parliament's exclusive authority.

The challenge in the top court contended that the in-house inquiry took away the exclusive powers of Parliament under Article 124 and 218 of the Constitution to remove judges through an address supported by a special majority after an inquiry under the Judges (Inquiry) Act, 1968.

"This Act provides a comprehensive, legislatively sanctioned process with stringent safeguards, including formal charges, cross-examination, and proof beyond reasonable doubt for 'proved misbehaviour'.

On the other hand, the in-house procedure, which adopts no such comparable safeguards, usurps parliamentary authority," the petition said.

The petition, filed under an anonymous acronym 'XXX', described the petitioner as an Allahabad High Court judge.

SC CAUTIONS ED AGAINST BEING USED TO FIGHT POLITICAL BATTLES

The Supreme Court Monday saw sharp exchanges over some of the actions of the Enforcement Directorate (ED), with the court ticking off the agency, indicating that it should not be used for political battles, and saying that its "officers are crossing all limits".

- As Chief Justice of India B R Gavai presiding over a two-judge bench, which also included Justice K Vinod Chandran, made the observation, Solicitor General Tushar Mehta contended "there is a concerted effort to create a narrative against an institution."

- The observations came in three matters, first involving summons against Karnataka Chief Minister Siddaramiah's wife B M Parvathi and Minister Byrathi Suresh in connection with alleged illegal allotment of sites by the Mysuru Urban Development Authority (MUDA), and the other over notices to some senior advocates for appearing before the agency in connection with cases allegedly involving their clients.

- Taking up ED's appeal against the Karnataka High Court order quashing the summons to Parvathi and Suresh, CJI Gavai told Additional Solicitor General S V Raju, who appeared for the probe agency, "Mr Raju, please don't ask us to open our mouth. Or we will have to pass very harsh comments. We have been saying since morning that we don't use this court as a political platform... Otherwise, we will have to make some harsh comments about ED... Unfortunately, I have some experience with ED in Maharashtra."

- Earlier in the day, the CJI bench took up two petitions. One of them sought the initiation of criminal contempt against West Bengal Chief Minister Mamata Banerjee over her remarks on the



apex court's ruling in the teachers' recruitment scam case. The other was by the Karnataka Government challenging the quashing of a criminal case filed against BJP MP Tejasvi Surya for comments about the alleged suicide of a farmer.

- In the first, CJI Gavai said, "Don't try to politicise before the court; your political battle, you should fight somewhere else. List after 4 weeks."
- In the Tejasvi Surya case, while dismissing it, the court said, "What is this? Don't politicise the matter. Fight your battles before the electorate."

Do You Know:

- The ED was established on May 1, 1956, as the 'Enforcement Unit' under the Department of Economic Affairs within the Ministry of Finance for handling violations of exchange control laws under the now-repealed Foreign Exchange Regulation Act, 1973 (FERA). Later on, it was renamed the Enforcement Directorate and was transferred to the administrative control of the Department of Revenue, and subsequently entrusted with the enforcement of a broader range of financial laws.

SC RULING ON EVIDENCE IN MATRIMONIAL DISPUTES RAISES QUESTIONS ABOUT RIGHT TO PRIVACY

The Supreme Court ruled last week that secretly recorded conversations between spouses are admissible evidence in matrimonial disputes. The Court set aside a 2021 Punjab and Haryana High Court judgment that barred a husband, who sought a divorce, from using secretly recorded phone conversations with his wife as evidence in court. This was a crucial question for the apex court to settle, since several high courts had given different rulings on the issue. The Indian Evidence Act, 1872, codifies spousal privilege — a common law principle that a person cannot be compelled to testify against their spouse in a criminal case. While this provision carves out an exception for cases fought between the spouses themselves, high courts have been reluctant to allow secret recordings as evidence since there is a reasonable expectation of privacy in a marriage. The SC ruling is a careful balancing of the fundamental right to privacy and the right to a fair trial. It also raises larger questions about the right to privacy as understood in personal spaces in a deeply invasive digital era.

Divorce cases are often bitterly contested. At stake is not just a court decree for separation but a bundle of rights, from alimony to custody of children. With vast digital footprints even in the most private of spaces, the nature of 'evidence' to prove allegations in these cases has changed over the years. From CCTV footage, text chains, emails and video and voice recordings, evidence can be gathered with a single click. "The phone on which the conversation was recorded is no different from an eavesdropper," the Court said. These are not aspects that lawmakers would have envisaged when codifying the law on spousal privilege. On the issue of privacy, the Court said that there is no right to privacy between married spouses. The ruling says that the right is applicable against the state and not against private individuals, even if that is within marriage, where a degree of privacy is expected. This interpretation is at odds with how larger SC benches have interpreted the right to privacy. The Court has in previous judgements called for a horizontal application of the right to privacy, exercised against the state and a fellow citizen.

Allowing covert evidence in matrimonial disputes is consequential. It could have a bearing on other kinds of matrimonial issues, including marital rape, where the question of how credible evidence will be gathered is often raised. Even as the SC has allowed covert evidence, trial courts



will still have to balance the relevance of such evidence, as there exists a significant gender gap in smartphone ownership and access to technology.

ANCESTRAL PROPERTY RIGHTS FOR ADIVASI WOMEN: CONSTITUTION'S PROMISE OVER CUSTOMARY LAW

On July 17, the Supreme Court affirmed that a woman from a tribal community has an equal right to her family's ancestral property. The Court struck down an order of the Chhattisgarh High Court, which in 2022, cited the absence of a specific customary law to deny inheritance rights to an appellant. Customary laws are generally unwritten conventions that govern the community affairs of tribal groups. Last week, however, the SC took a more expansive view of the rights of women from these communities and laid down that their exclusion from inheritance rights was discriminatory. Emphasising Article 14, which guarantees equality before the law, the SC pointed out that "Customs too, like the law, cannot remain stuck in time". They cannot be used to "deprive others of their right," the Court ruled. The case dates to 1992, when Dhaiya, a tribal woman in Chhattisgarh, sought the partition of her maternal grandmother's property and was denied multiple times — first by customary laws, and then by trial and appellate courts. The SC's order is a significant intervention in the debate on gender justice in tribal communities.

This is not the first time that the apex court has taken a strong stand in favour of inheritance rights of women from tribal groups. In December 2022, while hearing a case of a tribal woman from Odisha who sought a share in the compensation awarded for the acquisition of land belonging to her ancestors, the SC said, "When the daughter belonging to the non-tribal is entitled to the equal share in the property of the father, there is no reason to deny such right to the daughter of the tribal community. Female tribal is entitled to parity with male tribal in intestate succession..." The bench had then advised the Centre to "look into the matter and if required, to amend the provisions of the Hindu Succession Act (HSA)." The Act does not apply to Scheduled Tribes. The Indian Succession Act, 1925, too, gives states the power to exclude the tribals. Section 20 of the Santhal Pargana Tenancy Act, 1949, allows the woman to inherit her father's property if she marries a man and makes him a ghar-jamai (resident son-in-law). The marriage, however, has to happen during the lifetime of the father.

Customary laws are important as a bulwark against forceful assimilation and homogenisation of tribal communities. At the same time, as the SC rightly pointed out in Dhaiya's case, "collective ethos of the Constitution" ensures "that there is no discrimination against women".

EVERY SC/ST COMPLAINT MUST LEAD TO FILING OF FIR WITHOUT PRELIMINARY INQUIRY, SAYS HC

In a significant verdict, the Madras High Court has held that the police cannot conduct a preliminary inquiry on receipt of complaints disclosing cognisable offences under the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act of 1989, and that the law enforcing agency should straightaway register a First Information Report (FIR) against the suspects.

Justice P. Velmurugan said Section 18A(1)(a) of the Act, introduced by way of an amendment in 2018, categorically states that no preliminary inquiry would be required for registration of FIR. "The legislative intent is to ensure immediate and unfiltered registration of complaints alleging caste-based atrocities, without procedural obstructions or administrative discretion," he said.



The judge agreed with advocate R. Thirumoorthy that the police often do not follow the legal mandate. Therefore, he directed the Director-General of Police/Head of Police Force (DGP/HoPF) to communicate a copy of his order to all Commissioners as well as Superintendents of Police in the State to avoid infraction of the legal requirement as far as SC/ST cases were concerned.

The judge said he had been coming across instances of preliminary inquiries being conducted in SC/ST cases, and such inquiries being conducted by officers below the rank of Deputy Superintendent of Police (DSP), though Rule 7(1) of the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Rules, 1995, mandates inquiry in such cases by police officers not below the rank of DSP.

Stating that procedural lapses should not recur, the judge made it clear that the investigation in SC/ST cases must be completed, and final reports/chargesheets must be filed before the special courts within 60 days from the date of registration of FIR.

HOW DIFFERENT CONSTITUTIONAL DRAFTS IMAGINED INDIA

India's path to becoming a republic was paved with a range of constitutional visions articulated by diverse political thinkers and movements before the adoption of the 1950 Constitution. Between 1895 and 1948, various drafts were proposed reflecting contrasting ideologies — from early liberalism to Gandhian decentralism to radical socialism. These five key constitutional drafts that preceded the final Constitution offer insights into differing interpretations of sovereignty, governance, economic justice, and cultural identity.

Early constitutional visions

The Constitution of India Bill, 1895, attributed anonymously but often linked to early nationalists like Bal Gangadhar Tilak, was one of the earliest efforts to frame a constitution for self-rule within the British Empire. Containing 110 articles, this draft proposed representative government, individual rights, legal equality, and a clear separation of powers. It emphasised civil liberties such as freedom of speech, the right to property, and equality before the law, setting forth a legalistic and liberal vision inspired by British constitutional models. It was more an aspiration for dominion status than a call for complete independence.

In contrast, M.N. Roy's Constitution of Free India: A Draft (1944), created under the Radical Democratic Party, was grounded in the philosophy of radical humanism and advocated a participatory form of democracy. Roy envisioned a federal India composed of linguistically organised provinces and promoted popular sovereignty as the bedrock of governance. His draft introduced the right to revolt as a safeguard against tyranny and featured a robust Bill of Rights encompassing civil and socio-economic guarantees. Citizens' committees were proposed to ensure grassroots participation, making Roy's vision strikingly ahead of its time in its emphasis on decentralisation, transparency, and social accountability. This document went well beyond traditional liberalism, promoting direct democratic control and economic equity.

A distinctive feature of Roy's draft was its rejection of parliamentary sovereignty in favour of a constitutionally entrenched republic where citizens, not legislators, were the ultimate locus of power. Roy's insistence on institutionalising political education, through mechanisms such as citizens' committees, highlighted his commitment to transforming subjects into active citizens. The draft was also unique in its clarity and precision: the Preamble defined the republic as a "free, secular, federal, and democratic" polity, and the structure of government envisioned checks



against bureaucratic centralism through provincial autonomy and public participation. Importantly, Roy's draft placed economic and social rights on equal footing with civil liberties — anticipating the eventual Fundamental Rights–Directive Principles split in the 1950 Constitution. Yet unlike the non-justiciable nature of the Directive Principles, Roy's socio-economic rights were enforceable and binding.

Homogenous yet secular

The Constitution of the Hindusthan Free State Act (1944), associated with nationalist right-wing circles such as the Hindu Mahasabha, presented a sharply contrasting perspective. It proposed a unitary state structure and declared India a sovereign “Hindusthan Free State,” emphasising cultural unification through one language, one law, and one national culture. Yet, contrary to prevailing assumptions, the draft did explicitly guarantee religious freedom and equal treatment across castes and creeds. It affirmed freedom of conscience and the right to profess, practise, and propagate religion subject to public order and morality. It barred the State from endowing any religion or discriminating based on religious belief. The draft also explicitly rejected any state religion for the Hindusthan Free State or its provinces and prohibited the use of public funds for sectarian purposes. These provisions underscore a commitment to formal secularism and non-discrimination in public employment and education, despite the document's culturally homogenising tone and emphasis on national unity. The juxtaposition of these liberal guarantees with an overarching nationalist framework reflects the tensions within the ideological thrust of the draft.

In addition, the 1944 draft was one of the few to contain an explicit reference to the right of secession, stating that provinces could opt out of the Union under certain conditions — an unusual feature given its otherwise unitary orientation. It also mandated the state to promote “moral and spiritual values,” thus embedding a civilisational mission into its constitutional logic. Its provisions for emergency powers and the duties of citizens echoed a strong state-centric ethos, while still including democratic processes such as direct election to the legislature and regular judicial review.

Decentralism to socialist democracy

On a very different note, the Gandhian Constitution for Free India, drafted in 1946 by Shriman Narayan Agarwal with a foreword by Mahatma Gandhi, sought to ground India's constitutional framework in indigenous traditions and moral values. This draft was built upon Gandhi's principles of non-violence, trusteeship, and rural self-sufficiency. It proposed a confederation of self-sustaining village republics (gram swaraj) as the basic unit of governance. Rejecting both industrial capitalism and Western legalism, the Gandhian model envisioned decentralised, minimalist governance led by ethical self-regulation rather than law enforcement. With its strong focus on khadi, agriculture, and cottage industries, it aimed to create a self-reliant, spiritually grounded republic, though critics found it impractical for governing a complex modern state.

Strikingly, however, the draft included a provision for the right to bear arms — a somewhat ironic inclusion in a constitution guided by Gandhian non-violence. Article 6 of the draft proclaimed that “every citizen shall have the right to keep and bear arms in accordance with such regulations as may be made by the Legislature,” revealing a pragmatic concession to the need for self-defence or resistance, even within a pacifist framework. This dissonance between the ideal of ahimsa and the constitutional recognition of arms underscores the tensions inherent in attempting to reconcile ethical philosophy with the imperatives of statecraft.



By 1948, the Socialist Party, under the leadership of Jayaprakash Narayan, offered its Draft Constitution of the Republic of India as a counter-proposal to the official draft prepared by the Constituent Assembly. This document was firmly rooted in Marxist and democratic socialist thought, advocating the nationalisation of all major industries, banks, and key services. It called for the abolition of private ownership of the means of production and proposed land reforms and workers' control over factories. This socialist draft envisioned a unicameral legislature composed of representatives from key social groups — workers, peasants, and intellectuals — thus rejecting the traditional liberal representative model in favour of a class-based system. It went further to assert that all land and natural resources were national property, and that planning would be conducted by a Central Planning Commission accountable to the legislature. Strikingly, the draft also offered an early commitment to gender equality and prohibited caste discrimination in any form. Civil liberties were acknowledged, but the document prioritised economic democracy, with socio-economic rights taking precedence over procedural safeguards. While it was bold in its redistributive commitments, the draft was less detailed in its administrative and judicial architecture, assuming that radical economic transformation would organically support political democracy.

Comparative analysis

When viewed comparatively, these drafts reflect divergent paths for India's future republic. The 1895 Bill and Roy's draft both championed democracy, but Roy's version expanded it through mechanisms like the right to revolt and participatory governance, departing significantly from the legalistic, elite-centred liberalism of the earlier proposal. Centralisation versus decentralisation is another crucial axis of comparison. While the Hindusthan Free State Act and the Socialist Party draft leaned towards a strong centralised authority to preserve national unity or effect economic restructuring, Roy's and the Gandhian drafts were deeply committed to decentralised governance, albeit in different ways — Roy through institutional federalism and democratic oversight, and Gandhi through autonomous village self-rule grounded in moral authority.

Economically, the spectrum ranged from the minimalist and agrarian Gandhian model, to Roy's emphasis on democratic economic planning, to the Socialist Party's full-fledged state socialism. The Hindusthan Free State draft, while largely silent on economic redistribution, offered a more complex picture than often presumed — it prioritised national cohesion but enshrined specific liberal protections around religious freedom and equality. Meanwhile, the 1895 Bill reflected an absence of economic radicalism, concerned primarily with civil liberties and political representation. Cultural and identity politics also played out markedly differently. The Hindusthan Free State draft projected a homogenised, majoritarian cultural identity, in contrast to the pluralistic and secular ethos implicit in Roy's draft and the Socialist Party's vision. The Gandhian model, while rooted in Indian traditions, emphasised unity through moral and communal harmony rather than cultural uniformity.

On civil liberties, the 1895 Bill and Roy's draft were strongest, both incorporating detailed rights frameworks. The Socialist Party draft prioritised economic rights over political ones, whereas the Gandhian draft focused more on duties and community values than on formal rights. The Hindusthan Free State draft, while ideologically nationalist, nevertheless provided robust constitutional guarantees for religious freedom and non-discrimination, challenging the assumption that it was devoid of liberal principles. In all, these constitutional drafts capture a vibrant pre-independence debate on the nature of the Indian state, reflecting ideological diversity and differing assumptions about governance, society, and citizenship. Though none of these drafts were adopted wholesale, elements from each filtered into the 1950 Constitution. Roy's ideas on



decentralisation and rights, the Gandhian notion of panchayati raj, the Socialist commitment to economic justice, and even the legalistic structure of the 1895 Bill all left their mark. Their greatest contribution, however, may lie in showcasing the democratic imagination at play even before the republic was born — a testament to India's rich constitutional legacy and the multitude of futures it once contemplated.

19 YEARS AFTER MUMBAI TRAIN ATTACK, THERE IS NO CLOSURE — ONLY UNANSWERED QUESTIONS

Nineteen years ago, sophisticated bombs ripped through seven local trains in Mumbai within 11 minutes. They killed 189 people, and injured 816. In less than three months, the Anti-Terrorism Squad of Maharashtra Police arrested 13 individuals, named another 15 in hiding as accused, and claimed to have cracked the case. Stringent anti-terror laws, from the Unlawful Activities (Prevention) Act to the Maharashtra Control of Organised Crime Act, were invoked, and the investigators claimed the accused had confessed to their crimes. They were subsequently tried and awarded sentences of life imprisonment and the death penalty in 2015. On Monday, the Bombay High Court acquitted 12 men, highlighting critical procedural lapses in the investigation. The 617-page verdict raises important questions about how an investigation in a case that shook the nation is riddled with worrying loose ends and gaps. Justice Anil S Kilar begins with a disquieting assessment of the case: "Punishing the actual perpetrator of a crime is a concrete and essential step toward curbing criminal activities, upholding the rule of law, and ensuring the safety and security of citizens. But creating a false appearance of having solved a case by presenting that the accused have been brought to justice gives a misleading sense of resolution. This deceptive closure undermines public trust and falsely reassures society, while in reality, the true threat remains at large."

The High Court ruling points to a series of serious lapses in the investigation, from picking and choosing eyewitnesses, reliance on maps allegedly recovered from the accused, and how confessional statements were obtained. The court notes the serious allegations and medical evidence of custodial torture of the accused. The ruling shows that even the basic element of the case — the nature of the bombs used — was not established with cogent evidence by the prosecution. The state did not have adequate reasons or material evidence, the court held, to grant sanction to prosecute the accused under MCOCA. This is a crucial step in the process when stringent anti-terror laws are invoked. These are laws enacted with the stated goal of combating terror threats that give the state wide powers. They reverse the burden of proof, allow prolonged detention and powers of invasive surveillance, and relax evidentiary standards. It is worrying that Maharashtra Police could not establish the case even to this standard. "The prosecution has utterly failed to establish the offence beyond a reasonable doubt against the accused on each count, it is unsafe to reach the satisfaction that the Appellants/Accused have committed the offences for which they have been convicted and sentenced," the court said.

Strict anti-terror laws provide a legal framework for the state. But rigorous and fair investigations are crucial for their effectiveness and legitimacy. It is true that there is immense pressure on the state when a gruesome attack, such as this one, is perpetrated on the people. But that makes it even more important that it holds itself to high standards of investigation. Botched investigations and trials that span decades do an added injustice to the victims. The state has a right to appeal the verdict before the Supreme Court, where the final word lies. For now, 19 years later, there is no closure for families of the victims.



ASSAM EVICTIONS: HIMANTA BISWA SARMA GOVERNMENT MUST NOT TRADE EMPATHY FOR POLITICAL EXPEDIENCY

The recent wave of eviction drives in Assam raises troubling questions. In the past month alone, the state has conducted five major drives across four districts, including Dhubri, Lakhimpur, Nalbari and now, Paikan reserve forest in Goalpara, removing at least 3,300 families from forest land, grazing land and government revenue land. These have been framed as an exercise in reclaiming encroached land in accordance with the standing order of the Gauhati High Court to minimise man-animal conflict. However, from Darrang and Luming in 2021 to Barpeta in 2022 to now, the execution of these drives, and the polarising political rhetoric surrounding them, serve to underline a troubling reality: In Assam in the recent past, all too often, governance appears to function through the prism of exclusion, not inclusion.

To be sure, underlying the state's initiatives are legitimate concerns — environmental degradation, land management, and deep-seated anxieties around migration and identity that have persisted since Partition and the creation of Bangladesh in 1971. According to the Union Environment Ministry, as of March 2024, Assam had the second highest encroachment of forest land in the country, after Madhya Pradesh. But weaponising these concerns to target specific communities — most eviction drives have focused on areas with large populations of Bengali-origin Muslims — underlines a politics of dispossession. Over the past weeks, Chief Minister Himanta Biswa Sarma has spoken of “demographic invasion” by “people of one religion,” of “land jihad”, and of his determination to “protect Assamese constituencies” in places where “an effort has started to change the demography of Upper Assam”. Such rhetoric from the chief minister — not for the first time — stands to transform administrative action into communal performance. It recasts vulnerable citizens as outsiders, an especially cruel turn in a state where, post-National Register of Citizens, nearly 19.6 residents had been rendered suspect, forced to prove their citizenship without state support. According to the state government, over 1.19 lakh bighas of land have been reclaimed since Sarma came to power in 2021 and over 50,000 people have been evicted. These statistics encompass homes, schools, livelihoods, lifelines and lifetimes. Many of the evicted are displaced victims of river erosion, economic marginalisation, or historical neglect. An absence of humane policy response stands to render eviction not as an administrative necessity, but as a form of institutional violence; not enforcement but erasure.

With assembly elections less than a year away, the Assam government's campaign against purported outsiders in the state has gained political urgency. But electoral arithmetic must not override constitutional responsibility and due process. If the aim is environmental or administrative correction, it must be carried out without inflammatory rhetoric or partisan action, and with a commitment to transparency. It means building trust, offering rehabilitation, and recognising that the rights to shelter, belonging and dignity are fundamental. When the state trades empathy for political expediency, it is the notion of justice that gets bulldozed.

STATES CAN'T SEEK DELIMITATION CLAIMING PARITY WITH J&K: SC

The Supreme Court on Friday held that the Centre did not discriminate against the electorates of Andhra Pradesh and Telangana or dampen their “legitimate expectations” by conducting the delimitation of constituencies in the Union Territory of Jammu and Kashmir in 2022.



A Bench of Justices Surya Kant and N. Kotiswar Singh said that States could not claim “parity” by arguing that delimitation was done in Jammu and Kashmir, but not for them. “That would be like treating unequals equally,” the court observed.

Constitutional embargo

The judgment was based on a petition filed by Professor K. Purushottam Reddy, seeking a direction to the Centre to conduct a delimitation exercise in Andhra Pradesh and Telangana to readjust the seats in the States’ Assemblies. The petitioner had pointed to the exercise done in Jammu and Kashmir as a precedent. Justice Kant, who authored the verdict, explained that there was a specific constitutional embargo in Article 170 which mandated that the delimitation exercise in States is barred until after the completion of the first Census post 2026.

Jammu and Kashmir, on the other hand, being a Union Territory, is excluded from the freeze on delimitation under Article 170 of the Constitution. The delimitation exercise in the Union Territory had been undertaken on the basis of the 2011 Census.

Distinct domains

“The two States in question (Andhra Pradesh and Telangana) and the Union Territory of Jammu and Kashmir operate in distinct constitutional domains. Any delimitation exercise carried out in one cannot serve as a benchmark or ground of comparison for the other. The delimitation undertaken for the Union Territory of Jammu and Kashmir cannot be mechanically extended to States bound by the express embargo under Article 170(3) of the Constitution,” the Supreme Court held.

Besides, the court held that allowing delimitation for Andhra Pradesh and Telangana through a judicial dictum would foster discontent among other States and breed inequality.

“Granting such a relief would prompt unabated challenges from other similarly situated regions. In particular, the four North-Eastern States — Arunachal Pradesh, Assam, Manipur, and Nagaland — which were expressly excluded from the scope of delimitation by way of a Central notification in 2021,” Justice Kant emphasised.

The court said that any leeway allowed to Andhra Pradesh and Telangana before the 2026 Census would “destabilise the uniform electoral framework and blur the clear demarcation between constitutional prescription and political discretion”.

WHAT IS THE LEGAL STATUS OF RIGHT TO VOTE?

The story so far:

The Supreme Court is hearing cases filed against the Special Intensive Revision (SIR) of electoral rolls in Bihar. One of the questions that has arisen during this debate has been the legal status of the ‘right to vote.’

What are various rights?

Before understanding the status of ‘right to vote’ in India, let us briefly understand the different types of rights.



Natural rights are inherent and inalienable rights that are bestowed by nature on individuals. Right to life and liberty are considered to be natural rights. Indian courts may decide that a natural right is embodied in a fundamental right, but they do not directly enforce any natural right. Fundamental rights enumerated and guaranteed in Part III of the Constitution secure equality and liberty which are enshrined in our Preamble. The state is prohibited from making laws that violate these rights. They are directly enforceable in the Supreme Court under Article 32 of the Constitution.

Constitutional rights are contained in the Constitution but outside of Part III. These rights include right to property, free trade, and no taxation without the authority of law. These rights are operationalised through Union and State legislations aligning with the constitutional mandate. They are enforceable in a High Court under Article 226 or as per the legal process in the laws that operationalise them.

Statutory or legal rights are provided and amended by ordinary laws of Parliament or State legislature. Examples include right to work under the MGNREG Act; rights of scheduled tribes under the Forest Rights Act; right to subsidised food grains under the National Food Security Act etc. These are enforceable as per the legal process in the laws that provide these rights.

What does the Constitution say about universal adult franchise?

Article 326 of the Constitution grants every citizen the right to vote, without any discrimination. It provides that every citizen, who is not less than 18 years of age on such date as may be fixed by law and is not otherwise disqualified under the Constitution or any law on certain grounds, shall be entitled to be registered as a voter.

The laws enacted by Parliament in this regard are the Representation of the People Act, 1950 (RP Act, 1950) and the Representation of the People Act, 1951 (RP Act, 1951). Section 16 of the RP Act, 1950 disqualifies a non-citizen from being enrolled in the electoral roll. Section 19 of the same law requires that the person is not less than 18 years of age on the qualifying date and is 'ordinarily resident' in a constituency.

Section 62 of the RP Act, 1951 provides the right to vote to every person whose name is entered in the electoral roll of a constituency. It further specifies that this right shall not be exercisable by a person who is disqualified under the RP Act, 1950 or is in prison.

What have courts ruled?

The legal status of the right to vote has been a subject matter of debate in various cases in our country. In the N.P.Ponnuswami case (1952), a Constitution Bench of the Supreme Court held that the right to vote is a statutory right and subject to limitations imposed by it. In the Jyoti Basu case (1982), the court reiterated that the right to vote is neither a fundamental right nor a common law right but a simple statutory right. Subsequently in many cases, the same ratio was followed and upheld by the court. In the PUCL case (2003), Justice P.V. Reddy observed that the right to vote, if not a fundamental right, is certainly a 'constitutional right.'

However, a Constitution Bench of the Supreme Court in the Kuldip Nayar case (2006), again held that right to vote is only a statutory right.

In the Raj Bala case (2015), a division bench of the Supreme Court, based on the ratio in the PUCL case, held that the right to vote is a constitutional right. However, in the Anoop Baranwal case (2023), the majority opinion, reiterated the judgment in the Kuldip Nayar case, that the right to



vote is only a statutory right. Hence, the current legal status of the right to vote is that it is a statutory right.

Justice Ajay Rastogi, in his partial dissent in Anoop Baranwal, noted that the right to vote is an expression of the choice of the citizen, which is a fundamental right under Article 19(1)(a). Right to vote is intrinsic to free and fair elections that is part of the basic structure of the Constitution. Even if not considered a fundamental right, this right originates from Article 326 of the Constitution and is shaped by statutes made by Parliament. Considering these factors, the Supreme Court may consider elevating the status of right to vote into a constitutional right.

DECODING ECI'S COUNTER AFFIDAVIT ON SIR

The story so far:

The Election Commission of India (ECI) filed a counter affidavit in the Supreme Court on July 21, in response to the writ petition challenging the constitutionality of the special intensive revision (SIR) exercise currently underway in Bihar. The text in the 789-page ECI affidavit is only 88 pages long; bulky annexures run into almost 700 pages. Around 625 pages of these annexures comprise representations received by the ECI from various political parties, along with their annexures.

What's the rationale for a citizenship test?

A preliminary review of the complaints annexed with the ECI's affidavit reveals that they mostly pertain to typical defects like duplication of names in the voter list, non-deletion of deceased voters, exclusion of eligible voters and fake or fraudulent voter registration.

None of the complaints involve the electoral rolls of Bihar, nor does any of the complaints allege instances of illegal migrants from foreign countries being included in the electoral rolls in any State. The complaints, which account for almost 80% of the volume of ECI's counter affidavit, do not provide any evidence or justification for the ongoing SIR exercise in Bihar or a nationwide citizenship test of electors across the country, for which the affidavit vehemently argues.

Is it legally tenable?

The counter affidavit invokes Article 326 which specifies that "every person who is a citizen of India... shall be entitled to be registered as a voter", and also Section 15 of the Representation of the People Act, 1950 which mandates the preparation of electoral rolls "under the superintendence, direction and control" of the ECI, to insist on its having statutory authority to undertake a 'de novo' preparation of electoral rolls, requiring electors already registered in the electoral rolls to submit fresh documentary proof of their citizenship. The affidavit also rebuffs the apex court's advisory to include Aadhaar card, the Elector's Photo Identity card (EPIC) and ration card in the list of permissible documents for the SIR exercise.

There are several fallacies in the ECI's arguments. First, the SIR process shifts the onus of citizenship proof on all existing electors whose names were registered by the ECI through due process. Another due process is also available for the deletion of non-citizens from electoral rolls on the basis of specific complaints backed by evidence. Have those due processes been rendered dysfunctional by the overwhelming nature of inclusion errors vis-a-vis illegal migrants?

If so, the ECI's affidavit should have been able to present precise data on the number of complaints received on the inclusion of foreign nationals or illegal migrants in the electoral rolls of Bihar, and



all other States for that matter. In the absence of such evidence, ECI's logic that inclusion in electoral rolls through summary revisions are only provisional and only those added or verified through intensive revisions like SIR have more authenticity, does not hold.

Second, the Representation of the People Act, 1950, does not make any distinction between electors added through summary revisions and those added through "special intensive revisions". While section 21(3) of the law permits the ECI to direct a "special revision" for individual constituencies or their parts, the word "intensive" does not find any mention in the law. The Registration of Electors Rules, 1960 were amended in 1987 to introduce two separate categories of electoral roll revisions, summary and intensive. However, even the 1960 rules do not provide any specific definition or modalities for "intensive" revisions. The statutory foundation of SIR, therefore, remains fuzzy.

Third, the arguments provided by ECI's affidavit in rejecting the Supreme Court's advice to include EPIC, as one of the documents to prove eligibility, contradicts the exemption granted to electors included in the 2003 electoral roll from furnishing any document under SIR 2025 other than "the relevant extracts of the said part showing their name in the 2003 electoral roll". ECI's affidavit states that the children of electors included in the 2003 rolls have also been allowed to use this avenue to prove their eligibility. Such privileging of the inclusions in the 2003 electoral rolls, over and above all electoral rolls published by the ECI in two subsequent decades, is legally questionable.

The ECI's affidavit mentions that the 2003 Bihar SIR guidelines prescribed four indicative documents as proof of citizenship, namely "NRC Register where available; Citizenship Certificate; valid passport; or Birth Certificate." However, a copy of the 2003 SIR guidelines have not been provided with the affidavit. Was there any house-to-house enumeration and citizenship verification for the entire electorate during the 2003 Bihar SIR on the basis of such documentary requirements? How many illegal migrants were detected and deleted from rolls in 2003? These facts need to be ascertained and debated before accepting inclusions in the 2003 electoral rolls as probative evidence of citizenship under SIR.

Fourth, the ECI's affidavit asserts the applicability of the contrived citizenship criteria introduced by the Citizenship Amendment Act, 2003 in SIR 2025; whereby (a) Each voter has to submit documentary proof of his/her date and place of birth; (b) For those born between July 1, 1987 and December 2, 2004, additional documentary proof of date and place of birth of either father or mother is required; and (c) For those voters born after December 2, 2004, both parents' date and place of birth are required to be submitted.

The constitutionality of this controversial citizenship amendment legislation, which had proposed to introduce a National Register of Indian Citizens (NRC), remains under challenge before the apex court. The rules under this Act were notified even before the CAA, 2003, was passed and notified, casting doubts over its legal status. Most importantly, the Registrar General of India never issued any order to initiate the NRC, as stipulated in the citizenship rules. Hence, the NRC does not exist anywhere in India, except for the State of Assam. Prime Minister Narendra Modi had clarified in December 2019 that his Cabinet had never discussed the initiation of the NRC since 2014.

When the authorities statutorily mandated to initiate the NRC and its underlying citizenship scheme apropos CAA, 2003 have decided not to proceed with it till date, can the ECI claim to have any legal mandate to implement the same citizenship test in Bihar, in lieu of an electoral roll revision?



What will be the impact?

The ECI's counter affidavit has tried to counter criticisms regarding the exclusionary nature of the SIR exercise by highlighting that filled up enumeration forms have already been collected and digitised from over 90% of the 7.89 crore electors in Bihar. The moot point here is that the ECI's affidavit does not disclose the number or proportion of digitised enumeration forms which are accompanied with the required documents. Rather, the affidavit mentions that "each elector who has submitted the enumeration form with or without documents will be included in the draft roll to be published August 1, 2025."

Thus, the coverage of over 90% of the electors in the SIR process has been attained by postponing the requirement for document submission along with the enumeration forms. The scrutiny of enumeration forms and documents by the electoral registration officers are to commence only after the draft rolls are published. This does not testify for the inclusivity of the entire SIR process.

The status of the SIR exercise reported in the ECI's affidavit contains data till July 18, 2025. The updated status provided by the ECI's press note on July 22 is reproduced in Table 1. Till then, around 21.35 lakh (2.7%) electors were yet to receive and submit their enumeration forms. Major political parties of Bihar were officially requested by the ECI to connect with the remaining electors, through their functionaries and booth level agents.

Till July 24, around 7 lakh forms were not received. Inability of the ECI in ensuring cent percent coverage through its own machinery of booth level officers (BLOs) and volunteers further exposes the impracticality of the SIR schedule.

Moreover, over 53 lakh (6.7%) electors were not found at their residential addresses by the BLOs. While around 1 lakh among them are reported as "not traceable" and another 7 lakh as multiple enrolments, the numbers of deceased electors at over 21.6 lakh (2.7%) and those permanently migrated at 31.5 lakh (4%), are quite significant. Whether errors are involved in such exclusions can be known only after the publication of the draft rolls.

The constituency-wise distribution of these exclusions also remains unreported. The impact of deletion of migrated electors can be substantial if they are clustered within a few constituencies and demographics.

Why is ECI not accepting Aadhaar, ration cards?

ECI's non-acceptance of the apex court's advisory on including Aadhaar and ration cards in the list of indicative documents rests on tenuous grounds. The ECI's own enumeration form for SIR 2025 seeks the Aadhaar number from all electors, albeit on a voluntary basis. The ECI's affidavit states that statutorily "Aadhaar is not proof of citizenship", which is specious logic, because statutorily the ECI has no mandate to conduct a citizenship test.

In the case of ration cards, the ECI has cited "widespread existence of fake ration cards" as the ground for non-acceptance. A data table in ECI's affidavit on the coverage of some of the eleven eligibility documents for SIR 2025 in Bihar show 13.89 crore "Residence certificates" and 8.72 crore caste certificates issued from 2011 to 2025, far exceeding the total number of electors in the electoral rolls. If residence certificates can be accepted as eligibility proof of SIR 2025, despite their total number exceeding Bihar's current aggregate population, how can ration cards be rejected as a document on the grounds of being forgery-prone?



Any widely accessible official card or document in a vast country like India would be prone to counterfeits — currency notes offering the most common example. Solutions need to be found in plugging systemic loopholes, enhanced vigilance and effectively designed counter-measures.

Unless the ECI revises its rigid insistence on citizenship determination, the Bihar SIR exercise is likely to result in a fiasco bigger than the four-year-long NRC process in Assam between 2015 and 2019, which was eventually rejected by all those who demanded it after reportedly spending ₹1,600 crore of public money.

PHONE SURVEY OF 338 MIGRANT WORKERS REVEALS GAPS IN SIR

Around 68% of the migrant workers from Bihar working in different parts of the country do not have the correct information on the documents required for the Special Intensive Revision (SIR) of the electoral rolls that is currently under way in the State, according to a study. Nearly 35% of them not have any of the 11 documents required for the exercise, the study found.

A phone survey of migrant workers from Bihar was conducted by the Stranded Workers Action Network (SWAN), a volunteer-driven initiative that was started in the wake of the COVID-19 pandemic. SWAN, in a statement, said that the survey was conducted among 338 migrant workers from their database from July 19 to July 21.

SWAN said that even though their sample “is not a statistically representative survey”, the findings provide strong evidence that migrant workers are most susceptible to documentation deficits.

SWAN said that it found that among the respondents, there were 248 individuals who were residing elsewhere. Of this, 75% “had not even heard of the online portal to submit the enumeration form for SIR”, adding that they found just two of these people had submitted the forms online. It found that out of 333 respondents, 53% said that an official had visited their homes in Bihar for the SIR, 23% said no official had visited their homes, and about 24% said they were not aware if officials had visited their homes.

Among those who had someone visit their home, about 45% said forms were collected with copies of Aadhaar or voter id.

COST OF PROMISES

It is raining welfare in Bihar. Nothing surprising: the stakes are high for the ruling National Democratic Alliance in the approaching Assembly elections. According to recent announcements, household consumption of up to 125 units of electricity per month will be free, with effect from August 1 this year. This scheme will cover around 1.67 crore households. Under the Kutir Jyoti Yojana, the government will provide free rooftop solar installations for about 58 lakh Below Poverty Line families. The welfare hamper of the ruling coalition also includes a promise of 35% job reservation in all State government jobs for women, an increase in social security pension from ₹400 to ₹1,100, the creation of a Bihar Youth Commission, and more. A new internship support scheme offers between ₹4,000 and ₹6,000 a month to youth (18 to 28 years) for undertaking internships, and based on their educational qualifications. The plan is to start supporting 5,000 youth in the first year and scaling it up to cover one lakh beneficiaries over the next five years. To promote religious tourism, the State has announced a ₹882.87 crore redevelopment plan for Punaura Dham Janki Mandir, said to be the birthplace of Lord Rama’s wife Sita. Migrants from the State who live outside will receive government support to return home during festivals.



All this follows a familiar pattern of governments using welfare as an instrument of election-eve management of popular sentiment. The absence of any serious planning or vision behind such sporadic announcements is evident. They are often in response to the promises of a political rival. In Bihar, the Opposition Rashtriya Janata Dal has said that the Nitish Kumar government's welfare catalogue is a forced reaction to its promises of similar measures if voted to power. Ahead of the Maharashtra Assembly elections, the Mahayuti government rolled out a cash transfer scheme for women which helped it win. Later, the new government pruned the list, admitting that there were undeserving beneficiaries. Free electricity schemes now exist in several States. Prime Minister Narendra Modi has often questioned the rationale of 'freebies', but arbitrary new schemes continue to proliferate. In Bihar, the scramble among parties is also in the context of Chief Minister Nitish Kumar's advancing age. His party, the Janata Dal (United), is smaller than the Bharatiya Janata Party (BJP), and the election could further alter the dynamics of State coalition politics. The control of power had increasingly shifted from Mr. Kumar to the BJP in the last five years and the future of the JD(U) is set to decline. Competitive welfarism is all that remains in the toolkits of all parties to woo voters.

AGONY OF EXIT

The abrupt decision by Jagdeep Dhankhar to resign as the Vice-President of India raises several questions about the relationship between the executive and Parliament. Also in focus are the dynamics within the ruling BJP. The Vice-President is also the chairman of the Rajya Sabha. Mr. Dhankhar is the first Vice-President in the history of the Republic to resign this way — some of his predecessors who resigned before completing their term had the reason of moving on to get elected as the President of India. While his resignation letter cites health reasons, it is clear that his decision was driven by other factors which remain speculative at this point. What is evident is that some of the developments on Monday had snowballed into a situation in which Mr. Dhankhar found exit to be the only viable path. He was active in his duties as the Chair, on the first day of the monsoon session of Parliament, and his office had also announced his public engagements for the week. After a health incident earlier this year, Mr. Dhankhar had returned to active public life, but nothing that had happened on Monday necessitated a health-related decision. However, his decisions and statements on Monday citing parliamentary rules were in conflict with the script that the government had prepared for the removal of a Delhi High Court judge on charges of alleged corruption. His relationship with the executive had been souring for a while, but his position on judicial accountability, and the relative roles of the Lok Sabha and the Rajya Sabha in seeking it, turned out to be an inflection point, as it appears.

Mr. Dhankhar's conduct as Chair of the Rajya Sabha during the last three years has been controversial. His partisan approach led to a motion for his removal by the Opposition, another first in parliamentary history. He questioned the inclusion of the words 'secular' and 'socialist' in the Constitution, publicly aligning with the RSS's call for a debate on them. He has been a champion of parliamentary supremacy in the context of judicial independence and vocal about corruption in the judiciary. While seeking to uphold the supremacy of Parliament and to draw a line of acceptable conduct for the judiciary, he entertained an Opposition move to impeach Justice Shekhar Kumar Yadav of the Allahabad High Court who had made communally charged remarks in public. Mr. Dhankhar acknowledged receiving a motion signed by over 50 MPs for Justice Yadav's removal and said he was verifying their signatures. He had also accepted an Opposition motion for the removal of the Delhi judge. Mr. Dhankhar had few options other than what he did, going by the rules. But that put him on a collision course with the government. His resignation weakens India's parliamentary democracy.



EC BEGINS PREPARATIONS TO HOLD VICE-PRESIDENTIAL POLLS

The Election Commission (EC) said on Wednesday that it has begun preparatory activities to hold the Vice-Presidential election and will announce the poll schedule “as soon as possible.”

Jagdeep Dhankhar had resigned from the post on Monday, citing health reasons, creating a rare mid-term vacancy in the constitutional position.

The EC is mandated to conduct the election to the office of the Vice-President of India under Article 324 of the Constitution.

The election is governed by the Presidential and Vice-Presidential Elections Act, 1952 and the Presidential and Vice-Presidential Elections Rules, 1974.

“Accordingly, the Election Commission of India has already started the preparations relating to the Vice-Presidential Elections, 2025. On completion of the preparatory activities, the announcement of the Election Schedule to the office of the Vice-President of India will follow as soon as possible,” the poll body said in a statement.

Electoral College

The poll-related activities include the preparation of the Electoral College, the finalisation of the Returning Officer and Assistant Returning Officer(s), and dissemination of background material on all the previous Vice-Presidential elections.

The Vice-President is elected by an Electoral College, which consists of the elected and nominated members of both the Rajya Sabha and the Lok Sabha.

According to the Presidential and Vice-Presidential Elections Rules, 1974, at least 20 electors have to propose the nomination of a candidate, with at least another 20 electors as seconders. The nomination paper has to be presented to the Returning Officer between 11 a.m. and 3 p.m. on any day appointed for the purpose, either by the candidate herself or by any of her proposers or seconders.

DANGER OF THOUGHT

The Maharashtra Special Public Security (MSPS) Bill, 2024 follows the disturbing pattern of executive overreach in the name of security. Existing laws are often misused against political opponents and critics of the ruling party, including commentators. Charges are often vague and sweeping, and the process itself becomes the punishment in many of these cases. Given this pattern, the move by Maharashtra’s Mahayuti government led by the BJP to create an entire law to criminalise a certain kind of thought portends danger to freedom and democracy. Chief Minister Devendra Fadnavis has said that the new law would only target those who try to undermine the constitutional order, but the possibility — indeed the probability — of its misuse is apparent. The State says that it is seeking to prevent Maoists from brainwashing youth, professionals, and civil servants through front organisations. As in the proposed law, which is now awaiting the assent of the Governor before coming into force, the State government can declare any suspect “organisation” as an “unlawful organisation”. Offences under the proposed law include membership of such organisations, fundraising on their behalf, managing or assisting them, and committing unlawful activities.



The Bill's focus is on people and organisations that act as a front for Maoists, and what is unlawful is so broadly defined that anyone can be its target. Among other things, according to the Bill, 'unlawful' is "any action taken by an individual or organization whether by committing an act or by words either spoken or written or by sign or by visible representation or otherwise, which constitute a danger or menace to public order, peace and tranquillity". Offences are cognisable and the accused can be arrested without a warrant. Punishment includes jail terms of two years to seven years, along with fines ranging from ₹2 lakh to ₹5 lakh. The State argues that Chhattisgarh, Telangana, Andhra Pradesh and Odisha have enacted Public Security Acts and banned 48 Naxal frontal organisations. The Opposition parties offered feeble resistance to the Bill and raised some broad concerns regarding its misuse but it was passed in the Assembly through a voice vote. As an afterthought, the Congress and the Shiv Sena (UBT) protested on the floor when it was taken up in the Legislative Council. The Bill had gone through a long deliberative process, but as it turns out, all parties appeared to be in agreement, barring the lone CPI (M) MLA who protested against it on the floor of the Assembly. The idea that thought and speech, howsoever unpalatable they might be to the ruling establishment, should be policed poses a grave danger for India as an open society.

HEALING MANIPUR

The imposition of President's Rule, once a frequent and politically motivated tool of the Centre, has declined considerably since the 1990s. This welcome shift is a consequence of S.R. Bommai, the landmark judgment, the rising influence of regional parties in national politics, and public revulsion to its misuse. In recent years, its application has become rare, reserved for genuine constitutional breakdown or severe internal security challenges, such as in Manipur. On Friday, President's Rule was extended there by another six months, from August 13. But few would contest the extension, as the Centre is struggling to find a durable solution to the ethnic conflict. Following the resignation of N. Biren Singh and the fall of the BJP government, there has been a discernible but fragile calm. A crackdown on militant groups that had operated with impunity has reduced open violence, and some families displaced since May 2023 have begun to return home. However, these positive developments are overshadowed by the unbridged and deep-seated ethnic schism between the Kuki-Zo and Meitei communities. The landscape of Manipur is still carved up by buffer zones, rigidly segregating communities. The political chasm is just as stark: Kuki-Zo groups are resolute in their demand for a separate administration, while hardline Meitei organisations persist with a narrative that brands fellow citizens as "outsiders".

Administrative steps, particularly those that reiterate de-weaponisation and a defanging of militant groups acting for ethnic interests, must continue. They not only break the aura of impunity with which these groups function but will also encourage moderates to raise their voices for reconciliation. During Mr. Singh's tenure, prominent civil society activists seeking to halt the conflict by critiquing the biased nature of governance were hounded. But the administrative measures to improve the rule of law must be supplemented by political gestures. The BJP enjoyed support in the valley and the hills when it was elected, but has been unable to bridge the ethnic hostility. This is largely because the party's national leadership has shown little inclination to treat the issue urgently, leaving it to civil servants and security forces to tackle the problem. While the continuation of President's Rule might seem inevitable in Manipur, its success should not be measured by the absence of violence alone. The Centre's responsibility is to foster political conditions to bridge the ethnic divide, but that responsibility must be shared. Political parties and civil society groups must defy the hardliners and begin the painstaking work of reconciliation. The



future of a peaceful Manipur will be written by the initiative of committed political actors willing to transcend ethnic divisions and work toward the genuine healing of their fractured society.

CLEAN HOUSE

Behind the hazardous cleaning deaths of 150 people in 2022 and 2023, a social audit of 54 of which the Ministry of Social Justice has tabled in Parliament, lies a deleterious business model. Local contractors had hired 38; only five were on a government payroll. The rest were public sector workers 'loaned' to private employers, obscuring liability. Progress on this front has lagged despite the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013, court orders, Swachh Bharat advisories, and the 2023 National Action for Mechanised Sanitation Ecosystem (NAMASTE) scheme. A 2024 Parliament reply said 57,758 workers were engaged in hazardous cleaning nationwide but only 16,791 PPE kits were supplied. Fewer than 14,000 had received health cards and only 837 safety workshops had been conducted in 4,800 urban local bodies. There are at least two bright spots, however. In Odisha, identified workers have PPE kits and access to mechanised desludging vehicles and Tamil Nadu has piloted sewer robots in Chennai to clean over 5,000 manholes. Technology and political will can thus deliver the desired results but little has reached most districts. Experts also flagged a near-complete lack of data on rural sanitation workers.

India's real problem is enforcement. Industry members have said most underground infrastructure can be cleaned robotically if capital subsidies and operator training expand, yet government tenders often solicit manual bids. Most emergency response sanitation units are paper tigers. Only ₹14 crore has been released so far under the NAMASTE scheme, insufficient to mechanise sewer cleaning in even one major city. In the event of a worker death, police routinely book the lowest ranking supervisor or classify the death as an accident. The Supreme Court has asked for offending contracts to be cancelled and monetary liabilities imposed on principal employers, but local bodies are still to notify such rules. Two-thirds of validated workers are also Dalits, yet rehabilitation packages rarely include housing or scholarships that might help families exit contemptible occupations. Women who still sweep dry latrines receive even less policy attention. Among other measures, urban local bodies must mechanise sewer-cleaning post haste, and make it a licensed trade, and operating without a valid certificate a cognisable offence. Loans for workers to operate the machines that replace manual entry should be upscaled and linked to guaranteed service contracts from municipalities. Finally, the national government should include septic tank desludging under the Swachh Bharat rural budget and extend NAMASTE profiling to gram panchayats.

DRONE SWARMING TO SMARTER WAR ROOMS: ARMY'S AI ROADMAP FOR OPS BY 2026-27

From coordinated drone missions (or drone swarming) and real-time battlefield monitoring to combat simulations for troop training, information warfare, and data-backed decision-making — the Indian Army is learnt to have drawn up a detailed roadmap identifying key areas where it plans to deploy Artificial Intelligence (AI), Machine Learning (ML), and Big Data Analytics by 2026–27.

- According to sources, one of the immediate priorities is to improve battlefield awareness using AI tools that can process large volumes of information quickly. These include text summarisers



built on Large Language Models (LLMs) to scan and condense long reports, AI-powered chatbots, voice-to-text systems, facial recognition, and tools that can detect unusual patterns or threats.

- Sources said the roadmap — which sets specific tactical, operational and strategic goals to be met by 2026–27 — includes deploying AI across a wide range of functions, including decision support systems that can generate counter-intelligence, enhance surveillance, manage logistics and supply chains, analyse Open Source Intelligence (OSINT) and social media, map adversary capabilities, and run wargaming simulations.
- These technologies will also be used for better positioning and targeting of equipment, predictive maintenance, and AI-based navigation in environments where GPS access is denied. Decision support systems will further assist in operational planning and threat detection.
- To support long-term integration, AI features will be embedded in the General Staff Qualitative Requirements — the technical specifications for all new equipment being procured. The Army also plans to explore retrofitting select AI capabilities into legacy equipment, sources said.

Do You Know:

- AI will also be used to analyse feeds from drones, satellites, aircraft and ground sensors, and fuse this data in real time to support faster, more informed decision-making.
- Although the use of AI has been discussed by the Army in the past, it is now being fast-tracked, in the wake of lessons learnt from Operation Sindoor — the Army’s cross-border operation in May targeting terror infrastructure in Pakistan and Pakistan-occupied Kashmir.
- As part of this push, an AI task force under the Directorate General of Information Systems (DGIS), with representatives from other Army directorates, will soon be set up to oversee the implementation of niche technologies across the force.
- An AI lab is being set up at DGIS to develop and test models, which will also be integrated with AI applications being developed by the Navy and the Air Force. Additionally, the Army is pushing for greater collaboration with industry and academia to advance research in this space.

IAF TO RETIRE MIG-21 FIGHTER JETS IN SEPT, AFTER SIX DECADES OF SERVICE

After protecting the Indian skies through all major conflicts over more than six decades, the legendary MiG-21 fighter jets are set to retire in September.

Sources in the military told The Indian Express that the Indian Air Force (IAF) is set to retire the remaining Russian-origin MiG-21 fleet in a ceremonial decommissioning on September 19 at the Chandigarh airbase. Two squadrons of the MiG-21 Bisons are currently active.

- India procured more than 700 MiG-21 aircraft of different variants, such as the Type-77, Type-96, BIS and the Bison, since the aircraft’s induction in the IAF in 1963.
- The phasing out of the aging MiG-21 fleet was originally scheduled to be concluded by 2022, but was held up due to the delay in the planned induction of other fighter jets, including the indigenous Light Combat Aircraft Tejas, which are set to replace the MiG-21 squadrons.



- Between 2017 and 2024, at least four MiG-21 squadrons were phased out. India has a sanctioned fighter squadron strength of 42, but has 31 active squadrons. The phasing out of the MiG-21 fleet will further bring down IAF's active fighter squadrons.

Do You Know:

- The MiG-21 Bison, which comprises the last two squadrons to be retired, is one of India's six fighter jets. The single engine, single-seater multi-role fighter/ground attack aircraft has been a key fighter jet with the IAF. The Bison is the latest upgrade of the MiG-21 jets. Over 100 MiG-21s of the IAF have been upgraded to Bison in the last nearly three decades.
- The MiG-21 Bison upgrades included avionics and communication systems, electronics, multi-function display cockpits, the Kopyo light-weight multi-mode radar, radio sets, electronic warfare suite, inertial navigation system/GPS, a helmet-mounted display and a better windshield, among others. However, the engine performance and load carrying capacity of the jet could be not enhanced as part of the upgrades, with its airframe being the major limitation.
- With a maximum speed of 2230 km/hr, the jet carries one 23mm twin-barrel cannon with four R-60 close combat missiles. Initially developed as an interceptor, the supersonic jet was eventually upgraded to perform as a multi-role combat aircraft, including ground attacks.
- Despite its stellar performance in all wars and conflicts fought by India, the MiG-21 jets had earned a mixed reputation due to several crashes, although it can happen due to a multitude of reasons. Some estimates say that India lost over 400 MiG-21 jets, including its variants and trainer versions, since its induction, and the crashes killed over 100 pilots and some civilians.

FAR FROM POLITICS, JOURNEY OF HINDI IN SOUTHERN STATES

The governments of Tamil Nadu, Karnataka and Kerala have in the past called the three-language formula proposed by the National Education Policy (NEP), 2020, a covert move to impose Hindi on the southern states. They allege that the Centre's Hindi push goes against the idea of a federal polity. While the debate goes on, with the southern states often pitted as anti-Hindi, away from the noise of political debates, the language and its speakers have had a long history in the region.

- "Scholars say Hindi actively began to make its presence felt in the South around the Independence movement, with Mahatma Gandhi establishing the first Dakshin Bharat Hindi Prachar Sabha in Madras (now Chennai) in 1918. The objective was to teach Hindi to a non-Hindi-speaking populace as a link language for the freedom movement."
- "Learning Hindi was one way of feeling that one is participating in the Indian national freedom movement," says Prof J Atmaram of the University of Hyderabad's Hindi Department.
- "In 1922, the Dakshin Bharat Hindi Prachar Sabha conducted its first preliminary exam to test basic Hindi proficiency. The first undergraduate examination, Rashtrabhasha Visharad, was conducted in 1931. In the other southern states where the Sabha had its regional centres — Hyderabad, Vijayawada, Kochi and Gulbarga — Hindi learning gained in popularity. "For example, Andhra Pradesh acted as a corridor between Hindi and other southern languages. The state welcomed Hindi learning, be it in Hyderabad or Vijayawada," says Atmaram."



- “In Karnataka and Kerala too, there wasn’t much opposition to Hindi. “Tucked away in Ernakulam south stands the Dakshin Bharat Hindi Prachar Sabha, active since the 1930s,” he said”
- “Hindi grew more organically with the advent of mass media — radio and TV. “At radio stations in Madras and Trichy, Hindi programming, along with regional languages, continued in independent India,” said Atmaram.”
- “By the 1970s, Doordarshan had reached homes in the South with its Satellite Instruction Television Experiment (SITE). The experiment, which began in 1975, focused on Karnataka and Andhra Pradesh, where instructional programming with shows dedicated to agriculture and education would have one visual component and two language components. For instance, a person in Andhra watching one of these programmes could opt to do so in Telugu. “But while instructional programming had a language option, mass media programming, including news and entertainment which were aired through SITE, were mainly in Hindi,” says Prof B P Sanjay, who worked on SITE and was former director of the Indian Institute of Mass Communication.”
- “In the 1970s and ’80s, another phenomenon contributed to the spread of Hindi — magazines published in Hindi. For instance, Dakshinanchal Hindi Samiti translated Bhakti literature into southern languages and vice versa.”
- “These magazines gave writing in Hindi a push. The focus was on schooling students in Hindi and the NEP of 1968 paved the way with its recommendation of a three-language policy which foregrounded Hindi and English along with the regional languages. Except for Tamil Nadu, which followed the two-language (English and Tamil) policy in government- and aided-schools, all other southern Indian states had adopted the three-language policy.”

Do You Know:

- Article 351 of the constitution of India says “It shall be the duty of the Union to promote the spread of the Hindi language, to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India”.
- However, the provision says, this must be done “without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule”.
- The 2011 linguistic census accounts for 121 mother tongues, including 22 languages listed in the 8th Schedule of the Constitution. Hindi is the most widely spoken, with 52.8 crore individuals, or 43.6% of the population, declaring it as their mother tongue. The next highest is Bengali, the mother tongue for 9.7 crores (8%) — less than one-fifth of Hindi’s count.
- In terms of the number of people who know Hindi, the count crosses more than half the country. Nearly 13.9 crore (over 11%) reported Hindi as their second language, which makes it either the mother tongue or second language for nearly 55% of the population.

SUICIDES ON CAMPUS: SUPREME COURT ISSUES 15 GUIDELINES, CALLS FOR MENTAL HEALTH POLICY

Outlining the rise in suicides and mental health issues among students in educational institutions, the Supreme Court on Friday issued pan-India guidelines to combat the problem.



- A bench of Justices Vikram Nath and Sandeep Mehta said there remained a “legislative and regulatory vacuum” in the country with respect to a unified, enforceable framework for suicide prevention of students in educational institutions, coaching centres, and student-centric environments.
- While issuing 15 guidelines, the bench said the measures should remain in force and binding, until such time as appropriate legislation or regulatory frameworks were enacted by the competent authority.
- All educational institutions were directed to adopt and implement a uniform mental health policy, drawing cues from the “Ummeed” draft guidelines, the “Manodarpan” initiative, and the National Suicide Prevention Strategy.
- The top court highlighted Centre’s preventive steps to mitigate the situation, with “Ummeed” (understand, motivate, manage, empathise, empower, and develop) draft guidelines — meant to prevent school student suicides — released by the Ministry of Education in 2023.
- The verdict came on an appeal against an order of the Andhra Pradesh HC, rejecting the plea to transfer the probe over the unnatural death of a 17-year-old National Eligibility-cum-Entrance Test aspirant, preparing in Vishakhapatnam, to the CBI.
- The bench said all educational institutions with 100 or more enrolled students should either appoint or engage at least one qualified counsellor, psychologist, or social worker with demonstrable training in child and adolescent mental health.
- “Institutions with fewer students shall establish formal referral linkages with external mental health professionals,” the verdict said.
- The bench continued, “All residential-based institutions shall install tamper-proof ceiling fans or equivalent safety devices, and shall restrict access to rooftops, balconies, and other high-risk areas, in order to deter impulsive acts of self-harm.”
- All educational institutions, particularly coaching institutes or centres, were asked to refrain from segregating students’ batches on the basis of academic performance, public shaming, or assignment of academic targets disproportionate to their capacities.
- The bench stressed on the need for zero tolerance when it came to retaliatory actions against complainants or whistle-blowers. In all such cases, immediate referral to trained mental health professionals must be ensured, and the student’s safety, physical and psychological, should be prioritised, it said.
- “Failure to take timely or adequate action in such cases... shall be treated as institutional culpability, making the administration liable to regulatory and legal consequences,” the bench added.
- The guidelines would apply to all educational institutions, including public and private schools, colleges, universities, training centres, coaching institutes, residential academies and hostels, irrespective of their affiliation.
- The top court in a separate case took cognisance of suicides in educational institutions and directed the constitution of a National Task Force on mental health concerns of students and prevention of suicides in higher educational institutions.



Do You Know:

- Student suicides made up 7.6 per cent of all suicide cases reported across India in 2022, showing a slight dip from 8.0 per cent in 2021 and 8.2 per cent in 2020, according to official data shared in Lok Sabha.
- “The Ministry of Education’s flagship programme, Manodarpan, has reached lakhs of students through counselling helplines and live interactive sessions, while the Ministry of Health and Family Welfare’s district mental health programme (DMHP) covers 767 districts with suicide prevention services and life skills training in schools and colleges,” he said.

BOYS CONTINUE TO OUTNUMBER GIRLS IN PRIVATE SCHOOLS

Over the past decade, the share of private schools and the proportion of boys and girls enrolled in them have both increased across India, likely reinforcing each other. However, the share of girls attending private schools remains considerably lower than that of boys. In other words, while parents increasingly prefer private schooling, a considerable share of them still shows a slight preference for enrolling their sons over their daughters. Also, a relatively low number of girls are enrolled compared to boys in schools across northern and western India.

The share of government, government-aided, private, and other schools in 2012-13 and 2023-24. The share of government schools has fallen from 74.2% (2012-13) to 69.1% (2023-24), whereas the share of private schools has increased from 17.2% (2012-13) to 22.5% (2023-24).

The share of children enrolled in government schools has fallen from 57.3% (2012-13) to 51.4% (2023-24), whereas the share of private schools has increased from 28.2% to 36.3%.

For instance, in 2023-24, 54% of girls studied in government schools and 33% in private schools, while 49% of all boys studied in government schools and 39% in private schools.

In the northern and western States, the share of girls enrolled in any school is lower than India’s average of 48.1%.

SLIPPING GRADES, SOCIAL WITHDRAWAL, AGGRESSION: HOW SCREENS AFFECT CHILDREN

The entry of Artificial Intelligence (AI) hasn’t helped matters. “AI has impacted students, leading to more smartphone usage,” says Pavan Duggal, a leading cyber law expert.

- According to Anjali Kharbanda, Principal, N K Bargodia Public School in Dwarka, it usually starts with slipping grades. “The children then withdraw from social spaces, there is a loss of interest in participating in school activities, and their behaviour changes.” However, the drop in grades, she explains, is rarely the problem — more often, it’s a symptom.
- According to an international study published in June, in the medical Journal JAMA, researchers analysed screen use among 4,285 children from 10 years of age in the United States; they screened them for compulsive use and distress when denied devices.
- The study found that by the age of 14, those with high addictive behaviour were two or three times more likely to have suicidal thoughts. It also found a direct link between “high and



increasing addictive screen use trajectories” with “suicidal behaviours and ideation and worse mental health”.

• Schools, meanwhile, are grappling with how to handle screens in classrooms. “Banning phones makes no sense at all,” says Dr Ameeta Mulla Wattal, DLF Foundation schools chairperson and former principal of Springdales School. “Many use it as a teaching and learning device. Before Covid, there were very stringent measures in place in schools. Phones were confiscated.” But she acknowledges the dangers. She recalls an incident from Springdales a few years ago, of a teenage girl being bullied.

Do You Know:

- In February, the Delhi High Court, responding to a PIL, issued a set of directives for managing smartphone use in schools. It stopped short of imposing a ban, instead urging institutions to strike a balance between regulation and responsible access.
- Students, the court said, should not be barred from carrying smartphones, but schools must regulate their use — encouraging safe deposit systems at entry and prohibiting devices from disrupting classrooms, school discipline, or being used in common areas and vehicles.
- Following this, the Directorate of Education in April issued a circular to all government school heads, directing them to begin drafting institution-level smartphone usage policies. The circular acknowledged that no formal provision for managing smartphones existed in government schools.
- A vice-principal of a Delhi government school, who is drafting the policy in her school, says her staff agreed to allow only basic keypad phones — enough for emergencies. “There have been several cases of misuse,” the vice-principal adds.
- In 2022, twins Samaya and Samhara Chauhan, who study in Class XII at Pushp Vihar’s Amity International School, launched an anti-bullying initiative after seeing how mental health and cyberbullying are major concerns in their peer groups. “We realised the intensity of the issue and formed a team of four for an anti-bullying project,” says Samaya.

BREAKING THE TB CHAIN

With the aim of making clinical testing for a wider range of diseases more accessible, the Indian Council of Medical Research (ICMR) has updated its National List of Essential Diagnostics to include rapid diagnostic tests for sickle cell anaemia, thalassaemia, Hepatitis B and syphilis, among others. Significantly, there is a push for early detection of tuberculosis (TB) at the lower levels of the healthcare system — the list recommends collecting samples at the level of the sub health centre (SHC) for molecular TB testing in order to identify asymptomatic individuals, as well as the TB skin test in community healthcare centres, to detect the presence of the pathogen in those without an active infection.

WHO data shows that since 2015, India has made good progress in tackling TB. There has been a 17 per cent drop in the number of reported cases and a 20 per cent drop in the number of deaths. More than 85 per cent of those detected with the infection have received treatment and efforts to contain multi-drug-resistant TB are yielding results. It is evident that the TB problem is not intractable, but given India’s massive disease burden, accounting for 27 per cent of the global cases, there is no room for complacency. The challenge is compounded by the problem of



subclinical TB, where infected individuals do not yet present symptoms like persistent coughing. A study published in The International Journal of Tuberculosis and Lung Disease in 2024 found that 39 per cent of TB cases in India are subclinical, and therefore more likely to escape detection and continue spreading. This is why the attempt to tackle TB as early as possible matters. The ICMR's update, making molecular TB testing available at the level of the community health centre (CHC) —with sub-centres and primary healthcare centres (PHCs) also sending samples to be tested — could be crucial to providing timely treatment and breaking the chain of transmission.

Despite making significant progress, India is unlikely to meet its target of eliminating TB by the end of the year. The government has made the expansion of primary healthcare a key pillar of its policy, with the aim of bringing a broad spectrum of services closer to the people through the network of over 1.7 lakh centres around the country. The broadening of the TB diagnostics must be factored in, equipping SHCs and PHCs to identify and treat infected individuals as early as possible, even as initiatives to reduce the financial burden of treatment and improve access to nutrition are strengthened.

NEW TB SKIN TEST BY KERALA GOVT. OFFERS SIMPLE, ACCURATE WAY TO DETECT DISEASE

Health authorities in Kerala have introduced a new intradermal test called Cy-TB for detecting and treating tuberculosis (TB) infection following the prioritisation of latent TB infection treatment under the National TB Elimination Programme (NTEP).

TB infection is different from active TB disease. A person with TB infection harbours the organism causing TB infection (*Mycobacterium tuberculosis*) in the body. But the organism remains dormant or inactive in the body and the person neither has any TB symptoms nor is he contagious. If left untreated, 5-10% of them will progress to developing active TB disease when the body's immune system weakens. This could happen within weeks of acquiring the infection or maybe years.

A community-based cross-sectional study among adults in Thiruvananthapuram district in 2023 had reported that 20.5% of the adult population have tuberculosis infection. The study tested whole blood samples of 396 adults for TB infection and found that the prevalence of TB infection increased with age, ranging from 11.5% in the 18-35 age group to 30.3% in the 58-years-plus age group.

Since 2021, Kerala has been using the blood test Interferon Gamma Release Assay for detecting TB infection. However, this test required extensive laboratory support and it had a waiting period too.

Cy-TB is a highly specific, accurate and user-friendly skin test, wherein 0.1 ml dose of *M. tuberculosis*-specific antigens are injected into the skin in the inner forearm. An induration (a raised area) of 5 mm or more which develops on the skin within 48-72 hours indicates TB infection.

Cy-TB will be offered in district TB centres, taluk hospitals, at the block level in some districts and in all dialysis centres. The test is currently available in major private hospitals.



WHAT DOES THE SUGAR AND SALT LABELLING SAY?

The story so far:

The Health Ministry has asked all government departments to prominently display the amount of oil and sugar content on popular Indian snacks like samosa, vada paav, kachori, pizza, and burger, stating that this information has to be shared in cafeterias, lobbies, meeting rooms, and even government stationery.

What is the proposal?

“We are proposing a display of sugar and oil boards initiative to promote healthier dietary habits in various settings. These boards serve as visual behavioural nudges in schools, offices, public institutions, etc., displaying key information about hidden fats and sugars in everyday foods,” said Union Health Secretary Punya Salila Srivastava in a recent letter to all ministries, departments, and autonomous bodies of the Union government.

It has also requested that all official stationery-letterheads, envelopes, notepads, folders, etc., and publications print health messages as daily reminders to reinforce the fight against obesity.

Why are warning labels being devised?

The Health Ministry says these warnings are designed to create awareness.

According to the information released by the Health Ministry, India is currently facing an unprecedented rise in non-communicable diseases (NCDs), which account for over 66% of all deaths across the country.

With the rapidly changing demographic and epidemiological landscape, the burden of NCDs such as cardiovascular diseases, diabetes, chronic respiratory diseases, and cancers has become a public health challenge, particularly among individuals over the age of 30, it noted.

Pariksha Rao, director of nutrition and medical affairs at The Good Bug, a private venture in the wellness industry, points out that too much sodium, added sugar, refined oils, and sugar-sweetened drinks, often disguised as healthy options, can derail even the best diets. “These contribute directly to the risk of heart disease, stroke, type 2 diabetes, and poor metabolic health. At the same time, many people fall short on essential nutrients by not getting enough fibre, fruits, vegetables, whole grains, healthy fats, or fermented foods that support gut health,” she adds. Functional snacks, which promise health benefits, also add to the problem.

How is the nutrient value of food calculated?

Nutrient values of foods are calculated by conducting laboratory assessment of prepared foods and are represented on a per 100g basis for ease of understanding. It considers total sugar, saturated fat, and salt levels. Where lab-based nutrient analysis is not available/feasible, evaluations are based on aggregating the nutritional values of ingredients available in the Indian Food Composition Tables (IFCT) published by the Indian Council of Medical Research-National Institute of Nutrition-Hyderabad (ICMR-NIN).

The recently released ICMR-NIN’s Dietary Guidelines for Indians, 2024, made an attempt to indicate high fat, sugar, and salt (HFSS) foods as foods in which calories from total sugar exceed 10% of total energy, calories from added fat/oil exceed 15% of total energy, and salt content is



more than 625 mg per 100g of solid food, explains Bharati Kulkarni, director at ICMR-National Institute of Nutrition, Hyderabad.

She adds that the NIN supports the Centre's initiative to create public consciousness about HFSS foods as a step toward addressing the rising rates of obesity and non-communicable diseases, especially among children and youth.

The HFSS foods are usually processed and are typically low in essential nutrients; excessive consumption of HFSS foods can contribute to various health problems.

What are the guidelines on sugar and salt?

The World Health Organization recommends a healthy diet throughout life to help prevent all forms of malnutrition, as well as a range of diet-related non-communicable diseases, and lower the risk of infectious diseases. For adults in India, the recommended daily intake is less than 65g of total fat, less than 25g of added sugar, and less than 5g of salt. The limits have also been set for children in their various phases of development.

Ms. Rao advocates for building meals around fibre-rich ingredients, local produce, lean proteins, and healthy fats. "Cook at home more often, slow down at meals, and reduce reliance on packaged shortcuts. Small, consistent changes make a bigger impact than restrictive trends. What matters most isn't perfection, but a long-term pattern of choosing food that nourishes the body."

THE SILENT EPIDEMIC

Shalini Singh and Prashant Kumar Singh Writes: Nearly 20 per cent of Indian households now have all adult members classified as overweight, while 10 per cent have all adults classified as obese. India's obesity crisis is not a distant threat — it's a present reality.

- Recent national data paint a disturbing picture of India's nutritional transition. Nearly 20 per cent of Indian households now have all adult members classified as overweight, while 10 per cent have all adults classified as obese. This suggests shared environmental and behavioural factors. In states like Tamil Nadu and Punjab, two out of every five households have all adults classified as obese.
- Urban areas show clustering rates which are double those of rural areas, conveying a clear picture of how prosperity and urbanisation are transforming India's health landscape.
- What makes this particularly concerning is its transgenerational nature. When obesity clusters within households, children grow up in environments that normalise unhealthy dietary patterns and sedentary lifestyles, creating cycles of risk that transcend generations.
- The evidence linking obesity to cancer is overwhelming. The WHO's International Agency for Research on Cancer (IARC) has classified excess body weight as a significant risk for cancer.
- An IARC study, published in 2023, the largest of its kind, showed that having a high body mass index increases cancer risk by 17 per cent for people who also have cardiovascular diseases. The American Cancer Society estimates that excess body weight accounts for about 11 per cent of cancers in women and 5 per cent in men in the US.

**Do You Know:**

- The standard method of determining obesity across the world has thus far employed BMI cut-offs as the sole determinant. A person with a BMI of less than 18.5 is considered to be underweight, a BMI between 18.5 and 24.9 is considered to be normal, those with BMI between 25 and 29.9 are considered to be overweight, while those with BMI over 30 are considered to be obese.
- India's situation is particularly precarious because we face this obesity epidemic alongside existing healthcare challenges. The economic implications for patients are staggering, too. Cancer treatment can devastate families financially, and when obesity-related cancers strike multiple household members — as clustering patterns suggest they might — the economic burden can be catastrophic. Prevention, therefore, isn't just a health imperative; it's an economic necessity.
- The household clustering of obesity presents both a challenge and an opportunity. Rather than treating obesity as an individual's problem, we must recognise it as a health problem that requires targeting the family as a unit for intervention.
- The government's recent commitment to establishing Day Care Cancer Centres in all district hospitals over the next three years, with 200 centres planned for 2025-26, provides a crucial foundation.
- Obesity prevention programmes should target entire households, teaching families to shop for healthier ingredients; prepare meals at home consisting of fresh vegetables, leafy greens, whole grains and fruits; and engage in physical activities as a unit.

WULAR BACK IN THE PINK

The sight of dew droplets dripping down large lotus leaves in the morning enhances the bewitching charm of the Wular lake in the Kashmir Valley these days. Waxy green leaves and pink lotuses now embellish the large surface of the freshwater lake, surrounded by mountains, after a gap of three decades.

"It is the Almighty's miracle that lotuses are a reality on the lake again. The lake had turned barren more than three decades ago for our own sins. For local farmers, it means more money and happier times ahead this year," says Bashir Dar, a local fisherman.

Over the years, farming practices and rising population had increased nutrient pollution load and silting into the lake waters, which saw an extraordinary increase in nitrogen, phosphorus, and potassium levels. Lotus, being a deep lake plant, only blooms in water with low phosphorus. Also, with large amounts of silt added to the lakebed, which acts as an absorption basin for floodwaters, the lotus plants could not survive. "Lotus blooming [at present] is the result of ongoing de-siltation carried out after the 2014 floods in Kashmir," says Khursheed Khan, a teacher.

The lake, once considered among Asia's largest freshwater lakes, tells a sad story of ecological degradation. According to the Jammu and Kashmir Wildlife Department, the area of the lake was 217.8 sq.km. in 1911 and included 58 sq.km. of associated marshes. However, it was reduced to an alarming 86.71 sq.km. by 2007. The main cause of this shrinkage was conversion into agricultural land, thus reducing the lake area by 28% and its fauna by 17%, an official survey suggests.



In 1992, lotuses in the Wular stopped blooming after floods in the Jhelum river damaged the ecosystem.

At present, the lake is surrounded by 31 villages and home to over 12,000 households. The Wular lake is also home to folklore, with mythology and legends woven around gods and kings of the past.

The local communities are overjoyed by the pink blooms today. Lotuses act as a barometer of the ecological health of the lake. The lotus stems are collected through an arduous exercise as they are considered a delicacy. Traditionally cooked with freshwater fish, the stems are a must-have item at weddings in Kashmir.

24-YEAR SURVEY REVEALS THAT CORAL COVER IN LAKSHADWEEP SAW A 50% REDUCTION

Concerning revelations have emerged from one of the longest-running coral reef monitoring programmes in the Indian Ocean. The 24-year-long study shows that corals in the Lakshadweep archipelago have declined to half of what they were in 1998 as a result of repeated marine heatwaves, exacerbated by climate change.

However, local conditions, such as wave exposure and depth, play essential roles in shaping how reefs respond to and recover from these events.

The study, 'Local Environmental Filtering and Frequency of Marine Heatwaves Influence Decadal Trends in Coral Composition', published in the journal Diversity and Distributions, uses long-term data sets to propose a predictive framework, which could help identify vulnerable reefs, and reefs that may still have the potential to recover.

Since 1998, researchers from the Nature Conservation Foundation have been tracking reef condition at three atolls across the Lakshadweep archipelago — Agatti, Kadmat and Kavaratti — to understand how reefs respond to climate change. This programme has monitored reefs as they declined and recovered from three major El Niño Southern Oscillation (ENSO) events — in 1998, 2010 and 2016.

Reduced recovery rate

“Over 24 years, coral cover declined from 37.24% to 19.6%, reflecting a roughly 50% reduction from the 1998 baseline. This decline was explained by reduced recovery rates after each bleaching event, despite coral mortality decreasing with successive events. Recovery rates dramatically increased after six years, suggesting a critical period of bleaching-free years needed for reefs to recover.

PAIKAS AND THE UPRISING AGAINST BRITISH

Former Odisha Chief Minister Naveen Patnaik on Tuesday (July 22) expressed concern over the “omission” of the Paika Rebellion from the latest Class VIII history textbook of the National Council of Educational Research and Training (NCERT), calling it a “huge dishonour” to the brave Paikas.

- The NCERT has clarified that the 1817 rebellion will be included in the second volume of the textbook, set to be released in September-October.



- Throughout the 19th century, rural India was alive with discontent that periodically manifested itself in the form of armed resistance against old inequities and new hardships alike. The latter was primarily the result of military expansion of the British East India Company, which disrupted existing social relations in peasant and tribal communities.
- The Paika Rebellion, also known as the Paika Bidroha, was one such uprising.
- The Paikas (pronounced “paiko”, literally “foot soldiers”) were a class of military retainers who had been recruited from various social groups by the Gajapati rulers of Odisha since the 16th century. They would render martial services to the king in return for hereditary rent-free land (nish-kar jagirs) which they would cultivate during peacetime.

Do You Know:

- In 1803, Colonel Harcourt marched virtually unchallenged from Madras to Puri, and faced only feeble Maratha opposition onward to Cuttack. Harcourt had made an agreement with Mukunda Deva II, for free passage through Khurda in return for compensation of Rs 1 lakh and four parganas — Lembai, Rahanga, Surai and Chabiskud — which had been under Maratha control since 1760.
- When the Company did not fulfil these conditions, Jayee Rajguru, the custodian of the king marched to Cuttack with around 2,000 armed Paikas in order to pressurise the British. Although Harcourt paid a sum of Rs 40,000, he refused to give Khurda the four parganas. Rajguru subsequently conspired to overthrow the British, but was caught before the revolt could materialise.
- The Company subsequently took away the king’s lands, dethroned him, razed the fort at Barunei, and arrested Rajguru, who was convicted for waging war against the British government and executed on December 6, 1806. The king was banished to Puri.
- The end of native rule in Odisha marked the beginning of the decline of the Paikas’ power and prestige. Apart from losing political patronage, the Paikas, who previously enjoyed rent-free land, suffered due to new land revenue settlements introduced by the Company which drove Odia proprietors to ruin. Many were forced to transfer land to Bengali absentee landlords, often for a pittance.
- In March 1817, some 400 Kondhs equipped with traditional arms marched from Ghumusar towards Khurda. They were joined by an army of Paikas led by Bakshi Jagabandhu Bidyadhar Mahapatra Bhramarabar Ray, the former commander-in-chief of the king of Khurda and the erstwhile holder of the lucrative Rodanga estate.
- The Paikas and their rebellion have long been used to invoke Odia sub-nationalism.

IN GAME OF THRONES, WHY DMK, BJP VYING FOR CHOLA EMPEROR RAJENDRA I

Arun Janardhanan writes- “An emperor who ruled a thousand years ago has drawn two political heavyweights into the same arena, with Tamil Nadu Chief Minister M K Stalin and Prime Minister Narendra Modi making separate efforts to honour the legacy of Rajendra Chola I (1014–1044 CE), the maritime monarch of the Chola dynasty.”

• “While Stalin has declared the emperor’s birth anniversary as an official state celebration and announced several initiatives to commemorate his rule, Modi is set to visit Gangaikonda Cholapuram in Ariyalur district, which was once the Chola capital, on July 27 to unveil a

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



commemorative coin and inaugurate an exhibition on Rajendra Chola's northern conquest. The Union Ministry of Culture is hosting a four-day festival in the town commemorating 1,000 years of Rajendra Chola's maritime expedition to Southeast Asia and the commencement of the construction of the Gangaikonda Cholapuram temple."

- "Rajendra Chola inherited a powerful kingdom from his father Rajaraja I, but it was his bold campaigns from the Ganga to Suvarnadwipa (an ancient term for islands in Southeast Asia, including Java and Sumatra) that turned the Cholas into a pan-Asian maritime empire."
- "To commemorate his successful northern expedition, Rajendra Chola established Gangaikonda Cholapuram and ceremonially poured Ganges water brought back by his army into a vast man-made reservoir known as the Cholagangam tank, locally referred to as Ponneri. This act was immortalised in copper plate inscriptions, including those cited by K A Nilakanta Sastri in The Cholas, describing how Rajendra created a "liquid pillar of victory (ganga-jalamayam jayastambham) using sacred water from the Ganga."
- "According to the Trichinopoly Gazetteer (1855 edition) by British civil service officer F R Hemingway, the Cholagangam tank once irrigated approximately 1,564 acres of land. Later reports note that the embankment extended some 25 km, with multiple sluices engineered to manage water flow."
- "The tank, once the hydrological heart of Gangaikonda Cholapuram and an engineering marvel, now lies in disrepair. As recorded in the Trichinopoly Gazetteer by Hemingway, the tank embankments were fortified by laterite stone and sluices designed to control sediment flow."
- "The British dismantled much of the town's granite fortifications in 1832 to construct the Lower Kollidam Anaicut, breaking promises to rebuild its outer wall. The destruction was resisted by locals who were reportedly punished for their defiance. "A promise was made that a brick wall would be built in place of the stone wall that was pulled down," the 1855 Gazetteer mentions. "But it has never been redeemed."
- "The PM visit also carries its symbolic weight. On Sunday, he will unveil a commemorative coin to mark the 1,000th anniversary of Rajendra Chola's Gangetic campaign, while musician Ilayaraja is set to perform a 20-minute concert. An exhibition will showcase trophies and miniature sculptures from the Chola period. The town, which British officers compared to ancient Babylon, is being repainted and refenced."
- "A millennium after Rajendra's ships left Tamil shores for faraway islands, his legacy is back at the centre of a different expedition. As historian Tansen Sen writes in The Military Campaigns of Rajendra Chola, Rajendra's campaigns were not about empire-building or expansionism in the modern sense but "strategic signalling" to regional powers, asserting Tamil commercial presence across Asia."

KEEZHADI EXCAVATION REPORT UNDER REVIEW, TIME BRACKET NOT JUSTIFIED: MINISTER

The Archaeological Survey of India (ASI) has not requested any "revised report" on the Keezhadi (or Keeladi) excavations in Tamil Nadu, the Centre informed Parliament Monday, but said the report is "under review" and as per suggestions of experts the nomenclatures of the three periods mentioned in it "require change".



- Culture Minister Gajendra Singh Shekhawat said the time bracket of 8th-5th century BCE given for Period 1 in the report was “not justified at all”. “For the earliest period in the present state of our knowledge we can, at the maximum, suggest it originates somewhere in pre-300 BC,” he said in an annexure attached with the response to a question by DMK MP T Sumathy.
- Keezhadi is an ancient site in Tamil Nadu’s Sivaganga district, about 12 km from Madurai. Over a decade ago, Amarnath Ramakrishna, ASI’s then Superintending Archaeologist, led excavations at the site that unearthed evidence of a sophisticated urban society.
- According to the Keezhadi report, carbon dating had revealed the objects to be over 2,160 years old, corresponding to the Sangam era in Tamil history. It classified the site’s history into three periods — Pre-Early Historic (8th-5th century BCE), Mature Early Historic (5th-1st century BCE) and Early Historic (1st century BCE-3rd century CE).

Do You Know:

- Initiated in 2014 and led by archaeologist K Amarnath Ramakrishna under the ASI, the Keezhadi (or Keeladi) site revealed remnants of an advanced urban civilisation — brick structures, industrial furnaces, drainage systems, graffiti-marked pottery, and terracotta artefacts.
- Ramakrishna submitted his final report in January 2023, concluding that the site dated back to between the 8th and 3rd century BCE, based on stratigraphic analysis and AMS-dated artefacts.
- Notably, the findings — which include evidence of trade, such as carnelian beads, and literacy, in the form of Tamil-Brahmi inscriptions on potsherds — paint a compelling picture of a flourishing civilisation in South India dating back much further than previously believed.
- The discoveries at Keezhadi are significant not only for Tamil Nadu, but for all of India, as they challenge long-standing historical narratives and offer proof that urbanisation may have developed parallelly in different regions of the Subcontinent.
- Sangam Literature: Recognised as the earliest literature from South India, Sangam refers to a group of texts written in old Tamil. The corpus includes eight anthologies of poems, 10 idylls, a work on grammar, and 18 minor works. Altogether, there are about 2,381 poems by 473 poets and 102 poems by anonymous authors. While scholars are divided about the precise dates of the Sangam texts, there is a general understanding that they were composed between the third century BCE and the third century CE. The Sangam poems are classified into two types: akam and puram. While akam poetry focuses on love, puram poems explore subjects like war, death, community, and kingdom.

UNPACKING NATIONAL SPORTS GOVERNANCE BILL, NOW IN LS

The National Sports Governance Bill, introduced by Sports Minister Mansukh Mandaviya in Lok Sabha on Wednesday (July 23), proposes two major changes in the way sport is governed in the country.

- The need for a sports regulator was mentioned by the Draft Comprehensive National Sports Policy 2007. The National Sports Board has proposed a SEBI-type body to establish a unified national structure for sport. (The Securities and Exchange Board of India is the statutory regulatory body for the securities market.)



- Many of the provisions and structures in the Bill owe their origin to the National Sports Development Bills that were drafted, but not passed, in the early part of the last decade. You can draw a straight line from these to significant portions of the Bill.
- With a National Sports Board, the regulatory capacity of the government in sports will increase. The institution will have a budget and can hire specialised staff with legal and auditing expertise, for instance, to evaluate how the 56 National Sports Federations and their affiliates are being run.
- In the absence of legislation, the Sports Code of 2011 has been the administrative instrument to establish standards for the government's recognition of National Sports Federations. In the absence of statutory backing and regulatory institutions, this was always going to be a stopgap measure, and the history of its implementation has indeed been chequered.

Do You Know:

- According to the Bill, the first port of call for disputes is the internal dispute resolution chamber, followed by the Tribunal in appeal. This is in line with international sports dispute resolution structures. For instance, in the FIFA system, all participants from players to clubs are barred from approaching the ordinary courts in any country. You have to use the FIFA or member association dispute-resolution chambers, and appeals lie only to the Court of Arbitration for Sport (CAS).
- Under the National Sports Governance Bill, the National Sports Board will be set up to oversee recognition and suspension of NSFs. The members of the Board, including a chairperson, will be appointed by the central government. The Board will also be responsible for safeguarding of athletes rights and fair and timely elections in the NSFs. In cases where federations are suspended or lose recognition, the Bill authorises the Board to appoint ad-hoc administrative bodies.
- The Bill also introduces a provision to increase the upper-age cap to 75 years, from the previous 70, for an official. This means individuals between 70 and 75 may serve a full term if allowed by relevant international statutes. If the BCCI comes under the NSF umbrella, its current president Roger Binny who turned 70 on July 19, may be able to continue in his post. As per BCCI's constitution, which was approved by the Supreme Court, no person can hold any post after turning 70. NSFs will also come under the Right to Information Act.
- The Bill also proposes the formation of a separate entity called National Sports Tribunal (NST). This body will fast track and resolve conflicts between different stakeholders in the sporting ecosystem, including officials, athletes and coaches. The NST can be only challenged in the Supreme Court.

SHORT NEWS

CONGO, M23 REBELS PLEDGE TO SIGN PEACE DEAL

Democratic Republic of Congo and the M23 rebel group pledged to sign a peace agreement by August 18, at a ceremony in Doha on Saturday, a sign of progress even as outstanding details need to be negotiated. It is the first direct commitment by both Congo and the rebels since they seized two key cities in eastern Congo in a major advance. Backed by neighbouring Rwanda, the M23 is the most prominent of more than 100 armed groups fighting for control in Congo's mineral-rich east.



PREAH VIHEAR TEMPLE

- Thailand's army launched strikes on Cambodian military sites along their disputed border on July 24, amidst recent deadly clashes which killed at least 11 Thai civilians. Preah Vihear temple is one of the disputed center.
- It is an 11th-century Hindu temple of Preah Vihear, located between Cambodia's Preah Vihear province and Thailand's Sisaket province. Both countries have claimed the temple dedicated to Lord Shiva as their own.
- The structure consists of five "gopuras" (gateways) linked by a series of stairways and corridors with several basins, and reservoirs. Shiva's vehicle—the bull, popularly known as Nandi, is found facing the entrance of the temple.
- Apart from the temple complex, there are other archaeological sites that are related to the temple but are situated in Thailand. These include Sa Trao, an ancient reservoir, and a small bas-relief engraved on natural sandstone depicting a Shiva Lingam enclosed within a Yoni Base.
- It is recognised as a UNESCO World Heritage site of Cambodia.

PRASAT TA MUEN THOM

- The temple is located about 400 km northeast of Bangkok, along the border of Thailand's Surin province and Cambodia's Oddar Meanchey province.
- The temple is a Khmer archaeological complex built by King Jayavarman VII and comprises three buildings.
- The main temple, Prasat Ta Muen Thom, is made of sandstone and features a shivalinga, as well as libraries.
- The complex also features Prasat Ta Muen, the Mahayana Buddhist religious site meant to offer refuge to travellers, and Prasat Ta Muen Tot, the hospital shrine for the local community.

THREE NAVIGATION SATELLITES TO BE LAUNCHED IN 2026

- ISRO will launch three navigation satellites (NVS-03, NVS-04, and NVS-05) for its Indian Regional Navigation Satellite System (IRNSS) by next year, according to a reply in Parliament by the Union MoS for Space Dr Jitendra Singh.
- The IRNSS was envisioned as a seven-satellite constellation that could provide navigation services over the Indian landmass and a radius of 1,500km around it. However, only four of India's seven satellite navigation systems continue to provide location data.
- IRNSS is operationally referred to as the Navigation with India Constellation (NavIC) system. It is India's regional Global Navigation Satellite System (GNSS).
- The NavIC satellites provide two types of services – Standard Positioning Service which is for general and commercial use, and Restricted Service which is meant for the defence forces – over the Indian landmass and neighbouring regions.



AH-64E APACHE CHOPPERS

- The Indian Army has received three Apache attack helicopters from American aerospace company Boeing. The company delivered the AH-64E Apaches choppers as part of a contract to supply six helicopters to the Indian Army.
- The AH-64 Apache, which is one of the most advanced multi-role combat helicopters in the world, is currently flown by the US Army.

RUDRA ALL-ARMS BRIGADES WILL MAKE ARMY FUTURE-READY: GEN DWIVEDI

Chief of Army Staff General Upendra Dwivedi announced the establishment of 'Rudra' all arms brigades, 'Bhairav' light commando battalions, 'Shaktibaan' artillery regiments and 'Divyastra' batteries, drone-equipped infantry battalions, and indigenous air defence systems. "Rudra is being established for which I gave an approval yesterday. Under this, we will have infantry, mechanised infantry, armoured units, artillery, special forces and unmanned aerial units at one place to provide logistics and combat support," he said.

25 OTT PLATFORMS, INCLUDING ULLU AND ALTT, BLOCKED FOR STREAMING OBSCENE, PORNOGRAPHIC CONTENT

The Ministry of Information and Broadcasting (I&B) has directed that public access to 25 OTT platforms, including Ullu, ALTT, and Desiflix, be disabled for streaming obscene, and at times, pornographic content, sources in the government said. The direction to block the websites and apps of these 25 OTT platforms came on July 23, they added.

RAILWAYS TO LAUNCH AI-ENABLED CHATBOT FOR GRIEVANCE REDRESSAL

In a step to make grievance redressal platforms like RailMadad more accessible and easier to use, the Ministry of Railways is working on an AI-enabled WhatsApp chatbot which will allow the passengers to register their complaints without hassles.

TB, SICKLE CELL, HEPATITIS: ICMR RECOMMENDS KEY TESTS AT PHCS

From rapid diagnostic tests for Hepatitis B, point-of-care tests for thalassaemia and sickle cell disease, to sample collection for molecular testing for tuberculosis (TB) at the sub-centre level — the Indian Council of Medical Research (ICMR), has updated its National List of Essential Diagnostics with the aim of bringing clinical testing closer to people.

HOUSE PANEL RETAINS INCOME TAX BILL PROVISIONS ON DIGITAL SEARCH AND SEIZURE

Notwithstanding concerns about a possible breach of privacy in the digital search and seizure provisions in the new Income Tax Bill, 2025, through powers to override digital codes and access to social media, a Select Committee of Parliament has recommended retaining the clause without any significant changes. Apart from the key concern of an infringement upon the right to privacy, stakeholders, in suggestions to the committee, had flagged the need to define clear guidelines for the use of personal data obtained during searches; removal of the power to cover "any person who



is present in the premises” of the search operation; and introduction of restrictions for protecting privileged communication such as those between husband and wife, with doctors/ lawyers etc.

FINANCIAL INCLUSION INDEX

The Financial Inclusion Index (FI-Index), which captures the extent of financial inclusion across the country, improved to 67 in March 2025 from 64.2 in March 2024, according to the Reserve Bank of India (RBI).

— The index captures information on various aspects of financial inclusion in a single value ranging between 0 and 100, where 0 represents complete financial exclusion and 100 indicates full financial inclusion.

— The index comprises three broad parameters — access, usage, and quality, having weight 35 per cent, 45 per cent and 20 per cent, respectively.

— The FI-Index has been constructed without any base year and as such it reflects cumulative efforts of all stakeholders over the years towards financial inclusion.

TOWARDS RESILIENT AND PROSPEROUS CITIES IN INDIA

— The World Bank prepared the report titled Towards Resilient and Prosperous Cities in India in close collaboration with the Ministry of Housing and Urban Affairs.

— It estimates that Indian cities will require \$2.4 trillion by 2050 to build climate-resilient infrastructure and services.

— The report projects that the country’s urban population will nearly double to 951 million by 2050, and that by 2030, cities will account for 70 per cent of all new employment generated.

— In addition to the rapid pace of urbanisation, Indian cities will face two major shocks in a business-as-usual scenario — flooding and extreme heat.

— According to the report, annual pluvial flood-related losses can amount to \$5 billion by 2030 and \$30 billion by 2070 if cities don’t invest in adaptation.

— Heat-related deaths can double to over 3 lakh each year by 2050 due to global warming and the urban heat island phenomenon.

HENLEY PASSPORT INDEX

— In the Henley Passport Index, created by the London-based global citizenship and residence advisory firm Henley & Partners, India climbed eight spots to rank 77th, up from 85th last year.

— The number of destinations Indian passport holders can now visit visa-free or with visa-on-arrival has increased marginally to 59 from 57.

— Singapore holds the number one spot, offering visa-free travel to 193 destinations. Japan and South Korea are tied for second, each granting access to 190 countries.

— Seven European countries — Denmark, Finland, France, Germany, Ireland, Italy, and Spain — share the third spot with 189 destinations.



— The Henley Passport Index is a globally respected ranking of passports based on the number of destinations their holders can travel to without obtaining a visa in advance. The index is compiled using data from the International Air Transport Association (IATA) and is updated quarterly.

NATIONAL INSTITUTE OF RURAL DEVELOPMENT AND PANCHAYATI RAJ (NIRD&PR)

— A parliamentary panel has “strongly” recommended “immediate review and replacement” of the current administration of the NIRD&PR, a think tank under the Ministry of Rural Development (MoRD).

— Established in 1958, it focuses on training, capacity building, research and policy advocacy, and runs academic programs in regular and distance modes. The courses include a Diploma in Rural Development Management and Tribal Development Management.

NATIONAL COOPERATIVE POLICY-2025

— Union Home Minister Amit Shah has unveiled a new national cooperative policy, replacing one in place for the past 23 years.

— The history of the cooperative sector dates back to before Independence, with a Cooperative Credit Societies Act enacted in 1904.

— In 2017, the Ministry of Cooperation was formed as a separate ministry. From 1979 till then, the cooperatives department fell under the Agriculture Ministry. The new ministry, Sahkarita Mantralaya, was formed with the vision to be ‘Sahakar se Samridhi (Prosperity through Cooperation)’.

— Recently, the foundation stone of India’s first national cooperative university, Tribhuvan Sahkari University, was laid down at the Institute of Rural Management Anand (IRMA) in Gujarat.

FREE LEGAL AID SCHEME

— On the occasion of Kargil Diwas, which is observed on July 26 every year, the National Legal Services Authority (NALSA) has announced a ‘Veer Parivar Sahayata Yojana’ to provide free legal aid to the families of soldiers.

— Free legal aid will be provided to ex-servicemen and serving soldiers and their families in the legal services clinic.

— On this day in 1999, the Indian Army announced the successful culmination of ‘Operation Vijay’, declaring victory after a nearly three-month-long battle in the icy heights of Kargil.

JODIDARAN

— Recently, the Trans-Giri region in Himachal Pradesh witnessed a centuries-old customary practice, a polyandrous tradition locally known as ‘Jodidaran’.

— It is practised by Hatti tribes, which were granted the status of Scheduled Tribes (STs) by the Centre in 2022.



- The Hattis are a close-knit community who got their name from their tradition of selling homegrown vegetables, crops, meat and wool etc. at small markets called 'haat' in towns. The Hattis are governed by a traditional council called Khumbli, which like the khaps of Haryana, decide community matters.
- Their practice of polyandry has roots in the desire to preserve undivided family land, particularly agricultural land.
- Polyandry and polygamy are outlawed by the Special Marriages Act, the Hindu Marriage Act, 1955 and criminalised under the Bharatiya Nyaya Sanhita.
- The Constitution, under Article 342, recognises STs and accords them a distinct legal status. It recognises the relevance of prevailing customary laws among STs.

57TH INTERNATIONAL CHEMISTRY OLYMPIAD (ICHO) 2025

- India's four-member student delegation to the 57th International Chemistry Olympiad (ICHO) 2025 has returned with two gold and two silver medals.
- The competition was held in Dubai, United Arab Emirates, from July 5 to 14, and featured participation from 354 students representing 90 countries, along with five observer nations.
- The gold medal winners from India are Devesh Pankaj Bhaiya from Jalgaon, Maharashtra, and Sandeep Kuchi from Hyderabad, Telangana.
- Debadatta Priyadarshi from Bhubaneswar, Odisha, and Ujjwal Kesari from New Delhi earned silver medals.
- India secured the sixth position in the overall medal tally, along with countries such as Ukraine, Uzbekistan, Kazakhstan, and Israel.

GITA GOPINATH

- Indian-American economist Gita Gopinath, who is serving as the first deputy managing director at the International Monetary Fund (IMF), announced that she is stepping down from her position and returning to her academic career.
- Gita Gopinath is an Indian-American economist, currently serving as the first deputy managing director at the International Monetary Fund (IMF) since January 21, 2022.

V S ACHUTHANANDAN

- Founding member of the CPI(M) and former Kerala chief minister Velikkakathu Sankaran Achuthanandan died on 21st July. Popularly known as Comrade VS or just VS, Achuthanandan was 101 years old.
- Achuthanandan, who served as Kerala chief minister from 2006 to 2011, had stayed away from public life since 2019, after suffering a stroke.



AJAY SETH

— The government has appointed Ajay Seth, former Finance Secretary and Secretary of the Department of Economic Affairs (DEA), as the new Chairman of the Insurance Regulatory and Development Authority of India (IRDAI).

— Established in 1999 as an autonomous and statutory body, the IRDAI serves as the primary regulator for the insurance industry in the country and abroad. Its main objective is safeguarding policyholders' interests and ensuring the insurance industry's growth and stability.

UMA KANJILAL

— Uma Kanjilal has been appointed as the Vice Chancellor of the Indira Gandhi National Open University (IGNOU), becoming the first woman to hold the post since the university's establishment in 1985.



DreamIAS



BUSINESS AND ECONOMY

TRUMP TARIFFS CAUSING HAVOC IN BRAZIL'S CITRUS BELT

U.S. President Donald Trump's plan to impose a new 50% tariff on all Brazilian products from Aug. 1 could devastate the South American nation's citrus belt, as factories scale back production and orange farmers consider leaving fruit to rot amid a sharp drop in prices.

"You are not going to spend money to harvest and not have anyone to sell to," said grower Fabricio Vidal, from his farm in Formoso, in the state of Minas Gerais.

The new tariffs could make it impossible for his fruit to enter the United States, which buys 42% of the orange juice exported from Brazil, a trade worth around \$1.31 billion in the season ending last June. This month, orange prices in Brazil dropped to 44 reais (\$8) a box, almost half of what they were a year ago, according to the widely followed Cepea index from the University of Sao Paulo, illustrating how Mr. Trump's disruptive trade policies can sow chaos even before enacted.

"As the day approaches in which tariffs will come into effect, anxiety increases about what might happen," Ibiapaba Netto, the head of orange juice exporter lobby CitrusBR, told Reuters in an interview.

Impact on consumers

U.S. orange juice production dropped to its lowest level in half a century in the 2024/25 harvest, with output estimated at 108.3 million gallons, according to data from the United States Department of Agriculture cited by Cepea, which shows imports will represent 90% of U.S. supplies through September.

U.S. consumers will bear the brunt along with Brazilian farmers. An astounding half of the orange juice Americans drink comes from Brazil under household brands such as Tropicana, Minute Maid and Simply Orange.

Brazil, which produces 80% of the world's orange juice, will be hard to replace, too.

The U.S. has become more dependent on orange juice imports in recent years due to the "citrus greening" crop disease, hurricanes and spells of freezing temperatures. But the new tariff on Brazilian imports represents a 533% increase over the \$415 per ton duty levied on the country's juice now. Last Friday, Johanna Foods, a New Jersey-based producer and distributor of fruit juices, challenged in court the proposed tariffs on Brazilian orange juice, claiming they would cause "significant and direct financial harm" to the company and U.S. consumers.

The tariffs may also spell trouble for Coca Cola and Pepsi, which account for some 60% of the orange juice sold in the United States, Netto said. Neither company replied to requests for comment. Brazil won't find it easy to replace American consumers, some of the most avid orange juice drinkers in the world.

Typically, higher-income countries import orange juice, limiting Brazil's potential reach into new markets.



GIVE AND TAKE

The India-United Kingdom Comprehensive Economic and Trade Agreement (CETA), signed by the two countries on Thursday, is a good example of the give and take between two large economies of comparable size. While the U.K. has agreed to provide India duty-free access to about 99% of its tariff lines, it has been more conservative when it comes to the movement of professionals. It has set an annual quota of just 1,800 visas for niche professional roles such as yoga instructors and classical musicians, and the agreement falls short of making commitments on broader visa categories such as business visitors or IT professionals. This was something India had been keen on. On the other hand, while India has opened about 90% of its tariff lines for duty-free import from the U.K., it has kept key agricultural products such as dairy products, apples, oats, and edible oils out of the deal — key demands of the U.K. Similarly, while India has committed to reducing duties on automobile imports by a substantial 100 percentage points over time, these are subject to a graded quota over the next decade, which gives the domestic industry time to adjust. A sign of a good deal is when both sides walk away happy but not satisfied. In any case, such bilateral deals should not be viewed as a zero-sum game where one side's loss is another's gain. Enhancing bilateral trade is in both countries' interests, especially at a time when the world's biggest trading powers are raising tariff and non-tariff barriers.

The U.K. is a relatively small trading partner for India, but therein lies ample scope for growth. While at a macro scale the gains might initially be limited, the sector-wise increases have the potential to be significant. Sectors such as agriculture, textiles, leather and chemicals are all set to see quick gains. There is potential for longer term benefits too. The U.K. is a major gateway to Europe, which is a much bigger trading partner of India's. Goods destined for Europe could be routed through the U.K., and the duty-free arrangement will likely enhance this flow. Companies in other countries that already export to the U.K. will also start viewing India more favourably as an investment destination so as to take advantage of the duty-free access. It is now up to the government to help Indian exporters scale up and compete internationally. Another important consideration is that such a deal sets the template for future ones. The general trend is that the bigger the economy being negotiated with, the bigger the concessions given. The United States and the European Union will now want more from India than what it has conceded to the U.K.

INDIA MISSES CHANCE TO TACKLE UK CARBON TAX IN TRADE PACT. WHY IS IT CONCERNING?

India's efforts to secure a concession for its small and medium enterprises under the UK's Carbon Border Adjustment Mechanism (CBAM) did not materialise, as the text of the India-UK Free Trade Agreement (FTA) released on Thursday made no mention of a resolution on the contentious issue.

- The UK's CBAM, which is set to come into effect from January 1, 2027, is expected to impact India's exports of steel, aluminium and other carbon-intensive goods. India's steel and aluminium exports are already facing steep tariff restrictions from the US after US President Donald Trump raised the tariffs on the items to 50 per cent.
- An absence of a resolution not only weakens India's position—as it missed the opportunity to address the levy within a legal framework—but also casts a shadow over the duty concessions won for 99 per cent of its exports to the UK under the long-negotiated trade deal as UK could raise tariffs on industrial imports once it implements CBAM.



- While the Ministry of Commerce and Industry claims that the UK trade deal will allow around 99 per cent of Indian exports to benefit from zero-duty access to the UK market, CBAM significantly could alter that.
- The UK government has said that the carbon tax will apply to both “direct and indirect emissions” embodied in imported CBAM goods, “including those emissions embodied in relevant precursor goods at a point further up the value chain”.
- India’s exports to the UK rose by 12.6 per cent to \$14.5 billion, while imports grew by 2.3 per cent to \$8.6 billion in 2024–25. Bilateral goods trade between India and the UK increased to \$21.34 billion in 2023–24 from \$20.36 billion in 2022–23.
- As no concession was secured under the FTA, India could challenge the regulation at the WTO on the grounds that CBAM violates special and differential treatment (SDT) provisions, which advocate longer implementation periods for developing countries to safeguard their trade interests.
- However, trade law experts warn that the CBAM regulations in both the UK and EU may be in effect by the time the WTO rules on the matter, given the dysfunction of the organisation’s Dispute Settlement Body (DSB).

Do You Know:

- According to the World Bank, “a carbon tax directly sets a price on carbon by defining a tax rate on greenhouse gas emissions or – more commonly – on the carbon content of fossil fuels”. It is a type of carbon pricing, and the other type of carbon pricing is the emissions trading systems (ETS). The CBAM is a form of carbon pricing system.
- The CBAM or Carbon Tax was first introduced by the European Union in 2021. It taxes certain products coming in from other countries based on their carbon emissions footprint in their production process. For instance, if the imported steel was produced through a process that entailed higher emissions than the emissions standards for that product in Europe, it would be taxed.
- CBAM allows industries in Europe to remain competitive while continuing to maintain high environmental standards. It prevents these industries from relocating their production to countries where the production might be cheap owing to less strict emission norms, a situation described as carbon leakage. In the process, it hopes to contribute to reducing global emissions.
- However, it hurts the export competitiveness of developing countries such as China and India. The developing countries point out that CBAM overlooks the “differentiation” embedded in the global climate architecture that allows them to be treated differently from the developed nations.

INDIA-EU FREE TRADE TALKS: WHY RESOLUTION OF DIFFERENCES IN SERVICES IS A MAJOR STEP FORWARD

In the 12th round of negotiations that concluded earlier this month, India and the European Union managed to close the digital trade chapter “in principle” and made substantial progress on the text dealing with “services and investment”, marking a significant step forward in concluding the Free Trade Agreement (FTA) that both sides aim to sign by the end of this year.



- The digital trade chapter of the FTA discussions covers crucial segments such as cross-border data flows, where trade partners decide on commitments to regulate movement of data across borders, which is important for e-commerce and global services.
- To be sure, the textual positions taken by both sides have not yet been made public. However, bridging the regulatory gap in services between India and the EU would open the door for the Indian services sector to integrate more deeply, scale up, and attract greater investment. This is important since the EU is the largest investor globally, and services represent over 70 per cent of the EU's foreign direct investment (FDI) abroad.
- Regulations on cross-border data flows are among the most contentious topics in trade agreements with the Western countries, especially with the rise of artificial intelligence (AI). Effective AI systems — seen as the cornerstone of the Fourth Industrial Revolution — require diverse datasets from multiple countries. This has sparked a fierce race for data among Silicon Valley firms.
- India has traditionally resisted altering its stance on data localisation under any plurilateral agreements at the World Trade Organization (WTO) to preserve policy space. It has also tightened norms, notably in April 2018, when the Reserve Bank of India (RBI) made it mandatory for payment system providers such as Mastercard and Visa to store payment data of Indian residents within the country.
- The UN Conference on Trade and Development (UNCTAD) also highlighted the potential benefits of data localisation, including encouragement to foreign investment in domestic digital infrastructure, enabling enforcement of national laws, as well as safeguarding privacy and cyber sovereignty. Countries such as Vietnam and the Philippines have implemented such measures to promote local capabilities and protect infant industries.
- The EU status report on the trade talks also stated that negotiators made substantial progress on the investment text. The negotiators had made very good progress on rules for state-to-state mediation, it added. Movement on dispute settlement is significant since it suggests a breakthrough on long-standing EU concerns regarding investment protection in India.

Do You Know:

- According to the EU, The European Union is a group of 27 countries in Europe. These countries came together to make things better, easier and safer for people. They agreed to work together and help each other.
- India established diplomatic relations with the European Economic Community — the first pillar of the future European Union — back in 1962. The Joint Political Statement signed in 1993 and the Cooperation Agreement of 1994 paved the way for the strengthening of ties between India and Europe.

WHY A STRONG ROUBLE IS A DOUBLE-EDGED SWORD FOR RUSSIA

The Russian rouble's 45% rise against the US dollar since the start of the year has made it one of the world's best performing currencies — but the sharp appreciation is proving to be a double-edged sword for the heavily sanctioned Russian economy.



- The rise is driven primarily by the Russian central bank's tight monetary policy and optimism after US-Russia talks in February raised hopes for a peace settlement in Ukraine.
- Interest rates on rouble deposits have also soared above 20%, making the currency attractive to savers and as a speculative trade for its yield. At the same time, high borrowing costs have slowed imports, reducing demand for foreign currency.
- The weakness of the US currency, whose index lost 6.6% since President Donald Trump's "Liberation Day" tariff announcement on April 2, has also helped the rouble.
- Although the central bank says there is a freely floating exchange rate, it has been selling the Chinese yuan, its only major intervention tool, to support the rouble. When the rouble strengthens against the yuan, its rate against the dollar strengthens as well to avoid arbitrage.

Do You Know:

- The strength of the rouble means that dollar-denominated energy revenues generate fewer roubles for the Russian budget. A weaker rouble would boost budget revenues. The 2025 budget assumes an average rate of 94.3 roubles per dollar, but the current rate is around 78. If the rouble stays strong, analysts estimate the budget could lose 2.4% of its revenues this year.
- Russian businesses also argue a strong rouble is making exports more expensive to buyers in dollars and other currencies. Exporters, from oil to metals to agriculture, are hurting. A stronger rouble makes their revenues shrink. Many officials and business leaders say they would prefer a rate of 100 to the dollar.
- Analysts have warned for months that the rouble is overvalued, but the currency has defied their forecasts so far. The central bank is widely expected to cut interest rates at its upcoming meeting. If it does, market rates will fall as well, prompting savers to pull money from rouble deposits. That could weaken the currency.
- A bigger test looms in early September, when a 50-day deadline set by US President Donald Trump for Russia to show progress toward peace in Ukraine expires. If new US sanctions targeting buyers of Russian oil follow, the rouble could come under renewed pressure.

WORLD BANK REPORT: BY 2030, INDIAN CITIES TO CREATE 70% OF JOBS BUT MAY LOSE \$5 BN TO FLOODS

Indian cities will need some autonomy to invest effectively in climate change adaptation and mitigation, according to Auguste Tano Kouame, the World Bank's Country Director for India.

- Cities with more decision-making power have performed better than average, he said on Tuesday at the launch of a report on building urban climate resilience.
- The report, prepared by the World Bank in collaboration with the Union Ministry of Housing and Urban Affairs, estimates Indian cities will require \$2.4 trillion by 2050 to build climate-resilient infrastructure and services.
- The 74th Constitutional Amendment Act of 1992 gave constitutional status to Urban Local Bodies (ULBs) to strengthen local self-governance. However, official audits as recently as 2022 have found that several states have yet to fully implement its provisions.



• While the World Bank does not have an official view on this, Kouame said “some version” of the 74th Amendment could be considered. “It doesn’t have to be implemented in the same fashion across all states. It depends on local conditions and several other factors,” he added.

Do You Know:

• The report titled Towards Resilient and Prosperous Cities in India projects that the country’s urban population will nearly double to 951 million by 2050, and that by 2030, cities will account for 70 per cent of all new employment generated. In addition to the rapid pace of urbanisation, Indian cities will face two major shocks in a business-as-usual scenario — flooding and extreme heat — according to Asmita Tiwari, who co-authored the report with Natsuko Kikutake.

• According to the report, annual pluvial flood-related losses can amount to \$5 billion by 2030 and \$30 billion by 2070 if cities don’t invest in adaptation. A conservative estimate for supporting 60 per cent of high-risk cities with flood resilience measures over the next 15 years is \$150 billion, it added.

• Heat-related deaths can double to over 3 lakh each year by 2050 due to global warming and the urban heat island phenomenon, the report said. Measures like shifting working hours to early morning and late afternoon, urban greening, early warning systems, and cool roofs can save over 1.3 lakh lives, it added.

• The report makes several recommendations for national- and state-level interventions, including boosting private sector engagement, creating a financing roadmap, and setting standards to build municipal capacities. For cities, it calls for risk evaluation and the mobilisation of capital — including private investment — to support mitigation and adaptation efforts.

WHY RENEWABLE ALONE CAN’T HELP

THE WORLD added about 582 gigawatts (GW) of renewable energy capacity in 2024, representing an increase of 15% over the previous year, according to a new report by the International Renewable Energy Association (IRENA). This was the largest annual increase in renewable energy capacity in any single year.

• Currently, the installed capacity of renewable energy across the globe stands at more than 4,442 GW, and around 30% of the world’s electricity is produced from renewable sources.

• The new report by IRENA, which was released on July 10, also said that at the current rate of growth, the world would come close to achieving its target of tripling renewable energy installed capacity by 2030. This target is considered crucial for limiting global warming and was part of the agreement made at the COP28 meeting in Dubai in 2023.

• The rapid growth of renewable energy might give the impression that the world has made good progress on meeting its climate objectives. However, renewable energy has not even begun to replace fossil fuels at the global level. As of now, it is catering mainly to the rising electricity demand, which has increased three times since 1990 and is projected to grow even higher.

• While only around 10% of new electricity installed capacity in 2024 was fossil fuel-based, the use of fossil fuels, in absolute terms, is still growing, according to the IRENA report.

• Between 2012 and 2023, global electricity generation grew by 2.5% every year on average, and renewable energy expanded at a rate of about 6% during the same time. This has led to a steady



rise in the share of renewables in the electricity generation mix. However, fossil fuels currently account for more than 70% of global electricity production.

- In absolute terms, more fossil fuels are being burned today than 10 years ago to produce electricity. To make matters worse, the increase in use of fossil fuels is expected to continue for at least a few more years. As a result, greenhouse gas emissions have reached record highs in recent years.
- Moreover, electricity is still only a small slice of total energy use. Just 20% to 22% of the total energy consumed in the world every year is in the form of electricity. Only 30% of electricity generation comes from renewable sources.
- This means that about 6% of the world's energy consumption comes from clean sources. More than 90% still comes from fossil sources. Note that there are some countries, mainly in the Nordic region, where renewables account for a significantly higher share of total energy consumption. However, the special conditions existing in these countries are difficult to replicate elsewhere.
- The IRENA report said 71% of the renewable capacity addition last year took place in Asia. This is slightly misleading as China alone accounted for more than 62% of global additions that is, 364 GW of the 582 GW installed globally. The whole of Africa together got less than 1%.

Do You Know:

- According to projections, by 2050, even in the case scenarios, not more than 40% to 45% of the world's total energy consumption would come from clean sources. This means that energy transition, which involves moving away from fossil fuels towards renewable energy, on its own, is unlikely to help tackle the climate crisis. That is why carbon removal interventions, which are yet to become viable, assume great importance in the fight against global warming.
- For the last few years, China has been consistently installing more renewable energy than the rest of the world combined. Apart from developed countries, China, and some large players such as India, the renewable energy footprint has not grown at a fast pace.
- However, this kind of lopsided deployment of renewable energy, coupled with the fact that China has a near monopoly on the production and supply chains of most renewable systems, could leave many countries and regions behind once again.
- Renewable energy, such as solar and wind, might be available universally — unlike, say, petrol that is found in only limited geographies — but the technologies needed to harness this energy are getting increasingly inaccessible.
- China dominates the production and manufacturing of solar PV systems, for example, but also consumes more than half of it. Large buyers such as the United States and India corner most of what is exported. There is little supply for others.
- The transition to clean and renewable energy systems is not as simple as it is sometimes made out to be. There are several layers of complexity which make the goal of curbing global temperatures below 2 degrees Celsius look increasingly unrealistic to achieve.
- At the 2015 climate conference in Paris, India in collaboration with a few other countries including conference host France, set up the International Solar Alliance (ISA) to accelerate the



deployment and absorption of solar energy across the world, and mainly in the developing countries.

REDEEMING INDIA'S NUCLEAR POWER PROMISE

The Union Budget for 2025-26 marked a significant shift in India's nuclear energy plan by announcing an ambitious target of 100 GW of power generating capacity by 2047, up from the present 8.18 GW. This positions nuclear power as a major pillar in India's energy mix, given the two goals of emerging as a developed country (Viksit Bharat) by 2047, and achieving "net zero emissions" by 2070.

Simultaneously, the Nuclear Energy Mission announced a special allocation of ₹20,000 crore to develop "at least five indigenously designed and operational Small Modular Reactors (SMR) by 2033." Such ambitious plans will need the involvement of private players, both domestic and foreign, into a hitherto government sector, which will require significant changes to the legislative, financial and regulatory framework. The government has indicated that some changes in the Atomic Energy Act, 1962 and the Civil Liability for Nuclear Damage Act (CLNDA), 2010 are in the offing. However, such reforms also need a change in mind set.

India's nuclear journey

India had an early start, setting up Asia's first nuclear research reactor, Apsara, in 1956, and beginning work on Asia's first nuclear power reactors at Tarapore in 1963. As early as 1954, Dr. Homi Bhabha, the architect of India's nuclear programme, presented a target of generating 8 GW of nuclear power by 1980.

However, the journey has been long and difficult. Following India's war with China in 1962; its entry into the nuclear club in 1964; the decision to stay out of the nuclear Non-Proliferation Treaty (NPT) in 1968; and the Peaceful Nuclear Explosion (PNE) test in 1974, India was excluded from the emerging nuclear order. International cooperation ceased and export controls slowed down the nuclear power programme. This led to the nuclear power target being pushed to 10 GW by 2000.

Moreover, India took time to successfully indigenise the design of the 220 MW Pressurised Heavy Water Reactor (PHWR), employed in Rajasthan. Its advantage was that it used natural uranium as fuel unlike the design of the Tarapur Light Water Reactor (LWR), which used Low Enriched Uranium (LEU) that India obtained from the U.S., and later, from France. Subsequently, the same 220 MW PHWR units were established at Narora, Kaiga, Kakrapar etc., and the design was upgraded to 540 MW (set up at Tarapur in 2005-06) and to 700 MW with two units becoming operational at Kakrapar in 2024.

After the nuclear tests in 1998, followed by intense negotiations with the U.S. and other strategic partners, India finally gained acceptance as a responsible nuclear power. It also got a special waiver from the Nuclear Suppliers Group (NSG).

India was thus ready to resume exchanges with other nuclear powers to import both nuclear fuel and more advanced reactors to expand its nuclear energy programme.

However, the CLNDA created new difficulties that have prevented such anticipated external participation. In fact, Russia is the only country that is partnering with us at Kudankulam with six



VVER-1000 power reactors because the government-to-government agreement, signed in 1988, predated the CLNDA.

Towards green development

To become a developed country by 2047, India's annual per capita income needs to grow from the current \$2,800 to \$22,000, and correspondingly, the GDP needs to grow from the current \$4 trillion to over \$35 trillion. There is a well-established correlation between economic growth and energy consumption. In 2022, India's per capita electricity consumption stood at 1,208 kWh, compared to 4,600 kWh for China, and over 12,500 kWh for the U.S.

India's electricity generation capacity, currently at 480 GW (divided almost equally between fossil fuels and renewables), will have to grow five-fold, accounting for growth in population and urbanisation. However, solar, wind, and small hydro projects provide only intermittent power. That is why out of 2030 terrawatt-hours (TWh) — the total electricity generated in 2024 — renewable energy, with half the generation capacity, accounted for only 240 TWh. Coal fired thermal plants accounted for 75% of energy generation.

The climate change commitments announced by Prime Minister Narendra Modi in 2021 at Glasgow COP26 of "net zero emissions by 2070, raising non-fossil energy generation capacity to 500 GW by 2030 while meeting 50% of the energy demand through renewables, and achieving a carbon intensity reduction of 45% over 2005 levels by 2030" means that India will not be able to rely on fossil fuels for its growth. Renewable energy is (including solar, hydro, wind, and biomass) is estimated to provide 20% of the demand and up to 25% with investments in battery and pumped storage. Therefore, the obvious candidate to fuel India's energy growth is nuclear power.

There is a renewed interest globally in nuclear power. This reflected in the Dubai 2023 COP28 'Declaration to Triple Nuclear Energy', acknowledging nuclear power as a critical input in reducing reliance on fossil fuels, enhancing energy security, and a move towards a low carbon future. In June, the International Atomic Energy Agency (IAEA) and the World Bank agreed to work together to support nuclear energy in developing countries, marking a significant policy shift. World Bank President Ajay Banga pointed out, "nuclear (energy) delivers base load power, which is essential to building modern economies."

Creating an enabling environment

The government is looking at three routes. One is to standardise the 220 MW PHWR design and apply it to Bharat Small Modular Reactors, which would significantly reduce costs and commissioning time. This could replace captive thermal power plants that today account for over 100 GW, and which will be replaced over the next two decades.

The second track is to scale up the Nuclear Power Corporation of India Limited (NPCIL) plans for the 700 MW PHWR by facilitating land acquisition, streamlining licensing, and strengthening indigenous supply chains.

The third track is to accelerate negotiations with partners in France and U.S. that have been moving at a glacial pace for the last 15 years.

Under the Atomic Energy Act, nuclear power is a sector reserved by the government. The NPCIL is a government owned company that builds, owns, and operates the PHWRs, the first two Tarapur LWRs, and the Russian designed VVERs. Nuclear power financing is qualitatively different because of the higher upfront capital costs, lower operating costs, a lifecycle of 50-60 years, and costs



associated with decommissioning as well as managing radioactive waste. The indigenised PHWR model has a capital cost of \$2 million/MW while the equivalent cost for a coal fired thermal unit is just under a million. Given NPCIL's annual budget of \$1.2 billion, the government has realised that to achieve the target of 100 GW, private sector companies will have to be brought into the sector, necessitating a comprehensive set of amendments to the Atomic Energy Act.

Questions of majority/minority ownership; whether the nuclear operator will be exclusively NPCIL; who has responsibility and control over the nuclear island part of the plant; and concerns over assured fuel supply and waste management responsibility will need to be discussed with potential stakeholders that include major players like Tatas, Adani, Ambani, Vedanta etc. All these will require amendments to the 1962 Act.

A set of comprehensive amendments will also be needed for the 2010 CLNDA especially with regards to its liability clause which affects not just the 'operator' but also the 'supplier' of nuclear power.

A third area is commercial disputes relating to tariffs. Nuclear electricity tariff for NPCIL is notified under the Atomic Energy Act. Generally, commercial disputes fall under the Electricity Act and are settled by the Central Electricity Regulatory Commission (CERC) but a recent dispute between NPCIL and Gujarat Urja Vikas Nigam has led to conflicting views by the CERC and the Appellate Tribunal. The case is now under consideration before the Supreme Court. With the entry of the private sector into the field, should the tariff setting come into the 'levelised cost of energy' as applicable to thermal, solar, wind and hydro will depend on how the question of ownership and control are determined.

While India has had an impeccable nuclear safety record, the certification and safety oversight is the responsibility of the Atomic Energy Regulatory Board (AERB) that is 'autonomous' but not a legal entity and is subordinate to the Department of Atomic Energy. In 2011, a draft Bill was circulated to establish AERB as an independent regulator, but the Bill lapsed. With the entry of the private sector, the need for an independent regulator becomes paramount.

In addition, a raft of financial incentives will need to be introduced. While nuclear energy is a low-carbon energy source, it is not classified as "renewable", like solar or wind. Revising this classification would make nuclear power projects eligible for tax incentives and specially designed 'green financing' instruments. Long term power-purchase-agreements and provision for viability-gap-funding are other incentives. The sector also needs to be opened up to foreign direct investments, perhaps up to 49%, to ensure Indian ownership and control.

In the past, the process of reform has been tentative. In 2011, the NPCIL set up a Joint Venture (JV) with the National Thermal Power Corporation (NTPC), but it languished till it was revived last year. It will now build and operate four units of 700 MW each, scheduled to come up at Mahi Banswara in Rajasthan. Land acquisition has been underway and once completed, the first unit will take seven years. A JV with the Rural Electrification Corporation (REC) is also being envisaged. Both the REC and NTPC are public sector units and these JVs will be wholly government entities.

However, if India has to deliver on the promise of 100 GW by 2047, it needs foreign partners and the private sector. While this has been accepted by the government, it now has to move forward with the reforms comprehensively and decisively.

Rakesh Sood is a former diplomat and is currently Distinguished Fellow at the Council For Strategic and Defence Research.



IS THE PLASTIC INDUSTRY TRYING TO INFLUENCE GREEN POLICIES?

The story so far:

At first glance, tobacco and plastic might seem unrelated. However, environmental activists and health experts are now drawing attention to how the plastic industry, backed by fossil fuel giants, mirrors the tobacco industry's playbook.

How does plastic mirror tobacco?

Both industries have used profit-driven tactics despite evidence of harm.

Shifting responsibility: in many jurisdictions, advertisements for tobacco run with a disclaimer "smoking is injurious to health" while promoting the product, abetted by weak public policy. This places the onus on individual choice. Similarly, plastic-makers have blamed consumers for not recycling while diverting attention from corporate accountability. In both cases, the effect is for systematic harm to be recast as personal failure.

Funding misleading PR and science: Tobacco companies have historically funded studies denying their effects on the body. Similarly, as NPR and PBS have reported, the plastic industry promoted recycling as a resolution from the 1980s despite privately acknowledging its economic and technical impracticality at scale. Yet even as trade groups launched public campaigns around the 'recyclability' of plastic, most plastic waste continued to be incinerated, landfilled or dumped in the open.

Greenwashing: Tobacco companies once used to market 'light' and 'mild' cigarettes as safer. Today, the absence of clear, enforceable standards and shortcomings in the country's waste-processing infrastructure render plastic that is, or has been labelled, 'biodegradable' or 'compostable' to not be that way at all. This can give consumers a false impression of plastics' real-world environmental impact.

Do they target the Global South?

As regulations to reduce the use of single-use plastics and rationalise the material's use in packaging tighten across the Global North, plastic producers have been focusing on low- and middle-income countries to sustain growth. According to the OECD's 'Global Plastic Outlook' report in 2022, plastic consumption is projected to more than double in Sub-Saharan Africa and triple in Asia by 2060 but grow by only 15% in Europe in the same period. This shift in focus towards the Global South has coincided with weaker environmental regulations, and inadequate waste management systems, making these regions especially vulnerable to rising plastic pollution.

More recently, the plastics and fossil fuel industries have sought to influence negotiations for a global plastics treaty under the UN. According to the Centre for International Environmental Law, industry influence was evident at the third round of treaty talks (INC-3), where there were 36% more lobbyists from the fossil fuel and chemicals sectors than in the previous round.

Where does India stand on plastics?

In India, the waste management system banks on lakhs of people, from ragpickers and sorters to grassroot recyclers, in the informal sector responsible for collecting and processing 70% of the plastic that is recycled. But this work often comes at the cost of their health and dignity, exposing them to hazardous materials and toxic fumes, without protective gear, legal recognition or social



security. They face long-term health risks, and often live below the poverty line. The National Action for Mechanised Sanitation Ecosystem scheme launched in 2024 aims to integrate waste pickers into formal waste systems by providing safety measures, health insurance under Ayushman Bharat, and access to social security benefits. As per the Ministry of Social Justice and Empowerment, as of May 2025, over 80,000 sanitation and waste-picking workers have been profiled under the scheme.

Furthermore, under the Plastic Waste Management Rules 2016, (amended in 2022), manufacturers must take responsibility for plastic they generate.

THREE TIMES THE PRICE OF OTHER COOKING OILS: HERE'S WHY COCONUT OIL IS ON FIRE

India's annual retail food inflation rate fell to minus 1.06% in June, the lowest since January 2019. But consumers continue to feel the pinch from high prices on some items.

- Among them is vegetable oils, where the year-on-year price increase reached 17.75% in June, according to the National Statistics Office.
- The all-India average modal (most quoted) retail price of palm oil is currently Rs 132 per kg, compared with Rs 95 a year ago, data from the Department of Consumer Affairs show. The prices of soyabean, sunflower, and mustard oils have risen from Rs 120 to Rs 154, Rs 115 to Rs 159, and Rs 150 to Rs 176 respectively over the same period.
- Since the beginning of this year, the wholesale price of coconut oil at Kerala's Kochi market has zoomed from Rs 22,500 per quintal to Rs 39,000 per quintal. At the retail level, the oil is selling for around Rs 460 per kg, close to double its early-January price of Rs 240-250.
- This makes coconut oil more expensive now than even sesame (or gingelly) oil, a traditionally premium oil that is retailing for about Rs 425 per kg.
- "Not only are coconut oil prices at all-time highs, I haven't in my 50 years of trading seen these go up so much in such a short time," Thalath Mahmood, president of the Cochin Oil Merchants' Association (COMA), said.
- The El Niño event, which lasted from July 2023 to June 2024, affected the growth of coconut flowers and fruit development during the 2024-25 marketing year that began in October. The impact is being felt now, as it takes roughly a year for a single coconut to go from flowering on the tree to a fully mature fruit that is ready for harvesting.
- No immediate supply response to high prices is expected because coconut trees – even the improved dwarf and hybrid palm varieties – start bearing fruit only in 3-5 years.
- The price sentiment has been further boosted by reports of the Indonesian government planning restrictions on the export of raw whole coconuts, amid concerns over the shortage of the fruit for local processors.
- Meanwhile, the government of the Philippines has introduced a 3% mandatory blending of coconut oil-based CME (coco-methyl ester) in diesel sold in the country from October 2024.
- Of the 5.7 lakh tonnes (lt) of coconut oil produced in India, only about 3.9 lt is used for food (cooking and frying). The rest goes into the manufacture of hair oil, cosmetics, soaps, and in other industrial applications.



- Like other indigenous cooking oils (mustard, sesame, groundnut, cottonseed), coconut oil has lost market share to the predominantly imported oils – palm, soyabean, and sunflower.
- Even in Kerala — the state that derives its name from Kera or the coconut tree — the annual consumption of coconut oil is just 2 lt, estimates COMA’s Mahmood. That is half the consumption of palm oil (4 lt) and a little more than sunflower oil (1.5 lt). From being the top producer of coconut, Kerala has now slipped to third place, behind Tamil Nadu and the No.1 producer, Karnataka.

Do You Know:

- Obesity has emerged as a growing health concern, with alarming statistics indicating a sharp rise in cases over the years. Prime Minister Narendra Modi recently brought this issue into focus, urging people to cut down on edible oil consumption by 10% as a simple yet effective step toward better health.
- Last year, the government approved the National Mission on Edible Oils–Oilseeds (NMEO–Oilseeds), with a financial outlay of `10,103 crore. India is dependent on imports to meet 58 per cent of its edible oil requirements.
- According to the Coconut Development Board, coconut cultivation requires an equatorial climate with high humidity. The ideal mean annual temperature is 27°C with 5-7°C diurnal variation. All well distributed rainfall of 1300-2300 mm per annum is preferred.
- Coconut is grown in different soil types such as laterite, coastal sandy, alluvial and also in reclaimed soils of the marshy lowlands. It tolerates salinity and a wide range of pH from 5.0 to 8.0. Proper drainage, good water holding capacity, optimum soil moisture and absence of rock or any hard substratum within 2 m of the surface are ideal for better growth and performance of the palm.
- Established in 1981, Coconut Development Board (CDB) is a statutory body established under the Ministry of Agriculture and Farmers Welfare, Government of India for the integrated development of coconut cultivation and industry in the country with focus on productivity increase and product diversification.

WHAT ARE BIOSTIMULANTS, NOW UNDER AGRI MINISTRY’S SCRUTINY?

Union Agriculture Minister Shivraj Singh Chouhan last week wrote to Chief Ministers of all states to immediately stop the “forced tagging” of nano-fertilisers or biostimulants along with conventional fertilisers.

- Chouhan highlighted complaints that retailers are not selling subsidised fertilisers like urea and diammonium phosphate (DAP) to farmers unless they purchase biostimulants.
- He also said that many farmers had recently raised complaints about the inefficacy of biostimulants. “It is necessary to review biostimulants thoroughly to see how much benefit the farmers are getting from it; if not, then permission to sell it cannot be given,” he said.
- Market research firm Fortune Business Insights noted, “The India biostimulants market size was valued at USD 355.53 million in 2024. The market is projected to grow from USD 410.78 million in 2025 to USD 1,135.96 million by 2032, exhibiting a CAGR of 15.64% during the forecast period.”



- Chouhan said that around 30,000 biostimulant products had been sold unchecked for several years, and even in the last four years, around 8,000 products remained in circulation. “After I enforced stricter checks, the number has now come down to approximately 650,” he said in a statement on July 15.

Do You Know:

- The substances stimulate physiological processes in plants and help enhance the yield from a harvest. Plant-derived waste materials and seaweed extracts are at times used in their production.
- Officially, the Fertiliser (Inorganic, Organic or Mixed) (Control) Order, 1985, which regulates the manufacturing and sale of biostimulants, defines it as “a substance or microorganism or a combination of both whose primary function when applied to plants, seeds or rhizosphere is to stimulate physiological processes in plants and to enhance its nutrient uptake, growth, yield, nutrition efficiency, crop quality and tolerance to stress... but does not include pesticides or plant growth regulators which are regulated under the Insecticide Act, 1968.”
- As biostimulants did not fall under the existing fertiliser or pesticide categories, they were sold in the open market without government approval for a long time.
- In India, fertilisers and pesticides are governed by the 1985 Fertiliser Control Order and the Insecticides Act of 1968, respectively. The Union Ministry of Agriculture and Farmers’ Welfare issues the Fertiliser Control Order (FCO) under the Essential Commodities Act, 1955, and makes changes to it from time to time.

THE SOIL OF A NATION

Only when soils receive the nutrients do they produce food that nourishes rather than merely fills stomachs. This is no longer just an agricultural issue; it’s a public health imperative.

- In 2024-25 (FY25), India exported 20.2 million tonnes (MT) of rice in a global market of 61 MT. The country also runs the world’s largest food distribution programme, the PM-Garib Kalyan Yojana (PMGKY), which provides 5 kg of free rice or wheat per person per month to more than 800 million people. Yet, the Food Corporation of India holds about 57 MT of rice — the highest stock in 20 years and nearly four times the buffer norm of 13.54 million tonnes as of July 1, 2025.
- Poverty, too, has receded significantly. The extreme poverty head count (those earning less than \$3/day at 2021 PPP) dropped from 27.1 per cent in 2011 to just 5.3 per cent in 2022.
- The National Family Health Survey (NFHS 5) (2019–21) reports that 35.5 per cent of children under five years of age are stunted, 32.1 per cent are underweight, and 19.3 per cent are wasted. Food security in India has evolved beyond merely ensuring caloric sufficiency; it must now encompass nutritional security as well.
- One critical, and often overlooked, factor here is the health of soils. Soil micronutrient deficiencies not only impair agricultural productivity but also degrade the nutritional quality of crops.
- Crops grown on nutrient-deficient soils often mirror those deficiencies, leading to a silent but pervasive form of malnutrition in humans. Take zinc. Its deficiency in soils translates into low zinc content in cereals like wheat and rice, which in turn is linked to childhood stunting — a condition



that affects the physical development, long-term cognitive health, as well as the professional life of a person.

- Importantly, SOC is a critical parameter defining the physical, chemical, and biological properties of soil — these govern its holding capacity and nutrient use efficiency. There is also a debate as to how much SOC is considered sufficient.
- As per the Indian Institute of Soil Science (IISC), SOC in the range of 0.50- 0.75 per cent is adequate. But the World Food Laureate, Rattan Lal, who has worked on soil health throughout his career, prescribes that the carbon content in soils should be at least 1.5 to 2 per cent.
- Our soils also suffer from a deficiency of sulphur, as well as micronutrients like iron, zinc and boron. These deficiencies range from moderate to severe. It won't be an exaggeration to say that many parcels of Indian soils need to be immediately taken to an intensive care unit (ICU) to restore them to normal health so that they can produce nutritious food on a sustainable basis.
- Recognising the urgency of this challenge, the Indian Council for Research on International Economic Relations (ICRIER) and OCP Nutricrops have committed to collaborating to improve soil health in India and beyond.
- OCP Nutricrops brings cutting-edge expertise in soil nutrition and fertiliser solutions aimed at addressing global challenges in sustainable food production. The collaboration aims to develop, implement, and scale region-specific, data-driven soil nutrition solutions that enhance crop productivity while improving their nutritional profile.

FISHERS' BODY SLAMS GOVT FOR ALLOWING DEEP-SEA VESSELS

The All India Deep Sea Fishers' Association has come out against the Union Fisheries Ministry's decision to allow large vessels to operate in deep-sea areas beyond India's sovereign maritime zone.

- In a letter to Union Minister for Fisheries, Animal Husbandry & Dairying and Panchayati Raj Rajeew Ranjan Singh, the association said the decision will impact the fortunes of small-scale traditional fishing vessels.
- Association chief Charles George said the decision to allow Indian-owned vessels in deep sea was part of the Blue economy policy of the Union Government unveiled in 2020. "We request the Union government... revitalise small-scale and traditional fishermen through modernisation, cooperative strengthening and fair subsidies."
- Urging the government to reject the push for industrial deep-sea vessels, the association said such a move will only worsen ecological and economic crises.
- George said as per Central government data, 3,14,677 fishing vessels operate within India's Exclusive Economic Zone (EEZ). "However, sustainable fishing practices require only 93,287 vessels... Yet, we cannot outright claim that we have crossed sustainability thresholds because we have predominantly small-scale and traditional vessels."
- The body rejected the government stand that allowing large vessels for deep-sea fishing will help tap the hitherto untapped resources.



Do You Know:

- According to the UNCLOS, the Exclusive Economic Zone (EEZ) of a country extends from the baseline of its coast to 200 nautical miles (about 370 km) into the sea. A nation has exclusive rights to living and non-living resources in the waters and on the seabed within its EEZ.
- The territorial sea (TS) as per UNCLOS, is an area extending up to 12 nautical miles from the base of a country's coastline.

WHAT HAS PRELIMINARY CRASH REPORT REVEALED?

The story so far:

Leaks in the western media with specific details about technical aspects and 'human intervention' relating to the crash of Air India flight AI 171 have led to a written appeal by the Director-General of India's Aircraft Accident Investigation Bureau (AAIB), Ministry of Civil Aviation, Government of India, to await the publication of the final investigation report. The leaks came days before the release of the AAIB's preliminary report on July 12, a month after the air accident at Ahmedabad on June 12.

What else has the AAIB's appeal said? What are the other reactions?

The letter, dated July 17 and signed by G.V.G. Yugandhar, Director-General, AAIB, said that the AAIB works in accordance with the Aircraft (Investigation of Accidents and Incidents) Rules 2017, and is responsible for fulfilling the obligations of the Government of India towards the International Civil Aviation Organization Annex 13. It highlighted "its flawless record in the investigation of 92 accidents and 111 serious incidents since its inception in 2012". The statement drew attention to certain sections of the international media repeatedly attempting to draw conclusions through selective and unverified reporting and called such actions irresponsible. It added that the AAIB's investigation and preliminary report are to provide information about "what" happened, and that the final report would come out with root causes and recommendations.

On July 18, in a statement on X, the U.S. National Transportation Safety Board (NTSB) Chairwoman Jennifer L. Homendy said that "recent media reports on the Air India 171 crash are premature and speculative...", ending with "investigations of this magnitude take time. We fully support the AAIB's public appeal...."

Days before the AAIB released a 15-page preliminary report, aviation news service The Air Current had a report on July 8. It said "Air India crash investigation focuses on movement of engine fuel control switches" with a blurb that "data from the Dreamliner's black box points investigators towards improper, inadvertent or intentional pilot actions". On July 10, the Wall Street Journal (WSJ) had a report, "Air India probe Puts Early Focus on Pilots' Actions and Plane's Fuel Switches". Again, on July 17, the WSJ had an exclusive report titled "New Details in Air India Crash Probe Shift Focus to Senior Pilot". On July 18, an Italian daily, the Corriere della Sera (founded in 1876), published a report which claimed it had more details from the cockpit voice recorder (CVR).

The reports in the western media have led to a pushback by Indian pilot bodies. A media report has said that the Federation of Indian Pilots would "pursue all legal remedies available for defamation, mental anguish and reputational harm". The International Federation of Air Line



Pilots' Associations also cautioned against hasty conclusions published by the media and social media based on the preliminary report.

What has the preliminary report said?

The report has focused on the “engine 1 and engine 2 fuel cutoff switches having transitioned from Run to Cutoff position, one after another with a time gap of one second”, resulting in the fuel supply cutting off. There is also one sentence which says that in the “cockpit voice recording, one of the pilots is heard asking the other why did he cutoff. The other pilot responded that he did not do so.” The report has a picture of the aircraft with its Ram Air Turbine — which is at the heart of an aircraft’s emergency power system — having deployed during the initial climb.

The engine 1 fuel cutoff switch then transitioned from Cutoff to Run about 10 seconds after the cutoff, leading to a thrust recovery. Four seconds later, a similar transitioning for the engine 2 fuel switch led to the full authority digital engine control of each engine automatically managing a relight and thrust recovery sequence. One of the pilots then transmitted a Mayday call.

The report has said that it has no recommended actions concerning the aircraft type, the engine (GE’s GENx-1B70/P2), and the manufacturers — this has drawn criticism from pilot bodies for ignoring ‘systemic vulnerabilities’.

The heart of the mystery now lies in the actions around the manual fuel selector switches.

Captain Matthew Buckley, a former U.S. Navy fighter pilot and a former first officer at FedEx and American Airlines, has told The Hindu that the Boeing 787 is a data-linked, highly networked aircraft, with its critical flight systems — especially fuel management — digitally and physically isolated. Even though the aircraft uses Ethernet-style backbone systems for many avionics functions, the fuel selector switches themselves are mechanical-electrical hybrids that cannot be remotely accessed or altered from outside. He adds that had there been any software anomaly, Boeing and the engine manufacturer would have detected it through Aircraft Health Monitoring Systems. These systems record and transmit real-time diagnostics, he said.

He said that the Boeing 787 has centralised electronic systems and data streaming to ground systems in real time. If there was an engine-related issue, the engine manufacturer would know instantly, as diagnostic updates would be sent during flight.

What are the safety checks being done by airlines?

Last month, on June 13, the Directorate General of Civil Aviation (DGCA) directed Air India to carry out additional safety inspections on its Boeing 787-8 and 787-9 fleet. Professor Guy Gratton, Associate Professor of Aviation and the Environment, Faculty of Engineering and Applied Science at Cranfield University, U.K., has told The Hindu that these imply enhanced checks of the electrical, hydraulic and/or propulsion systems.

The DGCA has also issued a directive (with inspection reports by July 21, 2025) to check the locking mechanism of the fuel control switches on the Boeing 737 and 787. A number of airlines have carried out precautionary checks of the fuel selector switches in their Boeing 787 fleets. This also flows from an advisory by the U.S. Federal Aviation Administration (FAA) in 2018 of the ‘potential for disengagement of the fuel control switch locking feature’ on several Boeing aircraft families. Separately, Indian pilot bodies have urged extensive checks of the 787’s engine control systems.



Can there be a better investigation?

In an interview with Singapore's media on July 16, while commenting on the AAIB's preliminary report, International Air Transport Association chief Willie Walsh said that there is a strong argument to be made for video recorders to be installed in aircraft flight decks to help accident investigators. This revives an almost 25-year-old debate on the issue between the NTSB and the FAA.

The final line is that there needs to be a fair and transparent investigation with irrefutable findings. And this could take time.

THE CRITICAL MINERALS CONTEST

India cannot afford to anchor its tech aspirations on supply chains that remain opaque, concentrated and subject to political risk.

- Critical minerals are emerging as the defining geoeconomics axis of the 21st century. These are no longer peripheral to industrial development but lie at the heart of advanced manufacturing, clean energy systems, strategic technologies and national security.
- Energy transition, digitalisation and the pursuit of supply chain resilience are rapidly amplifying the demand for minerals such as lithium, cobalt, nickel, graphite and rare earth elements. Their availability and accessibility will determine the pace and quality of growth for all major economies.
- Unlike fossil fuels, critical minerals are characterised by high geographical concentration, limited transparency and complex value chains. China dominates the midstream processing stage for most key minerals, accounting for over 90 per cent of rare earth refining, 70 per cent of cobalt processing and close to 60 per cent of lithium conversion capacity.
- In 2022, the Ministry of Mines identified 30 critical minerals based on their strategic importance to clean energy and future technologies, high import dependence, domestic resource constraints and relevance for agricultural and industrial needs.
- In January, the National Critical Mineral Mission (NCMM) was announced to secure critical mineral supply chains by ensuring mineral availability. Its success will rest on how effectively it translates intent into action.

Do You Know:

- Critical minerals are minerals that are essential for economic development and national security, and the lack of availability of these minerals or the concentration of extraction or processing in a few geographical locations could potentially lead to "supply chain vulnerabilities and even disruption of supplies". This is true for minerals such as lithium, graphite, cobalt, titanium, and rare earth elements, which are essential for the advancement of many sectors, including hightech electronics, telecommunications, transport, and defence.
- One of the definitions cited in the report characterises a mineral as critical when the risk of supply shortage and associated impact on the economy is (relatively) higher than other raw materials. This definition of a critical mineral was first adopted in the US and the subsequent legislation that resulted from the analysis, the report said. The European Union also carried out a



similar exercise and categorised critical minerals on the basis of two prerequisites: supply risk and economic importance.

- Currently, India is 100 per cent import dependent for lithium, cobalt, nickel, rare earth elements and silicon. At the same time, India's domestic resource base for critical minerals is underdeveloped.
- The Geological Survey of India has ramped up exploration, with 195 projects underway over the past year and another 227 approved for the upcoming year. In response to the inclusion of critical minerals in the Mines and Minerals (Development and Regulation) Act, the government launched four tranches of auctions for critical mineral blocks last year, and a fifth was concluded in January 2025.

1 IN 3 US SMARTPHONE IMPORTS NOW MADE IN INDIA, CHINA'S LEAD SHRINKS

India's share in US smartphone imports surged to nearly 36 per cent in the first five months of 2025, from about 11 per cent in 2024. China, which continues to dominate the product category, saw its share drop from 82 per cent to 49 per cent over the same period.

- India's growing share — now 1 in 3, driven largely by Apple iPhones — comes amid ongoing trade talks with the US. While smartphones are India's top export to the US by value, President Donald Trump has threatened a 25 per cent tariff on Indian-made iPhones.
- Apple doubled down on production in India in 2020, after the government announced its flagship Production Linked Incentive (PLI) scheme to support smartphone manufacturing in the country. Through its contract manufacturers, the company has been the biggest beneficiary of the scheme, which has helped it move some production away from China.
- Apple's pivot to India from China for US-bound exports has drawn criticism from Trump, who, in May, said he's told Apple's chief executive that he does not want the company to expand its manufacturing operations in India.
- However, Apple is unlikely to overhaul its India expansion plans in the near-term. In May, its contract manufacturer Foxconn informed the London Stock Exchange of a \$1.49 billion investment in one of its India units, Yuzhan Technologies (India) Pvt Ltd. The new plant is expected to come up in Tamil Nadu, where Foxconn already has a major iPhone production base.

Do You Know:

- Since its launch in April 2020, the PLI scheme covers 14 sectors as of now. It has helped India achieve scale in manufacturing by attracting OEMs (original equipment manufacturers) as well as contract manufacturers in designated sectors. It has also contributed to limited value addition in segments such as surface mounting and PCB (printed circuit board) assembly, product testing, and packaging.
- Under its flagship production-linked incentive (PLI) scheme for smartphone manufacturing, the government has disbursed close to \$1 billion in the three years from 2022-23 to 2024-25, with Foxconn, Tata Electronics and Pegatron, the three contract manufacturers of Apple receiving cumulatively over 75 per cent of the amount.



- The PLI for large scale electronics manufacturing, which was first announced in 2020 with an outlay of Rs 38,601 crore, offers incentives ranging from 4 to 6 per cent on net incremental sales of eligible products over the sales in the base year to the selected applicants.
- Make in India: Launched in 2014, the 'Make in India' initiative aims to facilitate investment, foster innovation, enhance skill development, protect intellectual property & build best in class manufacturing infrastructure.



DreamIAS



LIFE AND SCIENCES

MOON DAY: REMEMBERING THE LEAP

International Moon Day is celebrated every year on July 20 to commemorate humankind's first landing on the moon by the Apollo 11 mission in 1969. The UN General Assembly formally recognised this date in 2021, following a proposal recommended by the Committee on the Peaceful Uses of Outer Space (COPUOS). The commemoration also aims to highlight the collective progress of all nations in exploring the moon.

On the day, activities like public events, sky-gazing, educational outreach, and science competitions are organised worldwide to inspire curiosity and foster interest in space science, especially among the youth. According to the UN, International Moon Day also serves to promote sustainable practices in space, international cooperation, peaceful exploration, and the responsible use of lunar resources.

There have been minor criticisms related to the chosen date. Some commentators have noted that while the Apollo 11 lunar module landed on July 20, Armstrong's first step technically occurred at 2:56 UTC on July 21. This ambiguity has occasionally prompted debate over whether July 21 is more accurate to commemorate. There is also occasional commentary questioning whether the date, rooted in an American achievement, fully encompasses the international spirit intended by the UN, more so since other nations have contributed significantly to lunar exploration.

Despite these discussions, July 20 remains globally recognised for now as the date humankind first leapt beyond the earth.

THE UNIVERSE HAS NO TOP OR BOTTOM

Q. Where is the centre of the universe?

A: The universe has no top, bottom or middle and no centre either. Scientists know today that the universe is spreading out in all directions and in all places at the same time. This means galaxies that are 500 lightyears away, 5,000 lightyears away, and 5 million lightyears away are all moving away from the earth. The earth itself is moving away from another object somewhere else.

On a more fundamental level, we often consider the Big Bang to be a central event in space, but this is not true. Our universe is not located inside some larger space (at least to the extent that we can study and prove). Right after the Big Bang, space grew, changed, and evolved everywhere at once.

The human mind is accustomed to a three-dimensional surrounding where specific parts of space begin and end. It is more used to shapes with points and straight lines. Thus, for example, we can say a spherical soap bubble has a centre. But the universe bends space and time and has a shape that is not easily comprehensible by the mind. It has no edges or vertices and thus no centre either.

As the German physicist Werner Heisenberg once said, "Physics does not offer comfort; it offers reality."



WATER, ENERGY DEMAND SPOTLIGHTS RISK OF HUMAN-INDUCED QUAKES

Earthquakes are usually natural — but not always. Sometimes some natural factors can combine with human activities to lead to earthquakes as well. Quakes induced by human activities are called human-induced earthquakes. According to one estimate researchers discussed in Seismological Research Letters in 2017, more than 700 human-induced earthquakes have been recorded around the world in the last 150 years, and they are becoming more common.

Human activities like mining, extracting groundwater, impounding water behind a dam, injecting fluids into the ground, constructing tall buildings, and engineering coastal structures, among others, have been shown to induce seismic activity. This is because, according to experts, loading and unloading the crust in a repeated manner can cause strain to accumulate between tectonic plates, which would in turn modulate seismic activity.

In India, seismologists have also been studying how the amount of water above and below the ground can affect the geological processes.

A 2021 study in Scientific Reports noted that shallow earthquakes recorded in the National Capital Region could be linked to excessive groundwater extraction in the region for farming and human consumption.

“It was seen that between 2003 and 2012, when the water table had depleted significantly, there was an increase in seismic activity. The seismic activity reduced after 2014 when the water table stabilised,” Bhaskar Kundu, associate professor at NIT Rourkela and one of the authors of the study, told The Hindu.

Managing extraction

When groundwater is pumped out, the mass of water maintaining the pressure under the earth is removed, creating jolts on the surface.

“The situation is not of major concern because these earthquakes in the Delhi-NCR region are usually minor, with the maximum going up to 4.5 magnitude,” C.P. Rajendran, geoscientist and author of *The Rumbling Earth: The Story of Indian Earthquakes*, said. “It can go up to 5.5, which for a densely populated city like Delhi could have risks.”

This is because Delhi lies on several faultlines and is in the Zone 4 seismic risk category, meaning it’s a quake-prone region.

The risk for earthquakes induced by groundwater extraction is spread across the Gangetic plains, where the water table has been dropping in leaps, Dr. Rajendran said. This is mostly because crops sown in the region still need large quantities of water and very little of that thirst is quenched by rainfall.

He added that there is a need to manage the rate of groundwater extraction and its recharge in a scientific manner and while considering the rate of seismic activity in the region.

In the past, human-induced earthquakes have devastated lives and property, caused foremost by large dams that change the water load on the surface. On December 11, 1967, for example, an earthquake of 6.3 magnitude wrought significant damage in Koynanagar, a village in Maharashtra. More than 180 people were killed and thousands of houses were destroyed. Several studies that followed blamed the disaster on water overloading in the Koyna hydroelectric dam nearby.



Similarly, research has recorded an increase in seismic activity around the Mullaperiyar dam in Idukki, Kerala, which like Delhi also lies in an earthquake-prone zone.

Energy and quakes

“The U.S., which has recorded reservoir-induced earthquakes, has implemented regulations on how quickly a dam should be filled and emptied. Such regulations should also be enforced in India to prevent earthquakes,” Vineet K. Gahalaut, Chief Scientist at the National Geophysical Research Institute, told The Hindu.

He also said seismic activities in a region should be properly evaluated before a dam is built there.

“Huge dams in seismically active areas like the Himalayas are not recommended because the water load and percolation could change the local stress regime,” Dr. Rajendran said.

India’s growing energy demand also increases the risk of this type of disaster.

“The methods used to extract energy to meet our needs have significant risks on our earth, be it oil or hydropower,” Dr. Gahalaut said.

Fracking — where liquids are injected into the ground to push rocks apart and allow extraction of oil and natural gas — has also been shown to induce earthquakes, Dr. Gahalaut added. India currently has 56 fracking sites across six States. In Palghar district in Maharashtra, which has been experiencing a sequence of quakes since 2018, experts have said plate deformation is occurring in an isolated manner. Initial findings by seismologists indicated that the cause could be fluid migration due to rainfall.

“Strong seismic networks using instruments need to be established across India in regions like these, which are experiencing isolated plate deformation, to monitor and track seismic activity more accurately,” Dr. Kundu said.

Impact of climate change

Scientists have said that climate change can indirectly affect the occurrence of earthquakes and render them more frequent over time. The melting of glaciers due to global warming has been found to trigger earthquakes around Antarctica and Greenland. Changes in rainfall patterns due to climate change have also been known to modulate the water loading process on the surface.

For example, sudden heavy rainfall could alter the stress accumulated between tectonic plates and induce seismic activity.

The area around the Sahyadri range of the Western Ghats has been recording tremors due to heavy rainfall for this reason.

“The height of the mountains should have been reduced considering the rate of rainfall. However, the mountains have maintained their height due to seismic activity,” Dr. Gahalaut said.

Changing rainfall patterns can also change the soil chemistry, Dr. Rajendran said, affecting cropping patterns and compelling farmers to turn to groundwater for irrigation, which can also induce seismic activity.

Similarly, longer droughts can also reactivate seismic faults. Such a drought-induced earthquake was recorded in California in 2014.



“The risk of earthquakes is not present at all locations where there is groundwater depletion or huge dams, They have only been recorded in areas that are present on faultlines or are facing plate deformation processes,” according to Dr. Kundu.

At present, the rate at which strain has been accumulating along plates and the fraction of this stress that is due to human activities is not possible to ascertain, he added. Experts have thus warned against concluding that such activities are solely to blame for tremors or earthquakes. Research thus far has only shown that these activities could postpone or accelerate tectonic processes causing these movements.

WHAT HAVE COURTS RULED WITH RESPECT TO AI AND COPYRIGHT?

The story so far:

Whether the intellectual material produced by various generative AI models infringes copyright laws has been a controversial question posed around the globe. Three recent rulings in the U.S. — Thomson Reuters versus Ross Intelligence (2025), Bartz versus Anthropic (2025), and Kadrey versus Meta (2025) — have brought considerable clarity to the issue. The decisions confirm that transformative training on legitimately acquired texts can qualify for ‘fair use’, though key limits remain on pirated content and unclear market impacts. However, the issue remains unresolved from a legal perspective.

Do AI models violate copyright law?

Generative AI models can occasionally produce content that closely resembles or even duplicates specific works from their training datasets, raising concerns about ethics and law. Legal outcomes often depend on whether training AI on original works and its subsequent output undermines the original works’ market by replacing them, or whether the AI-generated content adds value and is considered transformative rather than a substitute. The legality of training AI with copyrighted data remains unsettled at the global level. Training generative AI models involves feeding them large datasets, often scraped from the internet, that include both copyrighted and public domain content, which raises legal issues regarding reproduction rights under copyright law. The primary concern is whether copying originals for training constitutes infringement or qualifies as fair use (in the U.S.) or as a text and data mining exception (in the EU and U.K).

What about databases?

The general principles of liability in determining the usage of databases and published works in the training of generative AI models are grounded in Intellectual Property (IP) law, contractual obligations, and privacy regulations. Generative AI has many IP uncertainties. There is legal ambiguity in determining whether the training of AI using IP-protected data, and the generated outputs constitute IP infringements. Some nations provide IP law exceptions, on the basis of it being for fair use, text and data mining, and temporary copying that may apply in cases involving generative AI. However, the absence of global harmonisation and the actual application of generative AI exceptions has not yet been tested, throwing up further legal uncertainty. Additionally, the ownership of IP rights of the output of generative AI is legally uncertain.

Presently, there is no explicit or harmonised global regulation that addresses the intellectual property implications of generative AI. The intellectual property laws of most nations were developed long before the advent of AI, leading to legal uncertainty over whether IP rights can



subsist in AI-generated outputs and, if so, who would own them. This uncertainty is most pronounced in the area of copyright, where authorship traditionally requires human creativity.

What did the U.S. judgments state?

The two landmark U.S. court judgments, one in favour of Anthropic and the other Meta, deduce that the use of copyrighted material for training AI systems could qualify as fair use. However, these rulings do not close the debate regarding the legality of sourcing training data from pirated repositories.

In the Anthropic case, Judge William Alsup of the District Court in the Northern District of California ruled that using copyrighted data for training AI software was transformative, comparing the model's training to a writer learning from prior works. However, the judge held that Anthropic must face trial over its use of pirated copies to develop its library of material.

In the Meta case, Judge Vince Chhabria of the Northern District of California ruled in Meta's favour, concluding that the plaintiffs had not established that the company's use of their works would result in market dilution by generating AI outputs like the originals. Meta's actions were considered to be covered under the 'fair use' provision. But the judge said that tech companies making money off the AI boom ought to figure out ways to share the wealth with companies that hold copyrights. In both rulings, the judges adopted a broad view of the concept of 'fair use' when applied to AI training, and provided tech firms with legal protection from copyright liability. But the concerns of unauthorised data harvesting, or of future market damage, have not been dealt with. Courts have signalled that piracy is still a liability and that compensation systems for creators are long overdue.

What are the implications for India?

The ANI versus OpenAI lawsuit is significant in clarifying how India's existing IPR framework applies to generative AI. Under the Copyright Act, 1957, copyright owners enjoy exclusive economic rights including reproduction, adaptation, and translation, which require permissions for commercial use unless an exception under Section 52 (fair dealing) applies. While some argue that India's IP laws lack provisions specific to AI, the official position holds that the current legal framework is sufficient to address AI-related issues. India, as a member of major international IP treaties, recognises works created by legal persons and provides mechanisms to enforce rights through both civil and criminal remedies, including measures against digital circumvention.

WHAT IS THE EUROPEAN COMMISSION'S AGE CHECK PLAN TO KEEP CHILDREN SAFE ONLINE?

The story so far:

The European Commission is working on an age verification app that is meant to stop children from accessing unsafe content online while protecting the privacy of adult internet users. Critics, however, claim this comes at the cost of user privacy.

What is the European Commission age verification debate?

The European Union has, in the recent past, enacted multiple pieces of legislation to regulate the operations of large online platforms such as e-commerce giants, social media companies, and even pornography-hosting websites. In particular, the European Commission has highlighted some



risks that children face when they are online, including platform designs that encourage digital addiction, cyberbullying, exposure to harmful content, and unwanted contact from strangers.

Digital advocates have previously recommended that the user interface of a large digital platform could be adjusted on the basis of the user's age, with children receiving private accounts and having their safety or well-being features turned on by default. When it comes to platforms such as porn sites, children ideally should not be able to access or even accidentally see explicit content. One way this could be done is through an app that verifies the user's age online, in order to be certain that children are not using adults' accounts.

The European Commission on July 14 presented guidelines concerning the protection of minors on online platforms, along with a prototype of an age-verification app under the Digital Services Act (DSA). Development of the age verification blueprint began early this year and is built on the same technical specifications as the European Digital Identity Wallets (eID), which are slated to be rolled out before the end of 2026, according to the European Commission, with two services meant to be compatible.

Denmark, Greece, Spain, France, and Italy are some of the first countries that will work alongside the Commission with the aim of launching their own national age verification apps in the future, in their own languages.

"During the pilot phase, the age verification solution will be further enhanced with new features. Apart from eID, further updates will include additional options for users to prove they are over 18. The age verification will also be enhanced with the latest technical solutions (zero-knowledge proof) to ensure the highest level of privacy protection," said the European Commission in its post.

How will age verification affect the privacy of adults?

While those in favour of creating a safer internet for children are in support of making age verification mandatory to access porn websites, critics of the move believe that it violates privacy rights and can put their security online at risk or make their browsing activities easier to track and monetise.

However, the European Commission has defended the privacy standards of its prototype app and said that it will enable age verification while preventing privacy violations. The regulator added that the technical specifications and the open-source age verification blueprint were freely available to view and use as well.

"It will, for example, allow users to easily prove they are over 18 when accessing restricted adult content online, while remaining in full control of any other personal information, such as a user's exact age or identity. No one would be able to track, see, or reconstruct what content individual users are consulting," stated the Commission.

Meanwhile, at the topmost levels of the French government, President Emmanuel Macron also supports age verification and even wants to ban social media for users who are under 15 years of age.

France is one of the countries that will first try out the age verification app prototype.

There are also ongoing discussions as to whether certain social media platforms that contain adult content, such as X, can be classified as porn platforms. This also has implications for the user experience of adult social media users across the European Union.



Why are some porn companies against age verification?

While most companies agree that children using the internet should be protected from explicit content, cybersecurity threats, and social media addiction, they often disagree on the ideal way to go about this process.

For example, Pornhub-owner Aylo's main contention is whether age verification takes place at the website level or not. In a company post on June 26, Aylo stressed the need for "device-based age verification." According to the company, age verification should have been carried out by Apple, Google, and/or Microsoft long before an underage user even arrives at an adult website such as Pornhub.

For close to two weeks in June, internet users in France who tried to access pornography platforms such as Pornhub, YouPorn, and RedTube encountered a largely black screen with a notice, or a historic painting with a call to action against the French government's move to implement mandatory age verification for adult platforms.

Aylo also warned that users unable to access Pornhub would go to smaller, less regulated sites potentially hosting illegal content. It unblocked its websites in late June after a Paris administrative tribunal's decision over the rule's unconfirmed compatibility with EU laws. But Aylo's next actions remain to be seen as the top administrative court affirmed this month that age verification was a must.

"Data breaches happen daily. Forcing you to enter sensitive personal information repeatedly creates an unacceptable security risk we refuse to impose on our users. We refuse to compromise your privacy with measures that, ironically, fail to effectively protect children," said Aylo in a statement on its website on July 15.

"To make the internet safer for everyone, every phone, tablet or computer should start as a kid-safe device. Only verified adults should be allowed to unlock access to age-inappropriate content," said the company.

DOES YOUR POLITICS MATTER ON A DATING APP? LOVE SHOULD BE ABOUT DISCOVERY

The heart wants what it wants, and in the case of young singles today, it wants perfect ideological compatibility. If love is about overcoming barriers — of geography, class, race and religion — politics, it seems, is the stumbling block that few romances can recover from. That, at least, is the reason offered by a new generation looking for love on dating apps where, with mini manifestos on their profiles, would-be lovers are making clear their political/ideological dealbreakers.

While it's been around for a few years, the trend appears to have solidified with the victory of Zohran Mamdani in the Democratic primary ahead of the New York City mayoral election later this year. In Mamdani's story about meeting his wife on a dating app, many see hope of finding their own perfect matches. This practical approach to relationships, with the elimination of an entire area of potential conflict, may seem admirable, especially in these polarised times. But does it offer any room for the spontaneous combustion known as love?

Because no matter how many heartbreaks it might cause, friction is essential if sparks are to fly. And while the good common sense of laying out the terms and conditions of a relationship right at the outset is undeniable, so is the fact that love is a journey of acceptance and discovery. It is neither a contract to be signed, nor a checklist to be filled. As William Faulkner once wrote, love



happens “despite”, not “because”. It unfolds in bits and pieces, in arguments and conversations. This age-old process may lead to a broken heart or two, some unmet expectations and dashed illusions. But when a clash of wills results in a meeting of minds and hearts, it is a price well worth paying.

LEFT AND RIGHT

Why do mirrors flip left and right but not up and down?

This classic question has a surprisingly interesting answer. The fact is mirrors don’t actually flip left and right, much less up and down. Instead, they flip the image of the world you see front to back.

When you stand in front of a mirror and raise your right hand, your reflection raises what appears to be its left hand. But that’s only because your reflection is facing you. If someone else stood facing you and raised their right hand, that would also appear on your left side. So the mirror isn’t flipping left and right. Instead, it’s flipping depth: what’s in front of you becomes what’s behind you in the mirror.

The confusion comes from how our brains interpret the reflection. We imagine ourselves turned around to face the same direction as our reflection. In doing so, we mentally swap left and right. But the mirror hasn’t done that: it has simply reversed the image along the axis perpendicular to its surface.

Thus, mirrors don’t prefer left-right or up-down. They only reflect whatever is in front of them, flipped front to back.

DEEP-SEA MINING RULES: A RACE AGAINST TIME FOR OCEAN PROTECTION

The International Seabed Authority (ISA) concluded its July 2025 session in Kingston, Jamaica, without finalizing regulations for deep-sea mining in international waters, despite U.S. pressure to fast-track the process. This delay, while frustrating for mining companies like The Metals Company, is a critical pause for marine ecosystems. The failure to agree on a “mining code” reflects the complexity of balancing economic interests with environmental protection, but it also underscores the urgent need for robust, science-based rules before exploitation begins.

The stakes are high. The ocean floor holds vast reserves of cobalt, nickel, and manganese—minerals vital for electric vehicle batteries and renewable energy technologies. Yet, the deep sea is a biodiversity hotspot, hosting species and ecosystems we barely understand. Mining could cause irreversible harm, from sediment plumes smothering marine life to noise disrupting whale communication. Thirty-seven countries, including Chile and France, have called for a moratorium, citing insufficient scientific knowledge to assess impacts. ISA Secretary-General Leticia Carvalho echoes this caution, stressing that governance must rely on “robust science” and “inclusive dialogue.”

The U.S., a non-member of the ISA, has muddied the waters. President Trump’s April 2025 executive order, prioritizing seabed mining under the 1980 Deep Seabed Hard Mineral Resources Act, has spurred companies to bypass the ISA’s framework. The Metals Company’s plan to apply for U.S. permits in June 2025 risks undermining international law, potentially emboldening others, like China, to flout global norms. This move threatens the principle of the seabed as the “common heritage of humankind,” a cornerstone of the UN Convention on the Law of the Sea.

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The ISA's 2026 talks must prioritize enforceable environmental protections and transparent processes. With over 1.5 million square kilometres already under exploration contracts, the clock is ticking. Rushing to mine without a solid framework would be reckless. The deep sea deserves rules that safeguard its fragile ecosystems, not a free-for-all driven by geopolitical and corporate haste.

THE HAGUE: COUNTRIES OBLIGED TO TAKE CLIMATE ACTION, LIABLE FOR COMPENSATION IF THEY DON'T

The ICJ ruling is not binding on the countries, but sets an important precedent for the thousands of climate lawsuits that have been filed in recent years across the world.

- In a landmark decision, the International Court of Justice (ICJ), the main judicial arm of the United Nations, has ruled that countries were obligated under international law to take actions to reduce the emissions of greenhouse gases, and the failure to do so would constitute an “internationally wrongful act”.
- The court, based in The Hague, said countries which do not fulfil their climate obligations could be held liable to pay compensations to other countries, particularly the small island nations, which bear the brunt of climate disasters.
- The ICJ ruling came in a case that arose out of a request from the UN General Assembly that sought its “advisory opinion” on the obligations of countries on climate change under existing international laws, and the legal consequences of those obligations.
- The court, in a unanimous ruling, said that countries that were party to the UN Framework Convention on Climate Change (UNFCCC) and the 2015 Paris Agreement had an obligation to adopt measures that were aimed at reducing greenhouse gas emissions, and adapting to climate change. It said that the rich countries had an additional obligation to take the lead on climate actions.
- The court examined the responsibilities of the countries under a wider set of environmental laws that have a bearing on the climate system. These include the UN Convention on the Laws of the Seas, the Montreal Protocol for protecting Ozone, the Convention on Biodiversity and the Convention to Combat Desertification.
- The ICJ ruling is not binding on the countries, but sets an important precedent for the thousands of climate lawsuits that have been filed in recent years across the world, seeking accountability from governments and corporates.

NEW STUDY SHOWS CYSTEINE WITHDRAWAL CAUSES RAPID WEIGHT LOSS IN MICE

In the 1930s, when scientists were beginning to uncover the molecular basis of nutrition, they already knew that proteins were a vital part of the diet, but they didn't fully understand why. More specifically, they didn't know whether all 20 amino acids, the building blocks of proteins, were equally important or if only some of them were crucial for human health.

This question was answered in 1937 by William Rose, who conducted a series of experiments in which he fed rats individual amino acids instead of whole proteins. By systematically omitting one amino acid at a time from the rats' diets, he was able to identify which ones were truly indispensable. These he called “essential” amino acids: they must be obtained through food

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because the body cannot produce them. The others, which the body can synthesise on its own, were deemed “non-essential”.

The nine essential amino acids are histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine.

Low-nutrition state

Rose’s work was one of the founding pillars of modern nutrition science. Nearly a century later, as the world struggles with rising obesity rates, this knowledge has become more relevant. Diets that promote weight loss without compromising overall health are being rigorously studied and tested around the world.

One such study appeared in *Nature* on May 21, and it reported rather surprising results. The researchers found that removing just one amino acid, cysteine, from the diet of mice led to a dramatic and rapid loss of 30% of the body weight in a week. The results are surprising because cysteine is not an essential amino acid.

Multiple researchers have explored the effects of essential amino acid withdrawal on weight loss. The idea behind these studies is that when these amino acids are removed from the diet, the body’s inability to synthesise them reduces protein synthesis. The body interprets this to mean it is in a low-nutrition state and triggers fat burning. The effect has been reported in mice after deprivation of leucine, Isoleucine, valine, tryptophan and phenylalanine.

Interestingly, the effect is also observed when two non-essential but important amino acids, methionine and cysteine, are withdrawn from the diet. Methionine and cysteine are the only two amino acids that contain sulphur. The reactive nature of sulphur allows these amino acids to play key roles in protein folding and function. However, despite their nutritional importance, studies in mice have demonstrated that methionine restriction improves lifespan and protects against metabolic diseases.

Building on these findings, one study published in the *Journal of Nutrition, Health and Ageing* in 2023 showed that a diet with very small amounts of methionine and cysteine had a significant impact on weight loss in humans. The study reported no adverse effects of the diet on participants, suggesting that the results could be translated to humans.

However, several questions remained to be addressed. Chief among them was the role of cysteine itself on weight loss.

BIOEMU SKETCHES THE MOVING PICTURE OF PROTEIN STRUCTURES

Proteins aren’t rigid sculptures. They twist, flex, and sometimes unravel — movements essential to understanding their function. Some proteins, like enzymes, open like clamshells to grab molecules. Others such as signalling proteins shift shape to control cell processes. Still others briefly reveal hidden gaps where drugs can bind. Artificial intelligence (AI) tools like AlphaFold have made structure prediction routine, but they typically yield just one stable form, a single frame from what is really a moving picture.

A new deep learning system called BioEmu, developed by Microsoft and researchers at Rice University in the US and Freie Universität in Germany, predicts the full range of shapes a protein naturally explores under biological conditions. Known as the equilibrium ensemble, it allows high-



resolution protein flexibility modelling at scale, unlike slower, more classical approaches. Described in Science, BioEmu is faster and cheaper, enabling large-scale predictions of protein function.

To understand BioEmu's significance, it helps to see what it's up against. The gold standard for modelling protein flexibility is molecular dynamics (MD), which tracks atomic movements at millionths of a billionth of a second using tools like GROMACS or Anton.

Despite its ultrafine resolution and accuracy, MD is slow and costly. Simulating motions over microseconds or milliseconds can take tens of thousands of GPU-hours, even on supercomputers.

BioEmu sidesteps this bottleneck by relying on an AI diffusion model. To train BioEmu, researchers first fed it real protein structures, from millions of AlphaFold-predicted assemblies, 200 milliseconds of MD simulations spanning thousands of proteins, and half a million mutant sequences from experimental stability measurements.

It's like dropping a sugar cube into a glass of water: the original structure, clear and defined, is gradually dissolved. BioEmu's real task is to learn how to run that process in reverse: from noise to a sugar cube. Once trained, it can generate thousands of plausible protein conformations from scratch.

BioEmu excelled at benchmarks. It captured large shape changes in enzymes, local unfolding that switches proteins on or off, and fleeting cryptic pockets, temporary crevices that can serve as drug docking sites, like in the cancer-linked protein Ras. It predicted 83% of large shifts and 70-81% of small changes accurately, including open and closed forms of a vital enzyme called adenylate kinase. It also handled hard to predict proteins that don't have a fixed 3D structure and how mutations affect protein stability.

IMMUNE CELLS' FAT BLOCKS BRAIN'S ABILITY TO CLEAN ALZHEIMER'S PLAQUES

Alzheimer's disease is a progressive brain disorder and a form of dementia that affects memory, thinking, and behaviour. For many years, the leading theory has been that Alzheimer's is caused when two harmful proteins called amyloid-beta and tau accumulate in the brain, setting off a chain of events that eventually damage nerve cells and lead to memory loss, confusion, and mood changes. This destruction begins years, even decades before symptoms appear.

There is currently no cure for Alzheimer's but there are treatments to slow symptoms and improve quality of life.

It isn't surprising that in the ongoing search for answers, scientists are increasingly turning their attention from neurons to their lesser-known but equally critical neighbours: microglia, the brain's resident immune cells.

In a new study published in Immunity, researchers led by Gaurav Chopra at Purdue University have uncovered how fat metabolism in microglia may be a key driver of disease progression.

"This study is pretty interesting and part of a growing body of studies indicating the role of fat metabolism problems in cells around amyloid plaques," Indian Institute of Science professor Deepak Nair said.



In healthy brains, microglia are surveillance cells that clear waste products and toxic proteins like amyloid-beta (A), the sticky molecule that forms the hallmark plaques in Alzheimer's. This cleanup helps protect neurons from damage, but in Alzheimer's patients it fails.

The study identified DGAT2, an enzyme that converts free fatty acids into triacylglycerols, the main component of lipid droplets, as a key player. In both mouse models and post-mortem human brain samples from patients with late-stage Alzheimer's, the researchers found microglia near amyloid plaques have high DGAT2 expression and are bloated with lipid droplets, particularly in the hippocampus, the region responsible for memory.

SCIENTISTS FIND PHEROMONE THAT CAUSES LOCUSTS TO SWARM AND A WAY TO BLOCK IT

Human societies have struggled to fend off locust infestations for millennia. The insects' destructive effects persist to this day, especially when they collect in large swarms and eat through thousands of hectares of crops in a matter of days. Such swarms have occurred once every few years of late. Most recently, in 2019-2020, a record number of locusts emerged in East Africa and eventually passed through Pakistan and India, making it the region's worst infestation in 25 years.

In the last century or so, experts and farmers have tried to control locusts using synthetic pesticides, but unfortunately they also damage the land, food security, and the environment. Thus finding suitable, eco-friendly alternatives to pesticides has been an active area of research.

In a new proof of concept, researchers from the Institute of Zoology at the Chinese Academy of Sciences in Beijing, have shown that it's possible to manipulate pheromones released by locusts to prevent them from swarming or engaging in group behaviour that leads to the feeding frenzy. The team was able to identify the pheromone responsible for triggering swarming and also tested a candidate molecule to block its function.

The study, published in Nature on June 25, also recommended more research to identify other molecules that can safely keep locusts from swarming, including at large scales. Overall, the study offers potentially one of the earliest pollution-free solutions for locust control.

Living to jump

Several animal, bird, and insect species — including locusts — exhibit a social behaviour called gregariousness: it helps them form societies in which large numbers of individuals work together, instead of competing, in order to survive. In the first phase of their lives, individual locusts are solitary creatures; then they transition to their gregarious phase and begin to collect and operate in physical groups, including feeding together.

Scientists have sought to identify the hormones that trigger this behaviour for many decades now. In fact the same team behind the new study had identified a pheromone of interest, called 4-vinylanisole (4VA), in 2020.

After a locust eats food, it often emits large quantities of 4VA from its hind legs. This hormone is an aggregation pheromone: it promptly begins to attract other members of the species when it's released into the air. Other locusts nearby subsequently collect together and rub their hind legs against each other. This in turn triggers the release of serotonin, a neurotransmitter, which leads to swarming.



In the new study, the researchers figured that preventing locusts from releasing 4VA could potentially prevent swarming, so they set to work on understanding its production.

Locusts release 4VA only after they eat, which means certain molecules in the plants that locusts feed on could be triggering its production. The researchers figured right: the culprit was a compound called phenylalanine.

When locusts digested phenylalanine, two enzymes — mainly 4VPMT1 and 4VPMT2 less so — were found to be responsible for converting the non-aggregating pheromone 4VP in solitary locusts into the aggregating pheromone 4VA. To confirm the link, the researchers turned to genetic engineering. When they deactivated the gene that encoded for 4VPMT1, the insects stopped transitioning from their solitary to gregarious phases and didn't exhibit any swarming tendencies.

Non-toxic insecticides

In a swarm, the millions of locusts eat their own body weight in food and can fly more than 150 km in a day.

Human attempts to tame these swarms go back thousands of years, and have taken forms like creating noise and smoke and even shooting arrows.

In the 19th century chemical insecticides came to the fore. Even today, spraying locust swarms in the air with insecticides is still the most commonly used method, and its efficacy is unclear.

The 2019-2020 swarm originated in East Africa after heavy rains and floods created the right conditions for dormant locust eggs to come to life, rendering an 8000-fold increase in the insects' numbers.

The havoc they subsequently wrought reminded the world to develop an effective control strategy.

In one response, for example, scientists from 34 organisations worldwide penned an article in Journal of Orthoptera Research detailing major topics of interest vis-à-vis swarming behaviour and organisational weaknesses in the field that allowed the problem to persist.

As alternatives to 4NP, this paper identified seven candidate compounds for further study.

Likewise, the Guo et al. study also proposed a five-step locust control strategy: using synthetic or other 4VA substitutes to attract locusts to a trapping area, where they can be killed by fungal pathogens or pesticides at a small scale; spraying 4VA to prevent aggregation; monitoring population dynamics by tracking 4VA signatures; releasing genetically modified locusts into the field to establish non-gregarious populations; and using the combined strategy of small-molecule regulators in conjunction with biopesticides.

A BEETLE-FUNGI COMBO THREATENS PLANTATIONS IN RUBBER CAPITAL KERALA

Rubber plantations in Kerala have been under threat since a beetle-fungus alliance has been attacking trees, causing severe leaf fall and rapid drying. Researchers at the Kerala Forest Research Institute in Thrissur recently identified the parasite to be the ambrosia beetle (*Euplatypus parallelus*).



In their new study, published in Current Science, the beetle has been reported to share a mutualistic relationship with two fungal species, *Fusarium ambrosia* and *Fusarium solani*.

This is the first report of *F. solani* in association with the adult ambrosia beetles.

Fungi in the galleries

Earlier, farmers working in the rubber plantations in the Irrity-Kannur region of Kerala noticed latex oozing from the bark of rubber trees. Under the Tree Health Helpline project, they alerted researchers from the Institute, insect ecologist Jithu Unni Krishnan said.

Ambrosia beetles get their name from the ambrosia fungi that call the beetle their home. The name 'ambrosia' is not taxonomic but ecological. These beetles are native to Central and South America. They were first reported in India in the cashew trees of Ponda, Goa, in 2012.

These beetles attack dead or infected trees, although they're also known to attack stressed trees. At times, the stressed trees release ethanol, a volatile compound that the ambrosia beetles can sense and attack. The beetles don't feed on the woody bark of trees; the fungi do. The beetles bore tunnels called galleries in the bark, carry fungi into the galleries, and farm the fungi to concentrate nutrients. The beetles and their larvae feed on nutrient-rich fungal mycelia. The fungi also release enzymes that weaken the wood, allowing beetles to penetrate deeper.

In other insect hosts, the fungi are present in sacs called mycangia. In the present study, however, the team didn't find mycangia in the ambrosia beetle. Krishnan said that it's of interest to study how the fungal species interact with each other while coexisting in a beetle without the mycangia.

Long time to heal

The beetle-fungus association harms trees in many ways. Aside from weakening the structure, the duo causes severe leaf fall, trunk drying, and in some cases even tree death. The infection also affects total latex production from rubber trees, causing economic and agricultural losses. To combat the infection, experts follow specific methods, such as using antifungal agents, removing the infected part of trees, burning or chipping away any part that displays holes, and preventive measures such as using traps for ambrosia beetles.

Further, once a tree is infected, it takes a long time to heal. "The systemic infections progress through the plant xylem, blocking the xylem vessels. Moreover, proliferation of the fungus inside the xylem leads to sporulation, which leads [it] to secrete several enzymes, weakening the wood strength and showing death in distinct parts of the tree," Amey Redkar, a reader at the National Centre for Biological Sciences, Bengaluru, and an independent expert working on *Fusarium oxysporum*, also a plant pathogen, said.

Controlling a fungal infection in plants is difficult. The fungi reside in deeper parts of an infected plant, where insecticides or fungicides often don't reach. "Once [fungi] have progressed systemically, it's too late to save a plant from it. Many *Fusarium* sp. spread either through soil or can also be carried by insect vectors," Redkar added. "As these pathogens have adapted to outcompete neighboring microbes to reach their vascular niche, they have evolved to modulate the surrounding microbiome."



Future team-ups

A few species of ambrosia beetles, including *Euplatypus parallelus*, are invasive and threaten horticulture and silviculture worldwide. Being flying insects, they can access a variety of trees. “It can infest, to my understanding, more than 80 species of broadleaf trees, including cashew, teak, coconut, and coffee,” Krishnan said.

While the beetle has coevolved with its fungal partners, it may in the future associate with other pathogenic fungi, posing a bigger threat to plantations. Likewise, *Fusaria* sp. are very virulent and known to expand their host range. “The concern is how many indigenous virulent pathogenic fungi are likely to associate with this insect and thereby broaden the host range and impact of this insect,” Krishnan said.

Fusarium fungi infect beetles as well as other organisms, including spiders, frogs, and humans. These fungi are opportunistic pathogens in humans, meaning they can affect those with a compromised immunity, posing a significant health risk to workers in rubber plantations, as well as other plants and animals within an ecosystem.

Much to lose

The destructive power of the beetle-fungi association and the risk of other pathogenic fungi teaming up with the beetles together portend alarm. According to experts, the possibility calls for an action plan to mitigate and prevent further attacks. Since the number of invasive ambrosia species is increasing as well, Krishnan said policymakers and researchers should step up, collaborate, and provide solutions to manage infections.

India is the world’s sixth-largest producer of rubber and the second-highest in terms of productivity. Kerala produces 90% and accounts for 72% of India’s rubber cultivation area.

While there are reports of successful phytosanitary measures in coniferous trees, the same measures may not work on broad-leaf trees such as rubber and teak. The infection also makes other economically significant plants, such as coffee, cashew, mango, and coconut, vulnerable to infections. To prepare, experts recommend management strategies be designed based on the geographic location of the plantations.

“Things that are applicable to other parts of the world may not be applicable to Kerala or South India,” Krishnan said.

Redkar added that sustainable treatments, such as using antagonistic fungi that can compete with the pathogenic ones or using microbial consortia with a diversity of bacterial species that can live inside plants, can offer promising results in mitigating fungal infections in plants.

VACCINE HOPE IN MALARIA FIGHT

The Indian Council of Medical Research (ICMR) has announced a promising candidate vaccine for malaria, which it will now further develop, test and manufacture for commercial purposes in partnership with private companies.

- Known as AdFalcivax, the vaccine mainly targets two parts of *Plasmodium falciparum*, a pathogen that is the most common source of malaria in humans. In India, however, the disease is caused by *Plasmodium vivax* against which AdFalcivax is ineffective.



- Unlike AdFalciVax, RTS,S and R21 only use the CSP protein, and can prevent infection only in vaccinated persons.
- Unlike AdFalciVax, RTS,S and R21 vaccines also do not use full-length CSP proteins. This is why the ICMR's candidate vaccine is "likely to produce a stronger immune response and better protect against infection," according to Singh.
- Researchers have found that AdFalciVax provided more than 90% protection against infection in mice. The candidate vaccine has yet to undergo rigorous human trials, and the preliminary results have been obtained only through testing on animals.
- AdFalciVax also contains an adjuvant — a substance used in vaccines to boost the body's immune response against the targeted disease — called alum. Singh says the use of alum is beneficial as it does not pose a risk of causing chronic inflammation, unlike adjuvants such as AS01 and Matrix M, which are used in RTS,S and R21. Alum is also known to be reliable, and has been used in numerous vaccines used in childhood immunisation programs over the years.

Do You Know:

- Malaria is a parasitic infection transmitted by mosquitoes, typically causing symptoms such as fever, chills, night sweats, nausea, vomiting, and diarrhoea. In some cases, it can lead to severe complications such as seizures, fluid in the lungs, organ damage, and death.
- Malaria is most endemic in Africa — Nigeria, Congo, Tanzania, Mozambique, Niger, and Burkina Faso together account for more than half the yearly deaths. The disease is also present in India, although malaria deaths have sharply reduced in the country in recent years. According to the National Vector Borne Disease Control Programme (NVBDCP), reported malaria deaths stood at 1,151 in 1995, and came down to only 93 in 2020 and 83 in 2022.
- The organisation's 'World Malaria Report' says there were 5,511 deaths due to the disease in India in 2022. This discrepancy is due to WHO providing estimates and NVBDCP providing only the number of confirmed deaths, which may not have been officially reported.
- To combat malaria, scientists have been working to develop a vaccine for decades but with limited success. Recently, two vaccines—RTS,S and R21—were approved for use, but their efficacy, at 75%, is quite low.
- AdFalciVax is a chimeric recombinant vaccine — a type of vaccine that uses different parts of the genes of a pathogen (in this case, Plasmodium) to create target proteins that trigger an immune response after being injected.

GREATER AWARENESS HELPS TO DEAL WITH RARE DISEASES

About 10,000 rare diseases have thus far been identified in the world, and new ones are discovered every now and then. Some 80% of these conditions are genetic in origin and predominantly affect children. About 30% of the children don't live to see their fifth birthday. While individually rare, cumulatively, about 300 million people in the world have a rare disease.

It is important to raise awareness of rare diseases in the country for various reasons. First, doctors may never have encountered them and are often unaware of these diseases. Second, if the medical problem is not reported, say to a registry, an accurate picture of the number of patients is unavailable, which would be essential to help draft suitable policies to support patients. A detailed

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picture is also needed to help patients connect with each other, and so that the industry can identify market opportunities to develop suitable therapies.

In a major contribution to identifying rare diseases, Ilyas Rashid and his team at the Tata Institute for Genetics and Society, Bengaluru, have developed GenTIGS, “a gene database on rare genetic disorders”. This is a valuable resource, since a user can choose from a list of symptoms to predict the possible rare disease. The patient’s family can then take the information to their doctor and seek support from a patient group.

So far, fewer than 5% of rare diseases have treatments approved by the U.S. Food and Drug Administration. Even those that have are prohibitively expensive.

A patient in India would be unlikely to have suitable insurance coverage. Sometimes companies provide a drug for free on compassionate grounds, but this is not a reliable way of obtaining drugs.

Some have managed to raise the money through crowd sourcing.

Of the 300 million people with rare diseases in the world, about 90 million are in India. But the real number is likely to be higher since our social practices include endogamy, the practice of marrying within a community. If there is a genetic condition in that community, endogamous marriages will tend to preserve that condition instead of letting it die out.

More than 95% of these conditions don’t have a therapy or it may be impossibly expensive. In such a scenario, the best option may be premarital counselling, among others. There are now cases where scientists, doctors or not-for-profit organisations have worked with local communities to urge individuals who are carriers of particular mutations to not marry other individuals with the same mutations, in case this would increase the chance of their having an affected child.

If such marriages are avoided, then over time the condition will be eliminated. In this connection, exemplary work has been done by B.R. Lakshmi and her colleagues at the Molecular Diagnostics Counselling Care and Research Centre (MDCRC) in Coimbatore. They are working on Duchenne muscular dystrophy (DMD), a disorder that affects only male children, with females being the carriers. MDCRC has done large-scale genetic screening across several districts of Tamil Nadu with the aim of detecting the relevant mutations early and eventually eradicating DMD from the State. Similar efforts are required for many disorders around the country.

In summary, be aware of rare diseases. It usually takes years for a patient to get the correct diagnosis. Dr. Rashid’s database ought to be helpful in reducing the suffering of patients and their families.

VITAMIN D DEFICIENCY LINKED TO NEURODEVELOPMENTAL ISSUES

A study in The Lancet Psychiatry from Aarhus University and Statens Serum Institut, using data from 88,764 Danish newborns (1981–2005), found that higher neonatal vitamin D levels (measured as 25-hydroxyvitamin D) were linked to lower risks of schizophrenia (18%), ADHD (11%), and autism (7%). Higher vitamin D-binding protein levels also correlated with reduced schizophrenia risk. No significant link was found with depression, bipolar disorder, or anorexia nervosa, possibly due to their later onset. Using genetic tools like polygenic risk scores and Mendelian randomisation, the study suggested a causal role of vitamin D in reducing risks for ADHD, schizophrenia, and possibly autism, though uncertainties like pleiotropy remain. Modeling showed that ensuring vitamin D levels in the top 60% could prevent 15% of schizophrenia, 9% of



ADHD, and 5% of autism cases. In India, where vitamin D deficiency is prevalent (74% of infants and 85.5% of mothers in one study), maternal deficiency strongly correlates with neonatal levels. Despite abundant sunlight, dietary and lifestyle factors contribute to widespread deficiency. Supplementation, such as 60,000 IU weekly in the third trimester, has shown benefits for infant vitamin D levels and growth. Experts advocate for routine antenatal screening and supplementation to address this public health issue, emphasizing prevention over reactive treatment to support neurodevelopment.



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