



CURRENT AFFAIRS FOR UPSC

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INTERNATIONAL

WHY THE US CELEBRATES ITS INDEPENDENCE DAY ON JULY 4

The United States is celebrating its 249th Independence Day on Friday, July 4. This was the day in which the country's founding fathers formally signed the Declaration of Independence, officially ending British rule over the colonies. Here's a brief history.

- More than 150 years after the first permanent British colonies emerged in North America, the colonists had grown increasingly frustrated with the Crown.
- With the 13 original colonies having no representation in the British Parliament in London, the 1760s and early 1770s saw the passage of a series of laws which imposed high taxes and curtailed colonists' activities.
- Legislations such as the Sugar Act (1764), the Tea Act (1773) and the Intolerable Acts (1774) were seen by Americans as excessive British interference in their lives. With the Enlightenment giving a rise to ideas of freedom and equality, the situation was ripe for an uprising.
- The so-called Boston Tea Party began a resistance movement across the colonies against the oppressive tea tax — and the British Empire as a whole. The colonists claimed that Britain had no right to tax the colonies without giving them representation in the British Parliament.
- To decide further course of action, the 13 colonies came together to form the Continental Congress. The Congress initially tried to enforce a boycott of British goods, and meet King George III to negotiate better terms. But their attempts were in vain.
- This war went on till 1783 when Britain formally recognised American independence after its military defeat. The American victory, in no small part, was made possible due to the support of Britain's European rivals — namely France, Spain, and the Dutch Republic.
- Years before 1783, while fighting still raged on, the Continental Congress declared American independence from British rule.
- On July 2, 1776, 12 of the 13 member-states of the Congress “unanimously” observed that the colonies “are, and of right ought to be, free and independent states.”
- As John Adams, who later became the second President of the US, noted: “The second day of July 1776, will be the most memorable epoch in the history of America. I am apt to believe that it will be celebrated by succeeding generations as the great anniversary festival.”
- He was off by two days. The formal document solemnising the colonies' independence — the Declaration of Independence — was signed on July 4, the day that is still observed in the US as Independence Day.

HOW DECISION BY US SC COULD BOOST TRUMP CITIZENSHIP ORDER

The United States Supreme Court on Friday removed a significant roadblock to President Donald Trump's controversial executive order ending birthright citizenship for immigrants.



- The Court, in a 6:3 opinion, limited the powers of federal judges to issue nationwide injunctions. Now their decisions will apply only to parties in a specific case they are hearing rather than universally to other similar cases.
- The US Supreme Court is yet to rule on the legality of Trump's executive order issued on January 20, the very first day of his second stint as President. However, it has removed protections granted by federal judges which have thus far hindered the implementation of the law
- A part of his larger anti-immigration policies, one of Trump's key poll promises was to end birthright citizenship for immigrants. Essentially, children born in the US to parents unlawfully present or present on temporary visas would not automatically be granted citizenship.
- Trump's executive order plays on the interpretation of the words "subject to the jurisdiction thereof" to hold that certain people — undocumented immigrants or those without legal status — are not covered by the 14th Amendment, and hence not automatically eligible for birthright citizenship.
- In contrast, the US legal system has a complex dual structure where both federal Courts (established under Article III of the US Constitution) and state courts (established by each state's constitution and laws) operate. The federal courts are a three-tiered system, with 94 federal District Courts, 13 Courts of Appeals over them, and at the top, the US Supreme Court.
- These federal courts are not limited by state jurisdiction. This is what allowed several federal district courts to immediately block the enforcement of Trump's January 20 order.

Do You Know:

- Citizenship in the US is defined by the 14th Amendment to the US Constitution, ratified in 1868. The provision was introduced to extend citizenship to Black Americans, who had been excluded till then. It states: "All persons born or naturalised in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside." The 14th Amendment also bars the state from making any laws that infringe the rights of any US citizens. These protections are similar to those in Article 14 of the Indian Constitution.
- India has a unitary legal system. High Courts issue injunctions against the state but are, in some cases, limited by jurisdiction, while the SC's orders have a nationwide impact. That said, universal injunctions against non-state actors are common in certain kinds of orders, such as content takedown directions or in intellectual property disputes.
- Historically, the US Supreme Court has upheld birthright citizenship, including in the landmark case *United States v. Wong Kim Ark* (1898), where the Court ruled that a child born in the US to non-citizen parents was still a US citizen. Immediately after Trump signed the order, immigrants' rights advocates sued his administration. The lawsuit charges them with flouting the Constitution's dictates, Congressional intent, and long standing Supreme Court precedent.
- The American Civil Liberties Union (ACLU) has also expressed concern about the constitutionality of Trump's executive order. In a statement, the ACLU has highlighted the potential for mass deportations, family separations, and other human rights abuses under Trump's immigration policies. Legal challenges will shape the trajectory of the policy in the days to come.



HOW WILL THE NEW U.S. VISA RULES AFFECT ONLINE PRIVACY AND SECURITY?

The story so far:

On June 23, the U.S. Embassy in India said in an X post, “Effective immediately, all individuals applying for an F, M, or J non-immigrant visa are requested to adjust the privacy settings on all of their social media accounts to public to facilitate vetting necessary to establish their identity and admissibility to the United States under U.S. law.” With this update, the process for securing certain types of U.S. visas — including for studying there — has become precarious.

How does this affect students’ visa applications?

While social media vetting for U.S. visas has been in place since 2019, the new announcement signals that foreign students are set to face unprecedented levels of surveillance when travelling to the U.S. for study and/or work.

Some of the social media accounts that users will now have to flag on their visa application and make public for inspection include Reddit, Instagram, Tumblr, Twitter (now X), Facebook, LinkedIn, and YouTube, apart from several Chinese social media platforms and other websites that users may submit independently (such as Threads, Bluesky, unlisted blogging spaces, or personal websites).

This means that both personal and professional qualifications, posts, replies, uploaded photos/videos, past comments, tagged pictures/posts, status updates, and even “liked” content will need to be made visible to U.S. government authorities, where possible.

Why are U.S. immigration officers checking social media accounts?

In light of pro-Palestinian student protests and anti-ICE (Immigration and Customs Enforcement) demonstrations across U.S. cities, officials likely want to make sure that Indian students coming into the country will not support such activities or express anti-Israeli views.

Vetting visa applicants’ social media feeds also means that authorities can check if the individual’s views align with those of the conservative Trump administration which is now in power.

How long will social media accounts have to be left open?

U.S. visa seekers are being asked to list all social media handles they have used in the last five years, and then make them public.

Users can first carry out a social media audit to clean up their accounts and remove any sensitive or personal media before opening it up to the public. Minors should carry out this activity with the guidance of a trusted adult. Notifications, app alerts, messaging filters, and parental controls may need to be updated as well, to prevent disruption after the account goes public.

No official guidance has been issued as to how long the accounts need to be left open. However, visa applicants who want to play it safe can keep their accounts publicly visible from the time they submit their application up to the time they pass their immigration checks after entering the U.S. However, visa applicants who are not comfortable with keeping all their social media accounts public should contact their relevant institutions or admissions officers in order to learn the latest policies and know when it is advisable to go private again.



While deleting social media accounts entirely may sound like a way to avoid this hassle, some tech companies keep even deleted accounts active for several weeks or months. These accounts may still show up in search results when the vetting process begins, possibly jeopardising the visa application.

What are the risks of making social media accounts public?

Privacy, censorship, and security risks abound. First and foremost, many Indian students who apply for U.S. visas for academic study are usually minors in high-school. For them, keeping their social media accounts set to private is more than just a personal preference; it is crucial for their safety online.

Many young users learning to navigate online spaces might post highly personal content or photos and videos across private accounts, secure in the knowledge that only people close to them can see their content. Now, however, those hoping to go to the U.S. to study will either have to make their accounts public or scrub personal content from their channels.

The new requirement will also make U.S. visa applicants, and especially children, more vulnerable to digital security crimes such as bullying, hacking, sexual harassment, stalking, blackmail, identify theft, and doxxing.

Increased levels of targeted advertising through accounts made public, including advertising aimed at kids, is another potential threat to consider.

Is it legal to make visa applicants set their social media accounts to public?

Privacy experts have slammed the U.S. government's new social media vetting requirements, likening the country's approach to that of an authoritarian regime. However, they note it is difficult to claim that privacy laws are being broken as visa applicants can choose to ignore the request, though they put their visa application at risk by doing so.

Sophia Cope, Senior Staff Attorney at the Electronic Frontier Foundation (EFF), an American digital rights group, said there were many valid reasons for people to have private social media accounts, such as wanting to interact and share content only with trusted contacts.

"The U.S. government is endorsing the violation of a fundamental principle of privacy hygiene by asking those seeking student or exchange visas to set their social media accounts to "public" for the purpose of visa vetting," said Ms. Cope in response to The Hindu.

"Ascribing a nefarious intent and penalising would-be students or visitors to the U.S. for keeping their online presence shielded from the general public or for not even being active on social media is an outrage. Moreover, government social media surveillance invades privacy and chills freedom of speech, and it is prone to errors and misinterpretation without ever having been proven effective at assessing security threats," she explained.

"The U.S. must end this dangerous practice."



WHAT IS THE LEGALITY OF U.S. STRIKES ON IRAN?

The story so far:

On June 22, U.S. President Donald Trump launched military strikes on Iran, joining its ally Israel in efforts to derail Iran's nuclear programme, which both countries claim is approaching weapons production. Iran retaliated the following day with missile attacks on Al-Udeid Air Base in Qatar, the forward headquarters of U.S. Central Command. After nearly two weeks of escalating hostilities, Iran and Israel agreed to a ceasefire on June 24.

What is a lawful exercise of self-defence?

The UN Charter, under Article 2(4), prohibits the use of force against the territorial integrity or political independence of any state, except in narrowly defined circumstances — a claim of self-defence under Article 51 or with the UN Security Council's (UNSC) authorisation. The restrictive interpretation, grounded in the text of Article 51, permits self-defence only in response to an armed attack that is already under way. A more permissive interpretation allows for self-defence in response to an armed attack that is imminent. This broader interpretation, often referred to as anticipatory self-defence, has been endorsed in several UN-affiliated reports. Notably, the 2004 report of the Secretary-General's High-Level Panel on Threats, Challenges and Change affirmed that "a threatened State, according to long-established international law, can take military action as long as the threatened attack is imminent, no other means would deflect it, and the action is proportionate". These criteria are derived from the famous Caroline case, which established that the use of force is lawful only when the need for self-defence is "instant, overwhelming, leaving no choice of means, and no moment for deliberation". Over time, many states have argued that the Caroline standard is too rigid to address contemporary security threats. This has led to attempts to reinterpret and expand the notion of imminence, giving rise to the controversial doctrine of pre-emptive self-defence. Under this doctrine, a state may use force not only in response to an attack that is imminent but also during what is perceived as the "last window of opportunity" to neutralise a threat posed by an adversary with both the intent and capability to strike. The U.S. has been a leading proponent of this doctrine, invoking it to justify the 2003 invasion of Iraq. "Pre-emptive self-defence lacks the requisite state practice and opinio juris to qualify as customary international law. States are generally reluctant to endorse its legality, as the absence of an imminent threat renders the doctrine highly susceptible to misuse," Prabhash Ranjan, Professor at Jindal Global Law School, told The Hindu.

Did Iran pose an 'imminent' threat?

The U.S. has not submitted an Article 51 notification to the UNSC declaring its strikes on Iran as self-defence. However, U.S. Defense Secretary Pete Hegseth described them as a precision operation to neutralise "threats to national interest" and an act of "collective self-defence" of U.S. forces and its ally, Israel.

Tehran has maintained that its nuclear programme is for civilian purposes and remains under the supervision of the International Atomic Energy Agency. However, on June 12, the UN nuclear watchdog passed a resolution accusing Iran of violating its non-proliferation obligations, while noting that inspectors have been unable to confirm whether the programme is "exclusively peaceful".



In March, Director of National Intelligence Tulsi Gabbard initially told Congress that while Iran had stockpiled materials, it was not actively building a nuclear weapon. However, she later warned that Iran could do so “within weeks,” after President Trump claimed Iran could develop one “within months.”

Dr. Ranjan noted that the criteria for determining an ‘imminent threat’ remain highly contested, as the International Court of Justice (ICJ) has never ruled on the legality of anticipatory self-defence or pre-emptive strikes. “For the U.S. to credibly invoke pre-emptive self-defence, it must present clear evidence of both Iran’s intent and capability to strike in the near future. This is a difficult threshold to meet, given that Iran does not yet possess a nuclear weapon,” he said. He added that ongoing U.S.-Iran negotiations indicate that diplomatic means were still available.

What about collective self-defence?

Under Article 51 of the Charter, Israel can call on the assistance of its allies to exercise collective self-defence against an attack. “Israel’s strikes on Iran, framed as pre-emptive action against perceived nuclear threats, are legally suspect. This, in turn, casts doubt on the legitimacy of any claim to collective self-defence,” Dr. Ranjan said. Israel has also sought to justify its military offensive as part of an “ongoing armed conflict,” citing a history of attacks by groups like Hamas and the Houthis, which it claims act as Iranian proxies. However, to legally sustain this argument, Israel must meet the “effective control” test set by the ICJ in Nicaragua versus U.S. (1986). This is a high threshold to meet since it requires proof that Iran exercises “overall control” over these groups beyond merely funding or arming them.

What are the implications?

Allowing states to invoke pre-emptive self-defence would effectively grant powerful nations the licence to unilaterally use force based on mere conjecture. This would further weaken the already fragile rules-based international order. It is, therefore, crucial to resist expanding legal definitions of what constitutes an imminent threat, particularly when punitive action by the UNSC against permanent members like the U.S. remains unlikely due to their veto power.

IRAN HALTS COOPERATION WITH NUCLEAR WATCHDOG AFTER STRIKES BY ISRAEL, U.S.

Iran on Wednesday officially suspended its cooperation with the UN nuclear watchdog, a move triggered by the unprecedented Israeli and U.S. strikes on its nuclear facilities.

Last month’s 12-day conflict between Iran and Israel has sharply escalated tensions between Tehran and the International Atomic Energy Agency.

On June 25, a day after a truce took hold, Iranian lawmakers voted overwhelmingly to suspend cooperation with the Vienna-based IAEA. State media confirmed the legislation had now taken effect.

The law aims to “ensure full support for the inherent rights of the Islamic Republic of Iran” under the nuclear non-proliferation treaty, with a particular focus on uranium enrichment, according to Iranian media.

While IAEA inspectors have had access to Iran’s declared nuclear sites, their current status is uncertain amid the suspension. On Sunday, Iran’s Ambassador to the United Nations, Amir Saeid



Iravani, said the inspectors' work had been suspended. He said the "inspectors are in Iran and are safe", but "their activities have been suspended, and they are not allowed to access our sites".

The law did not specify exact steps following the suspension.

The ISNA news agency cited lawmaker Alireza Salimi as saying the inspectors now needed approval from Iran's Supreme National Security Council to access nuclear sites.

Separately, the Mehr news agency cited lawmaker Hamid Reza Haji Babaei as saying Iran would stop allowing IAEA cameras in nuclear facilities.

After parliament passed the Bill, it was approved by the Guardian Council and President Masoud Pezeshkian formally enacted the suspension on Wednesday.

Israel's response

In response, Israeli Foreign Minister Gideon Saar urged European signatories of the 2015 nuclear deal to trigger the "snapback" mechanism and reinstate all UN sanctions on Iran

IRAN MADE PREPARATIONS TO MINE THE STRAIT OF HORMUZ, U.S. SOURCES SAY

The Iranian military loaded naval mines onto vessels in the Persian Gulf last month, a move that intensified concerns in Washington that Tehran was gearing up to blockade the Strait of Hormuz following Israel's strikes on sites across Iran, according to two U.S. officials.

The previously unreported preparations, which were detected by U.S. intelligence, occurred some time after Israel launched its missile attack against Iran on June 13, said the officials, who requested anonymity. The loading of the mines — which have not been deployed in the strait — suggests that Tehran may have been serious about closing one of the world's busiest shipping lanes, a move that would have escalated an already-spiralling conflict and severely hobbled global commerce.

About one-fifth of global oil and gas shipments pass through the Strait of Hormuz and a blockage would likely have spiked world energy prices.

Global benchmark oil prices have instead fallen more than 10% since the U.S. strikes on Iran's nuclear facilities.

On June 22, shortly after the U.S. bombed three of Iran's key nuclear sites in a bid to cripple Tehran's nuclear programme, Iran's Parliament reportedly backed a measure to block the strait.

Iran has over the years threatened to close the strait but has never followed through on that threat.

The sources did not disclose how the United States determined that the mines had been put on the Iranian vessels.

The two officials said the U.S. government has not ruled out the possibility that loading the mines was a ruse. The Iranians could have prepared the mines to convince Washington that Tehran was serious about closing the strait, but without intending to do so, the officials said.

Iran's military could have also simply been making necessary preparations in the event that Iran's leaders gave the order.



UKRAINE'S LUHANSK UNDER FULL RUSSIAN CONTROL, SAYS OFFICIAL

Russia has taken full control of Ukraine's eastern Luhansk region, more than three years after President Vladimir Putin ordered thousands of troops into Ukraine in February 2022, the Russian-backed head of the region told Russian state television.

- Luhansk, which has an area of 26,700 square km (10,308 square miles), is the first Ukrainian region to fall fully under the established control of Russian forces since Russia annexed Crimea in 2014.
- Putin in September 2022 declared that Luhansk – along with the partially controlled Donetsk, Kherson and Zaporizhzhia regions – was being incorporated into Russia, a step Western European states said was illegal and that most of the world did not recognise.
- Ukraine says that Russia's claims to Luhansk and other areas of what is internationally recognised to be Ukraine are groundless and illegal, and Kyiv has promised to never recognise Russian sovereignty over the areas.
- Luhansk was once part of the Russian empire but changed hands after the Russian Revolution. It was taken by the Red Army in 1920 and then became part of the Soviet Union in 1922 as part of the Ukrainian Soviet Socialist Republic.
- Along with neighbouring Donetsk, Luhansk was the crucible of the conflict which began in 2014 after a pro-Russian president was toppled in Ukraine's Maidan Revolution and Russia annexed Crimea, with Russian-backed separatist forces fighting Ukraine's armed forces in both Luhansk and Donetsk.

Do You Know:

- Russia controls nearly 19% of what is internationally recognised to be Ukraine, including Luhansk, plus over 70% of the Donetsk, Zaporizhzhia and Kherson regions, and fragments of the Kharkiv, Sumy and Dnipropetrovsk regions.
- Donetsk and Luhansk are the two areas that together make up the Donbas region on the Ukraine-Russia border.
- Donbas is a key industrial hub and important from a resource perspective having the largest coal reserves in Ukraine.
- These two areas broke away from Ukrainian government's control back in 2014 and proclaimed themselves independent "people's republics", but were not formally recognised by Russia until February 2022. According to a Reuters report, Russia, over the years, backed the regions by supplying aid, vaccines, and other materials.
- As the border region between Ukraine and Russia, the area is an example of the disagreements and complexities in the relations between the countries. Having a large Russian-speaking population and around 40 per cent ethnic Russian population, Donbas has always had a greater affinity for Russia.
- As Russia intensifies attacks, the US has committed more weapons to Ukraine. On June 30, US President Joe Biden said the United States will provide another \$800 million in weapons and



military aid, reported Reuters. The week before that it received US supplies of High Mobility Artillery Rocket Systems (HIMARS), a long-range weapon system.

RUSSIA'S PUTIN BETS ON PATRIOTISM TO ADDRESS GROWING DEMOGRAPHIC CRISIS

President Vladimir Putin is addressing Russia's deepening demographic crisis, exacerbated by a low birth rate and high male mortality, by promoting patriotism and traditional family values. Russia's birth rate was 1.41 per woman in 2023, well below the 2.1 needed for population stability, and the number of births in 2025 is projected to be the lowest in 225 years. The population, officially 145.6 million, could shrink by 15 million in 20 years. The Ukraine conflict, killing tens of thousands of young men, and widespread alcoholism, reducing male life expectancy to around 66, have worsened the crisis. Putin has introduced policies like generous maternity allowances and housing subsidies, credited with 2.5 million additional births since 2007, and controversial measures like \$1,200 payments to schoolgirls who give birth. He also signed a law banning "child-free propaganda" and considered tightening abortion laws, though experts doubt their effectiveness. While some embrace Putin's call for larger families, the long-term impact on reversing the population decline remains uncertain.

AZERBAIJAN STANDOFF CHALLENGES RUSSIA'S POST-SOVIET INFLUENCE

The escalating diplomatic standoff between Azerbaijan and Russia highlights Moscow's diminishing influence in the Caucasus. The conflict began with the December 2024 crash of an Azerbaijani Airlines jet near Aktau, Kazakhstan, killing 38 people, reportedly due to Russian anti-aircraft fire aimed at a Ukrainian drone. Azerbaijan's President Ilham Aliyev demanded an apology and accountability, while Russia's President Vladimir Putin acknowledged active air defenses but stopped short of admitting fault. Tensions worsened after Russian police raids on June 27, 2025, targeting ethnic Azerbaijanis in Yekaterinburg, resulting in two deaths, which Baku condemned as "torture" and "systematic brutality." Azerbaijan retaliated by raiding the Sputnik news agency's Baku office, detaining Russian journalists, and canceling Russian cultural events. Both nations have summoned each other's ambassadors, with Russia accusing Azerbaijan of hostility and Baku comparing Putin to Stalin. Azerbaijan's call with Ukraine's President Volodymyr Zelenskyy further angered Moscow. This rift marks Azerbaijan's boldest criticism of Russia in years, signaling a shift in its balancing act between Russia and the West, while exposing Russia's weakening hold over former Soviet states amid its ongoing war in Ukraine.

RUSSIA BECOMES FIRST NATION TO RECOGNISE TALIBAN REGIME

Russia on Thursday became the first country to formally recognise the Taliban's government in Afghanistan since it seized power in 2021, after Moscow removed the group from its list of outlawed organisations.

The Russian Foreign Ministry announced that it had received credentials from Afghanistan's newly appointed Ambassador Gul Hassan Hassan. The official recognition of the Afghan government will foster "productive bilateral cooperation," the Ministry said in a statement.

Afghanistan's Foreign Ministry called it a historic step, and quoted Taliban Foreign Minister Amir Khan Muttaqi as welcoming the decision as "a good example for other countries."



Chinese nod

Meanwhile, China said on Friday it welcomed Russia's decision.

"As a traditional friendly neighbour of Afghanistan, the Chinese side has always believed that Afghanistan should not be excluded from the international community," foreign ministry spokeswoman Mao Ning said.

China does not officially recognise the government but hosts a Taliban Ambassador in Beijing.

RWANDA, DR CONGO SIGN AN AGREEMENT IN U.S. TO END FIGHTING

On June 27, 2025, Rwanda and the Democratic Republic of Congo (DRC) signed a U.S.-mediated peace agreement in Washington, D.C., aiming to end decades of conflict in eastern DRC. The accord includes the withdrawal of Rwandan troops within 90 days, the neutralization of the FDLR Congo-based FDLR militia, and the establishment of a joint security coordination mechanism. However, the absence of the M23 rebel group from the negotiations raises doubts about its immediate impact, as M23 has suggested it may not be bound by the agreement, potentially undermining its effectiveness.

The agreement's success hinges on implementation, which faces significant hurdles. Rwanda's denial of supporting M23, combined with the group's independent actions, suggests that military disengagement alone may not suffice. The DRC's weak governance and corruption could undermine the economic benefits promised by the deal, particularly if local communities are not adequately involved. The U.S.'s strategic interest in securing mineral supply chains adds a layer of complexity, as it may prioritize foreign investment over local justice and development.

The international community, including the United Nations and the African Union, has a critical role in monitoring and supporting the agreement's implementation. UN Secretary-General António Guterres has emphasized the need for both parties to honour their commitments, including ceasing hostilities and ensuring humanitarian access. The agreement's economic framework could transform the region's mineral wealth into a driver of prosperity rather than conflict, but only if governance reforms are robust and inclusive.

In conclusion, the Rwanda-DRC peace agreement is a hopeful step toward ending a devastating conflict, but its success is far from guaranteed. The exclusion of M23 from the talks, Rwanda's ambiguous stance on troop withdrawal, and the DRC's governance challenges pose significant risks. For the people of eastern DRC, who have endured decades of violence, displacement, and loss, this deal represents a glimmer of hope—but only if it is implemented with transparency, accountability, and genuine commitment to peace.

THOUSANDS DEMAND THAILAND PM QUIT OVER BORDER DISPUTE

Thousands of protesters rallied in the Thai capital Bangkok on Saturday to demand the resignation of Prime Minister Paetongtarn Shinawatra, piling pressure on a government at risk of collapse over a border dispute with neighbouring Cambodia.

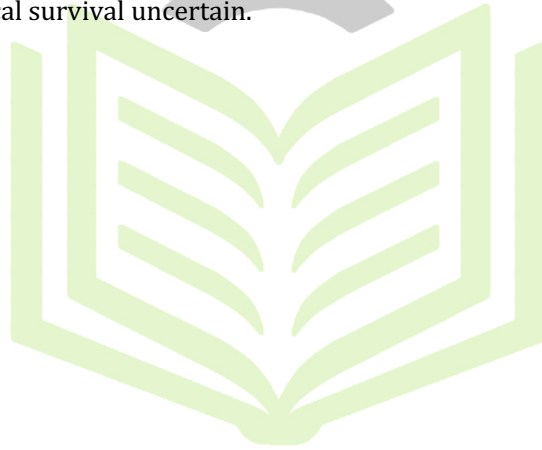
The crisis stems from a leaked June 15, 2025, phone call with former Cambodian leader Hun Sen, in which Paetongtarn called him "uncle" and criticized a Thai military commander, saying he "just wanted to look cool" during a border clash in May 2025 that killed a Cambodian soldier. The



dispute, centred on a contested border area near Preah Vihear temple, escalated tensions, leading to mutual border restrictions and Cambodia banning Thai imports.

The leaked call sparked public outrage in Thailand, with thousands protesting in Bangkok on June 28, 2025, demanding her resignation, accusing her of undermining Thailand's military and sovereignty. The Bhumjaithai Party, a key coalition partner, withdrew from her government, leaving her Pheu Thai-led coalition with a slim parliamentary majority. On July 1, 2025, Thailand's Constitutional Court suspended Paetongtarn pending an ethics investigation over the call, with Deputy Prime Minister Suriya Juangroongruangkit acting as caretaker. She remains in the cabinet as culture minister after a reshuffle.

Paetongtarn apologized, defending her comments as a "negotiation technique" to de-escalate tensions, but critics, including nationalist groups and senators, accuse her of compromising national interests. The court has given her 15 days to respond to allegations of ethical breaches, and she also faces a National Anti-Corruption Commission investigation. If dismissed, she would be the second Pheu Thai prime minister removed in a year, following Srettha Thavisin's ousting in 2024. Despite calls to resign and a potential no-confidence vote, Paetongtarn and her party have stated she will not step down or dissolve parliament. The situation remains volatile, with protests ongoing and her political survival uncertain.



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NATIONAL

CHINA GAVE PAKISTAN LIVE INPUTS ON INDIAN DEPLOYMENT: TOP ARMY OFFICER

In first official remarks accusing China of complicity in Pakistani military strikes against India in the wake of Operation Sindoor, Lt General Rahul R Singh, Deputy Chief of Army Staff (Capability Development and Sustenance), said Friday that Beijing provided “live inputs” to Pakistan on Indian operational deployment even when talks were underway between the Indian and Pakistani Directors General of Military Operations regarding cessation of hostilities.

- Naming Pakistan, China and Turkey as the “three adversaries” India faced on its “one border” in the north, Lt Gen Singh said China was providing “all possible support”, treating the northern border as a “live lab” to test its weapons supplied to Pakistan, and was following its “36 stratagems”, hoping to kill the adversary with “a borrowed knife”, and to “use the neighbour to cause pain”.
- He said Pakistan was “the front face” and the Chinese provided “all possible support” which was “no surprise” because statistics in the last five years have revealed that 81 percent of the military hardware procured by Pakistan is Chinese.

COOPERATE TO BRING PAHALGAM TERRORISM ORGANISERS TO JUSTICE: QUAD JOINT STATEMENT

The Quad foreign ministers on Wednesday strongly condemned the Pahalgam terrorist attack, called for the “perpetrators, organisers, and financiers of this reprehensible act to be brought to justice without any delay”, and urged all UN member countries to cooperate with all authorities under international law in this regard.

- External Affairs Minister S Jaishankar, US Secretary of State Marco Rubio, Australian Foreign Minister Penny Wong and Japan Foreign Minister Takeshi Iwaya met in Washington, D.C, for the second Quad foreign ministers’ meeting this year, and the first since Operation Sindoor
- They also launched the Quad Critical Minerals Initiative and announced plans to host the first Quad Indo-Pacific Logistics Network field training exercise this year and launch the Quad Ports of the Future Partnership in Mumbai this year.
- The next Quad Leaders’ Summit is to be hosted by India later this year.
- “We are launching today the Quad Critical Minerals Initiative, an ambitious expansion of our partnership to strengthen economic security and collective resilience by collaborating to secure and diversify critical minerals supply chains,” the statement said.
- Reaffirming its steadfast commitment to a free and open Indo-Pacific, the Quad said, “We underscore our commitment to defending the rule of law, sovereignty, and territorial integrity. As four leading maritime nations in the Indo-Pacific, we are united in our conviction that peace and stability in the maritime domain underpin the security and prosperity of the region.”
- “To ensure the Quad’s enduring impact, we are pleased to announce today a new, ambitious, and strong agenda focused on four key areas: maritime and transnational security, economic prosperity and security, critical and emerging technology, and humanitarian assistance and emergency response”, it said.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



- On China, the Quad foreign ministers said, “We remain seriously concerned about the situation in the East China Sea and South China Sea. We reiterate our strong opposition to any unilateral actions that seek to change the status quo by force or coercion.”
- The Quad foreign ministers said their cooperation with and support for ASEAN and its centrality and unity, the Pacific Islands Forum and Pacific-led regional groupings, and the Indian Ocean Rim Association “remain unwavering”.
- They also expressed concern about supply chains. “We are deeply concerned about the abrupt constriction and future reliability of key supply chains, specifically for critical minerals.”
- The Quad foreign ministers also condemned “North Korea’s destabilising launches using ballistic missile technology and its continued pursuit of nuclear weapons in violation of multiple UN Security Council resolutions (UNSCRs)”.
- The Quad said it continues to coordinate rapid responses to regional disasters and collectively contributed “over USD \$30 million in humanitarian assistance to support communities affected by the earthquake that struck central Myanmar in March 2025”.
- It concluded by saying that as the “Quad continues to evolve, our four democracies remain committed to deepening our cooperation in support of a free and open Indo-Pacific, and ensuring our cooperation has an enduring impact on the region’s top challenges and opportunities in the 21st century.”

Do You Know:

- The Quad, has launched an initiative to secure supply chains of critical minerals, as worries grow around China’s stranglehold over the resources, which are vital to new technologies.
- Critical minerals, which include rare earth elements (REEs), are an important component of various cutting-edge hardware, ranging from semiconductors and electric vehicles to jet fighters.
- Rare earth magnets, especially neodymium-iron-boron (NdFeB) magnets, are crucial for EV manufacturing, particularly in electric motors. They provide the strong magnetic fields needed for efficient and powerful electric motors, including traction motors that drive EVs. These magnets also play a major role in other EV components such as power steering systems, wiper motors, and braking systems. China has a near monopoly over the production of these rare earth magnets.
- While the availability of rare earth metals is not limited to China, it is in the efficient processing of these critical elements where Beijing has a substantial lead, which was once enjoyed by the US and Japan.
- The Quadrilateral Security Dialogue, or the Quad, comprises India, Japan, Australia, and the US. It was formed as an informal alliance after the Indian Ocean tsunami of December 2004. It was formalised in 2007 by the efforts of the then-Prime Minister of Japan, Shinzo Abe.
- The United States is hosting the 2025 Quad Foreign Ministers Meeting, and India will host the 2025 Quad Leaders Summit.
- According to a report published by the Institute for Energy Economics and Financial Analysis (IEEFA) in 2024, India’s demand for critical minerals is expected to more than double by 2030, while domestic mining operations may take over a decade to start producing.



- The report said India depends heavily on China for synthetic graphite and natural graphite, and it should explore cooperation initiatives with countries like Mozambique, Madagascar, Brazil, and Tanzania, which are some of the highest graphite-producing countries.

PHONE TAPPING CANNOT BE ALLOWED FOR CRIME DETECTION, SAYS HC, REJECTING MHA PLEA

The Madras High Court on Wednesday refused to expand the scope of Section 5(2) of the Indian Telegraph Act of 1885, and permit the Central and State governments to resort to phone tapping as a covert measure to detect crimes.

Justice N. Anand Venkatesh rejected such a request made on behalf of the Union Ministry of Home Affairs (MHA). "This court is unable to accept this submission since the boundaries for invasion of a fundamental right through the medium of enacted law is a function of the legislature and not of the court," he said. Section 5(2) sets out the Lakshman Rekha for resorting to the extreme measure of phone tapping, which amounts to invasion of the right to privacy, a right that had been recognised as an integral part of the fundamental right to life and personal liberty guaranteed under Article 21 of the Constitution, the judge said.

Two contingencies

As per Section 5(2), the Centre or the State governments could authorise phone tapping only in case of two contingencies: on the occurrence of any public emergency, or in the interest of public safety. "The role of the court is confined to seeing as to whether this threshold is crossed or not," the judge said.

Declining to expand the scope of the legal provision any further, he said: "As sentinels on the qui vive, the courts are gate-keepers of fundamental rights. Gate-keepers cannot become gate-makers to reposition the gates as and when the executive requires, without the intervention of the legislature."

Tracing the history of the right to privacy since 1604, the judge said it finally came to be recognised as a part of Article 21 by the Supreme Court in the 1996 People's Union for Civil Liberties (PUCL) case, and the PUCL verdict was affirmed by a Bench of the top court in the 2019 K.S. Puttaswamy case.

Saying he had no choice but to follow the decisions of the apex Court, the judge added that it was another reason why he could not accept the request to expand the scope of Section 5(2) to help the law enforcement agencies to prevent serious crimes such as corruption involving public servants and others. "However noble and well-intended the objective may be, tapping of phones, dehors a 'public emergency' or in the 'interests of public safety' as stipulated in Section 5(2) of the Act, cannot be legally justified as the law presently stands," the judge said, while allowing a 2018 writ petition.

P. Kishore of Chennai-based Everonn Education Limited had filed the petition to quash an authorisation issued by the Union Home Secretary on August 12, 2011, for the CBI to intercept his phone calls. The intercepted calls led to the arrest of Additional Commissioner of Income Tax Andasu Ravinder for allegedly receiving a bribe of ₹50 lakh.

Holding that there was absolutely no question of 'public emergency' or 'public safety' in the present case, requiring the tapping of the petitioner's phone, the judge ordered that the



intercepted calls should not be used for any purpose, not even as evidence in the criminal trial against the petitioner.

Justice Venkatesh held the Home Secretary's order to be unconstitutional, since it had been passed in violation of Section 5(2) of the 1885 Act. Further, the procedural requirement of placing the Secretary's authorisation before the review committee had not been followed, he said.

CENTRE APPEALS AGAINST JAMMU AND KASHMIR HIGH COURT ORDER TO REPATRIATE WOMAN DEPORTED TO PAKISTAN

The Union Home Ministry has appealed a Jammu and Kashmir High Court order to repatriate Rakshanda Rashid, a 62-year-old woman deported to Pakistan after the April 22, 2025, Pahalgam terror attack, despite her 38-year residence in India on a long-term visa (LTV). The High Court, on June 6, directed the Ministry to bring her back within 10 days, a directive the Ministry argues is unconstitutional and unenforceable, as it extends beyond India's sovereignty and lacks legal basis due to the absence of an extradition treaty with Pakistan. The Ministry also contends that judicial overreach undermines executive authority and sets a dangerous precedent. Ms. Rashid, married to an Indian citizen, had applied for LTV renewal in January, which was not rejected, yet she was deported on April 29 after a "leave India" notice. Her daughter, Fatima Sheikh, claims the deportation was rushed, based on distorted facts, and that Ms. Rashid, with no ties in Pakistan, faces hardship there. The appeal is set for hearing on July 16, 2025, with the court seeking compliance from the Ministry within 10 days.

BAN TO 7-YR JAIL: FEARS OF ABUSE OVER KARNATAKA BILL TO CURB FAKE NEWS

Defining fake news in sweeping terms to include content that is deemed "anti-feminism" and "disrespect of Sanatan symbols"; prescribing a seven-year jail term for social media users held guilty of posting "fake news" as decided by a committee headed by the state Information & Broadcasting Minister; setting up special courts to deal with cases under the law — Karnataka's Bill to curb fake news raises several questions of free speech and state overreach.

- The Karnataka Mis-Information and Fake News (Prohibition) Bill, 2025, in the name of prohibiting misinformation and fake news, empowers a committee of lawmakers to identify and label content on social media as "fake news." It is the first of its kind state legislation to deal with digital platforms and free speech.
- "Any social media users, if found guilty by the Authority for posting fake news on the social media platform shall be punished with imprisonment which may extend up to seven years and fine which may extend up to Rs 10 lakh or with both," the Bill states.
- That "Authority," under Section 5 of the Bill, includes the Minister for Kannada and Culture Information and Broadcasting as the ex-officio Chairperson; one member each from the Legislative Assembly and the Legislative Council to be nominated by their respective Houses; two representatives from social media platforms appointed by the state government and a senior bureaucrat as Secretary.
- This Authority's mandate is to "ensure complete ban on promotion and spread of fake news" including "posting of contents which are abusive and obscene including anti-feminism and insult to the dignity of the female"; "disrespect of sanatan symbols and beliefs" among others.



- The Authority is also tasked with ensuring “only those content(s) are posted on the social media platform which are based on authentic research on the subjects related to science, history, religion, philosophy, literature.”

Do You Know:

- This Bill comes in the face of an unequivocal ruling by the Bombay High Court last September that struck down as unconstitutional a key provision of the amended Information Technology (IT) Rules, 2021 which empowered the government to identify “fake news” on social media platforms through a “Fact Check Unit” (FCU). The Court had held that lack of judicial oversight in the Rules was unconstitutional. The Bill also makes the Bharatiya Nagarik Suraksha Sanhita’s provision on granting anticipatory bail inapplicable to offences under the proposed law.

- The Bill’s descriptions of fake news and misinformation widen the scope of abuse and misuse. For instance, fake news is described under Section 2(i) of the Bill as “purely fabricated content” and “editing audio or video which results in the distortion of facts and/or the context.” Misinformation is defined as “knowingly or recklessly making a false or inaccurate statement of fact.”

- The provision states that “opinions, religious or philosophical sermons, satire, comedy or parody or any other form of artistic expression” are exempted from the definition. What constitutes “artistic expression” is not defined in the Bill.

- In January 2024, Justice Gautam Patel of the Bombay HC had also struck down the Centre’s IT rules for vague and overbroad terms such as “fake,” “false,” and “misleading.” “Vagueness and overbreadth are both linked to the concept of the chilling effect,” the ruling had said.

- In the landmark 2013 ruling in *Shreya Singhal v Union of India*, striking down 66A of the Information Technology Act that allowed blocking of content, the Court had emphasised that vague definitions cannot be justified to curb free speech.

CAN THE SUPREME COURT HALT AN ACT PASSED BY A STATE?**The story so far:**

Disposing of a writ and contempt petition, the Supreme Court in *Nandini Sundar and Ors. versus State of Chhattisgarh* held that the passing of an Act by the State of Chhattisgarh, subsequent to its order, cannot be said to be an act of contempt of the order passed by the Court.

What did SC order of July 2011 state?

The Supreme Court, on July 5, 2011 issued an order stating that the State of Chhattisgarh shall cease and desist from using Special Police Officers (SPOs) in any activities, directly or indirectly, aimed at controlling, countering, mitigating or otherwise eliminating Maoist activities. The Court ordered the State to recall all firearms issued to any of the SPOs. The order said that the State shall take all appropriate measures to prevent the operation of any group, including but not limited to the Salwa Judum and Koya Commandos.

The Court also directed the Union of India to cease and desist from using any of its funds in supporting, directly or indirectly, the recruitment of SPOs for the purposes of engaging in any form of counter-insurgency activities against Maoists. The Court concluded that the appointment of



inadequately paid and ill-trained SPOs engaged in checking Maoism was violative of Article 14 and Article 21 of the Constitution.

Why was a contempt case filed?

Consequent to the Supreme Court order of July 2011, the State of Chhattisgarh enacted the Chhattisgarh Auxiliary Armed Police Forces Act, 2011. Section 4(1) of the Act provides that an auxiliary force shall be constituted 'to aid and assist the security forces' in the maintenance of public order and preventing, controlling and combatting Maoist/Naxal violence and insurgency, etc. Section 5(2) of the Act further states that the members of the auxiliary force 'shall not be deployed in the front-line positions of an operation and shall always work under supervision of the security forces...'. The provision of compulsory training for a period not less than six months, is also prescribed under the Act. Only those SPOs, who would be eligible as per these prescribed yardsticks, were to be inducted into the auxiliary force (by screening committee). The legislature thus had addressed all the concerns observed by the Supreme Court.

However, it was argued by the petitioners that the said enactment was not in consonance with the Court's order and therefore amounted to contempt of Court.

Why was contempt prayer rejected?

There were reasons for rejecting the relief sought by petitioners. One, the Supreme Court took cognisance of the fact that all the directions issued by the Court had been complied to by the State of Chhattisgarh and necessary reports were submitted.

Second, the Court said that every State legislature has plenary powers to pass an enactment so long as the said enactment was not declared to be ultra vires of the Constitution. Any law made by Parliament or a State Legislature cannot be held as an act of contempt. The Court clarified that a legislature has the power to pass a law, to remove the basis of a judgment or validate a law which has been struck down by a Constitutional Court. This is the core of the doctrine of separation of powers and must always be acknowledged in a constitutional democracy. Any piece of legislation enacted by a legislature can be assailed only on the twin prongs of legislative competence or constitutional validity.

In *Indian Aluminium Co. versus State of Kerala (1996)*, the Supreme Court observed that Courts must maintain the delicate balance devised by the Constitution between the three sovereign functionaries. The Court therefore held that unless and until it is first established that the statute so enacted is in opposition to constitutional law or otherwise, it cannot be struck down.

SETTLED SEMANTICS

The call for the removal of the words "secular" and "socialist" from the Preamble to the Constitution of India is no longer a fringe fantasy. With someone as senior and influential as the Rashtriya Swayamsevak Sangh (RSS) General Secretary Dattatreya Hosabale making a public statement in support of the idea, it has now acquired a new urgency and prominence in national politics. The words "secular" and "socialist" were introduced through the 42nd Amendment to the Constitution, during the Emergency under Prime Minister Indira Gandhi in 1976. And the Janata Party government, which included RSS-affiliated leaders, that replaced Indira Gandhi and reversed a lot of the changes made in the Constitution during the Emergency let these words stay. These concepts were so central to the Constitution of the new Republic that its original authors did not think it was even necessary to use these words in the Preamble. When a conflict over

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



India's national identity began to emerge during the 1970s, Indira Gandhi thought it would be appropriate and also politically rewarding to make these amendments. The Hindutva camp never really opposed these concepts historically. Gandhian Socialism was a part of the core tenets of the Jan Sangh, the earlier avatar of the Bharatiya Janata Party (BJP). Hindutva proponents accused their rivals of following 'pseudo secularism,' and by implication, claimed to be genuine secularists.

The words "secular" and "socialist" have attained meanings specific to the Indian context over the years. Secularism is not a rejection of Indian civilisational heritage or any religion, but a commitment to equal treatment of all faiths by the state. Indira Gandhi had been viewed as someone pandering to Hindu sentiments. Socialism is not about hostility to private property or enterprise, but a pragmatic appreciation of the fact that the state must take proactive measures to tackle poverty and expand opportunities for the deprived sections of society. The words 'secularism' and 'socialism' reflect a broad consensus in Indian politics that has held for decades. There is nothing to be achieved by raking up a meaningless debate on these words. Perhaps the debate itself is the objective: to push a divisive agenda without providing any ideological, legal or practical reasoning for this demand. India's challenge is not about these two words, but its continuing struggle to tackle discrimination, poverty and underdevelopment, which are often influenced by the caste and religious origins of its citizens. The Sangh Parivar, and the BJP, could serve the country better by focusing on these challenges rather than wasting energy on divisive debates on settled semantics.

TWO INCIDENTS OF ASSAULT, TWO STATES, ONE STORY — ABUSE OF POWER

Two incidents of assault in two states this week tell the same dismal story: About the rule of law being flouted by the powerful, and of the sense of impunity that makes this a recurring event. In Himachal Pradesh, Anirudh Singh, the state's Rural Development and Panchayati Raj Minister, was booked on Tuesday for allegedly assaulting two officials of the National Highways Authority of India during a site visit. Just a day earlier, in Odisha, an official of the Bhubaneswar Municipal Corporation was dragged out of a grievance redressal meeting that he was presiding over in his chamber and beaten up by a group of individuals, who allegedly demanded that he apologise for misbehaving with BJP leader Jagannath Pradhan.

It hardly matters that a Congress government is in power in Himachal Pradesh and that Odisha is a BJP-ruled state. Similar incidents in different parts of the country over the years are proof that an overblown sense of entitlement in the power-drunk translates into a disrespect for others and the rules of the game, and that it cuts across party and regional lines. These two incidents in Himachal and Odisha, in particular, highlight a disturbing winner-takes-all attitude that stems from the belief that to be in power or to have the patronage of those in power is to be above the law. In a political culture that makes fear and favour its currency, this means that the ruler-subject model, which should have no place in a democracy, becomes routinised. Bureaucrats are partners in administration, not durbaris in the raja's court.

Exemplary action must be taken. In Himachal Pradesh, amidst calls for the minister's resignation, Chief Minister Sukhvinder Singh Sukhu has assured that the due process of the law will unfold. In Odisha, three of the accused have been arrested, with the BJP suspending the primary membership of five party workers for their alleged involvement in the assault on the BMC officer. In all such incidents that threaten to erode public faith in the rule of law, those found guilty of abusing their position and power must face — and they must be seen to face — the consequences of their actions. Sending out the message that no one is above the law in a democracy is the only way forward.



IN WEST BENGAL, HOW CRIME IS HIJACKED BY PARTISAN POLITICS

A college, like a hospital, is meant to be a refuge and a place of equality. For a 24-year-old law student at Kolkata's South Calcutta Law College, however, the campus became the space for brutal violation. Her alleged rape on June 25 — less than a year after the rape and murder of a trainee doctor at RG Kar Medical College — is an indictment of a state and society that pledges safety to its women only to betray these promises time and again. It is also a story of an abdication that has become a recurring feature in West Bengal — crimes against women are hijacked by a raucous and partisan politics in a state that professes to put women at the centre.

All four accused have been arrested and a Special Investigation Team constituted. But the outrage has been co-opted by political agendas. Opposition parties have spotlighted the Trinamool Chhatra Parishad (TMC student wing) affiliation of three of the four accused — a former student and contractual employee, and two current students; the BJP has formed a “fact-finding” committee to probe institutional lapses. The TMC government has promised “exemplary punishment”, but not before tone-deaf, misogynistic remarks have been made by its own functionaries. The predictable aftermath of the crime sidesteps the foundational failures that enable such horrors. Gender-based violence in India is not an aberration, it is structural. Institutional safeguards are often more performative than functional, political expediency frequently trumps moral clarity. This is particularly acute in Bengal, where law and order is enmeshed in a shadow network of political influence and patronage.

The horrific December 2012 Delhi gang rape had spurred a long-overdue reckoning with misogyny. That reckoning must not be allowed to fade into complacency. Banerjee's government must reframe its commitment to gender equity in unequivocal terms. It must confront the culture of impunity head-on — rebuild institutional guardrails that have been systematically eroded, and hold both perpetrators and enablers to account, irrespective of political affiliation. When a woman cannot walk into a college or hospital without fear of violence, it is not just a failure of governance, it is a collapse of the very idea of a civilised society.

MURDER MOST FOUL

Nearly 15 years after the Supreme Court of India described custodial torture and deaths as the most heinous crime committed by men in uniform, brutal third-degree treatment of suspects remains a chilling reality. Emboldened policemen, with contempt for procedure, show no hesitation in resorting to violence, not just within but also outside police stations. In Tamil Nadu, the recent death of a young man, Ajith Kumar, who was detained and tortured by a special police team, in plain clothes, for alleged theft in Sivaganga district, underscores the deeply ingrained authoritarian and intimidating nature of the police force. The impunity with which he was detained, without a formal complaint or the registration of a First Information Report, illustrates just how normalised such disturbing behaviour has become in policing. Under the direction of the Manamadurai Deputy Superintendent of Police (DSP), Ajith Kumar was taken by the team to several secluded spots and subject to lathi blows to force him into confessing to have committed the theft — a woman visiting a temple in Madapuram had asked him to park her car; she later claimed that jewellery in the car was missing. Ajith collapsed under the brutality and the theft remains unproven. Justice S.M. Subramanian of the Madras High Court (Madurai Bench) aptly said, “It is almost police-organised crime... Very crudely, we have to say it is the state killing its own citizen.”



Most victims are from oppressed backgrounds, making them easy targets. In this case, attempts at a cover-up failed due to protests and political outrage. With the custodial murder of a father and son in Sattankulam during the COVID-19 pandemic still fresh in public memory, Chief Minister M.K. Stalin wasted no time in damage control. Seven policemen, including the DSP were suspended; later, five were arrested. The case was transferred to the CBI. Mindful of a political fallout, with the Assembly elections nine months away, Mr. Stalin apologised to the victim's mother. Solatium was offered, including a cooperative society job to his brother, and a housing plot to the family. Mr. Stalin said that such incidents are “unforgivable” and “unjustifiable” — views he has not aired in suspected custodial death cases in the past four years. However, these measures alone will not bring closure to the families. As directed by the High Court, he must ensure there is action against senior police officers, if their involvement is proven. A fast track trial is needed. It is time for the law-keepers to fall in line and for such killings to end.

CUSTODIAL DEATHS: POLICE CONVICTIONS REMAIN ZERO IN T.N. AND BEYOND

“Even a murderer would not have caused this much injury to a person”, observed the Madurai Bench of the Madras High Court on Tuesday during the hearing of a batch of Public Interest Litigation petitions over the custodial death of Ajith Kumar, a security guard who died in police custody in Sivaganga district last Saturday.

Kumar's death is not an isolated incident but part of a broader picture in Tamil Nadu and even in the rest of the country. The pattern is clear: a significant number of custodial deaths take place, of which a considerable number of them are reported, a few of the policemen are arrested, and none of them are convicted. Kumar's death is definitely not the first instance to spark public outrage in Tamil Nadu. The Ambasamudram custodial torture in 2023 and the Sathankulam custodial torture case that led to the death of a father-son duo in 2020 are still fresh in memory.

Data show that Tamil Nadu has a long history of police brutality. According to data from Parliament, 490 deaths were reported while suspects were in judicial or police custody between 2016-17 and 2021-22 (up to March 31, 2022).

In the past six years, Uttar Pradesh reported the highest number of fatalities (2,630) in judicial/police custody among all the States, while Tamil Nadu reported the highest number among the southern States. In total, 11,656 deaths were recorded in India in the period considered. It is important to note, though, that not all custody deaths are due to police excess.

While the five constables involved in Kumar's death were arrested, data show that no police officer has been convicted for custodial deaths between 2017 and 2022. Not just in Tamil Nadu, but across India, no police officer has been held accountable for such deaths in this period.

In India, 345 magisterial/judicial enquiries were ordered into the deaths of persons in police custody/lockup between 2017 and 2022. And in these five years, 123 policemen were even arrested while such deaths were investigated. Moreover, over 79 were also chargesheeted. However, not a single policeman was convicted.

Data also show that convictions of State police personnel have been rare, not just in the case of custodial deaths, but also in any human rights violations case.

Chart 3 shows that 74 cases of human rights violations related to illegal detention, deaths in custody, and torture/causing hurt/injury were filed against police in India between 2017 and 2022. Forty-one police personnel were chargesheeted. However, only three were convicted.



Importantly, policemen arrested for human rights violations is disproportionately low compared to the actual cases. Those convicted form a negligible share of those few arrested.

Worryingly, those belonging to Scheduled Castes (SCs) often bear the brunt of custodial torture in Tamil Nadu. A disproportionately higher share of detainees — persons held lawfully in custody under preventive detention laws, distinct from regular suspects charged with specific crimes — in Tamil Nadu belong to the SCs. In 2022, 38.5% of the detainees in Tamil Nadu were SC, while the community's share in the State's population was 20% (Table 4). This problem is mostly unique to Tamil Nadu and as can be seen from the table, the State police also take in a much higher number of people in detention. As on December 31, 2022, Tamil Nadu had 2,129 detainees — almost half of India's number.

ROLL CRUNCH

Elections in India feature a larger number of voters from among the poor and marginalised sections when compared to the West, offering them the best outlet to register their views while choosing their representatives. The Election Commission of India (ECI) has done yeoman work in increasing voter participation by easing the registration process, allowing the poor in even less developed States to vote enthusiastically. On Saturday, the ECI initiated a “Special Intensive Revision” of electoral rolls in Bihar ahead of Assembly elections scheduled in October. The objective of ensuring an accurate electoral roll is constitutionally sound as this includes adding all eligible citizens and eliminating ineligible voters such as the dead, those who have shifted and also non-citizens. However, the hurried timeline and the documentation requirements for verification raise serious concerns about the potential exclusion of genuine voters. The ECI has said that Bihar's Draft Electoral Rolls, as of January 1, 2025, stand at close to 7.96 crore electors. It has also said that 4.96 crore individuals, who were on the 2003 electoral roll, will not need to submit fresh documents, and for their children, only an extract of the 2003 roll can serve as proof for their parents. However, the figure from 2003 is not static. A significant number has either passed away or migrated. The Hindu's Data Point estimates this attrition to be around 1.8 crore. Thus, the number of living, resident electors from the 2003 list eligible for simplified verification is closer to 3.16 crore. Consequently, the actual figure of those who need to provide fresh documents for enrolment would be closer to 4.74 crore.

These individuals would have to prove their elector status within a month when the draft roll is prepared. Their claims and objections will have to be filed within a month after that, which is too short a period. The challenge is compounded by the ECI's illustrative list of 11 acceptable documents. Bihar has historically lagged in birth registration, with very few in possession of birth certificates. The possession of other “official” documents such as matriculation certificates and government-issued IDs also remain low among a large section of the population, especially the poor and the less educated. The exclusion of widely available documents such as Aadhaar or current ration cards is also puzzling as these are more accessible to Bihar's marginalised communities. Considering the enormity of the exercise, the ECI should reconsider its approach. Such an intensive revision should be conducted over a much extended period, and for all States, and completed before the 2029 general election, rather than rushing it through before the Assembly election. The integrity of the electoral process demands caution and time, especially when dealing with the fundamental right to vote.



CAREFUL CURATION

Bihar's ongoing Special Intensive Revision (SIR) of electoral rolls by the Election Commission of India (ECI) has drawn criticism from political parties, and rightly so. The enormity of the task, the short duration, and the strict criteria for verification could result in the wrongful exclusion of lakhs of voters. The ECI's statement that only ordinary residents would qualify for inclusion in the electoral roll has raised concerns, particularly among Opposition parties. Critics argue that it would be difficult for migrant voters — an estimated 20% of Bihar's voting population — to be present for verification during the window that ends on July 31, and creates a high probability that they could be struck off the rolls. The Representation of the People Act, 1950 states that "A person absenting himself temporarily from his place of ordinary residence shall not by reason thereof cease to be ordinarily resident therein", and manuals on electoral rolls add that such people will be treated as ordinary residents as long as they possess the ability and intention to return. This means that there must be caution in removing the names of migrants, especially those who are away from their place of residence for a short period.

The issue becomes more complicated with long-term migrants. In Bihar's case, there is a significant section of the voting-age population, especially males, migrating for work. This becomes evident when parsing voting data from the 2024 general election in the State, revealing a unique electoral dynamic. Bihar is a State where more women turned out to vote than men in absolute numbers (for every 1,000 men there were 1,017.5 women), even though there were more registered male electors on the rolls (for every 1,000 men, there were only 917.5 women). This electoral dynamic was observed in Jharkhand, and to a lesser extent in Himachal Pradesh, but nowhere was the difference starker than in Bihar. There is good reason to believe that many of the absentee male electors were registered in their home constituencies in Bihar but were unable to return on polling day, drastically lowering the overall turnout rate for men. These electors were likely part of a large migrant cohort that included many longer-term migrants. The SIR must carefully parse such electors and ensure that only longer-term migrants are removed from the rolls — not an easy task. For longer-term migrants, meaningful representation requires their vote to be registered where they currently reside and work. Migrant workers are integral to the economic engines of several States, and their political voice should be more impactful in holding representatives accountable for their everyday challenges there, rather than in their native places. The ECI's SIR must balance these principles. Ideally, such a process should take more time than the one month that the ECI has allocated for it.

VOTER VERIFICATION DRIVE IN BIHAR: TOO LITTLE TIME, TOO MANY HURDLES

The Election Commission of India (ECI) recently issued an order for holding Special Intensive Revision of Electoral Rolls for Bihar. This exercise will then be carried out in all the States. The order is antithetical to the tradition of this august institution. From the first election held in independent India, the ECI has played a heroic role in seeding democracy through active voter enrolment and protection of the right to vote of the disadvantaged.

Though the ECI is facing a credibility crisis of late, this initiative is surprisingly radical. And unless it is substantially modified, it will disproportionately disenfranchise the poor and deprived electors irrespective of their party preference. We will leave the thorny questions of legality to the experts and just focus on the scale of the venture and its practicability within the proposed timeline.



As per the directive, all individuals who have not been featured in the electoral rolls of 2003 need to prove their citizenship as per the Citizenship (Amendment) Act, 2003, and Rules. Broadly, if the 2003 electoral roll features nearly all individuals who were 18 years or older then, these individuals, now 40 years and older, get a direct entry into the proposed electoral roll. How many then have to go through the hoops?

The affected population

In 2020, the Ministry of Health and Family Welfare published a report, Population Projections for India and States 2011-36. The report estimates the current voting age population of Bihar to be 8.08 crore. About 59% of this population (4.76 crore individuals) is 40 years old and under. The ECI, from July 1 to July 31, requires this staggering number to prove citizenship.

In its press note of June 28, the ECI stated that the electorate count in Bihar is 7.9 crore. As per the ECI, as "4.96 crore of the 7.9 crore already have their names in the last intensive revision of electoral rolls" in 2003, just 2.94 crore individuals will need to submit their eligibility documents.

This is clearly an oversight. The electoral roll of 2003 for Bihar did have around 4.96 crore individuals. By our calculations from the reports of the Sample Registration System, around 1.1 crore of them are dead. The ECI has taken them off the rolls.

Plus, there is sizeable number of people who have permanently migrated out of Bihar. As per a paper by Pinak Sarkar, Professor at the Tata Institute of Social Sciences, deriving from the Census, 93 lakh people permanently migrated out of Bihar between 2001 and 2011. Even if migration has slowed a bit after 2011, an average of 8 lakh out-migrants a year from Bihar in the period 2003-24 would mean a total of 1.76 crore out-migrants.

If the share of those over 18 years of age in the 1.76 crore group is the same as the proportion in the Bihar population, this amounts to 94 lakh voters who have migrated out of Bihar permanently. If even one fourth of them remain electors in Bihar, 70 lakh are no longer electors in Bihar and are voting elsewhere in India. The ECI would have taken them off the Bihar electoral rolls.

Hence, of the 4.96 crore electors in the 2003 list, if we remove those who are dead and those who have migrated from Bihar permanently, around 3.16 crore electors remain in the present count of Bihar's electorate. These 3.16 crore people who were also on the 2003 list do not need to submit any eligibility documents. The rest of the 4.74 crore individuals (7.9 crore-3.16 crore) need to submit their documents.

This figure is very similar to our 4.76 crore estimate based on population projections. The ECI requires this staggering magnitude to prove its eligibility to vote within a month.

Proof of citizenship

What is this proof of eligibility? The ECI says a copy of one document in a list of 11 needs to be presented. Seems simple? Perhaps for some other State, but certainly not for a document-scarce State such as Bihar. Let us list the 11 documents and look at the data that is publicly available for our demographic of 18-40 years.

The first is identity card/pension card of State government/ Central government/public sector undertaking. As per the 2022 caste census, 20.47 lakh Biharis have government jobs. Fewer than half of them will be from the 18-40 age group and pertain to less than 2% of this group.



The second is an identity card issued before July 1, 1987. This is not applicable.

The third is a birth certificate. As per the National Family Health Survey-3, 2.8% of Bihar's population born between 2001 and 2005 possess a birth certificate. Much of our age group of interest was born before 2001, so a negligible proportion possesses this document.

The fourth is a passport. Around 2.4% of Bihar's population possess a passport. The share would be higher in the 20-40 age group but would not reach double digits.

The fifth is a matriculation certificate. Deriving from the National Family Health Survey-2 and National Family Health Survey-5, around 45-50% of 18-40-year-olds are matriculate. As of 2019-20, there is a 10% point gap overall between male matriculates and female matriculates: females are at a definite disadvantage

The sixth is domicile. In-migrants in Bihar are an insignificant proportion of the population.

The seventh is a forest rights certificate. The share of Scheduled Tribes (ST) in Bihar is 1.3%, according to the 2011 Census. Of them, those living in forests form a much lower share.

The eighth is an Other Backward Classes (OBC)/Scheduled Castes (SC)/ST certificate. Data from the India Human Development Survey-2, analysed by Professor Ashwini Deshpande and Rajesh Ramachandran in The India Forum, notes that around 20% of SCs, 18% of OBCs, and 38% STs had a caste certificate. Considering that almost no upper castes possess caste certificates, around 16% of Biharis possessed a caste certificate in 2011-12 when this survey was conducted. Those eligible individuals who are 30-40 years of age today would already have obtained a caste certificate by 2012 had they wished; even if the rest obtain caste certificates in a higher proportion, overall not more than one in four households are likely to possess this document.

The ninth is the National Register of Citizens. This is applicable solely to Assam.

The tenth is the family register. This is also not applicable to Bihar.

The last is a land/house allotment certificate by the government. There is no data available on land allotment certificates. House allotment certificates seem applicable to government employees availing government housing. No such certificate is given to beneficiaries of schemes such as the Pradhan Mantra Gram Awas Yojana.

Most people without a matriculation certificate are unlikely to apply for a passport, a government job, or a caste certificate. By the ECI's new rule, the matriculation certificate has effectively become the main eligibility proof for voters aged 18 to 40. This shifts us from adult franchise to a system that favours only matriculates. As a result, around 2.4 crore-2.6 crore people who had to leave school due to poverty may now be left out of the voters' list.

The final number of people disenfranchised will be even larger than this if we add the over 40-year-olds who have been missed in the 2003 voters' list and those over 40 whose present names don't match with those in the 2003 voting list. These hundreds of lakhs of people will lose their constitutional right to vote not because they are illegal migrants but because they are illegible to a State which lacked the capacity to issue birth certificates, render basic education, or issue caste certificates to the deprived castes. A State cannot penalise so many people for its own shortcomings.



Why not Aadhaar?

This also begs a simple question: if the ECI allows for OBC/SC/ST certificates, why is Aadhaar not allowed if the proof of identity document for a caste certificate is Aadhaar? It should not be that Aadhaar's major flaw is that it is more available — around 9/10th of the Bihar population possess it. Does the ECI believe that it has issued voter cards to non-citizens? Also, why not allow ration cards?

Yet, even if the list of allowable documents is modified to be more inclusive, the project will disenfranchise people or become a bureaucratic waste because of the sheer paucity of time.

Let us suppose that all the 4.76 crore who are asked to submit documents do so: that is, on an average, 1.95 lakh per constituency. Each constituency has one electoral registration officer (ERO) who has numerous other important duties. (The ECI website has no information on there being any assistant EROs in Bihar.) In the 62 days between July 1 and August 31, they have to scrutinise almost 2 lakh applications, prepare a draft roll, issue a notice, and launch a suo moto enquiry to each elector whose eligibility is doubted. That is a superhuman task.

BIHAR HAS CONSISTENTLY FALLEN BEHIND IN REGISTERING BIRTHS, REPORT SHOWS

According to the 2009 Civil Registration System (CRS) report compiled by the Registrar-General of India (RGI), the level of registration of births in Bihar in 2000 stood at 3.7% compared with the national average of 56.2% the same year. The total number of births registered across the country in 2000 was 1,29,46,823.

For those born in 2004 and 2005, the level of registration in the State was 11.5% and 16.9%, respectively. The countrywide registration was 60.4% in 2004 and 62.5% in 2005. The total registered births in 2004 and 2005 were 1,57,77,612 and 1,63,94,625, respectively.

The 2009 report said that “in order to quantify the impact of Bihar and Uttar Pradesh, which are performing abysmally poor for the last so many years, the level of registration for the country excluding these two States have been worked out”, which rose to 78.3% in 2005.

“On comparison of estimated and registered births, it is found that there is significant gap in estimated and registered births in Bihar, Uttar Pradesh and Andhra Pradesh,” the report said.

Revision for election

The Special Intensive Revision (SIR) of electoral rolls, which is currently going on in Bihar, stipulates that those born in India after December 2, 2004 would have to provide any of 11 documents, which include birth certificates, establishing their date of birth and/or place and furnish similar documents belonging to the father and mother of the applicant also. There were over 7.72 crore electors in Bihar during the 2024 Lok Sabha election.

The Election Commission of India (EC) on Monday said 4.96 crore electors do not need to submit any documents as they can verify their details from the 2003 electoral rolls when the last such exercise was carried out.

The Union Home Ministry amended the Registration of Births and Deaths Act, 1969 in 2023 that mandated digital birth certificates for those born after October 1, 2023 for admissions in schools, colleges and for updating electoral rolls.



However, periodic CRS reports show that not all births are registered. On March 17, the RGI office cautioned private and government hospitals to report incidents of births and deaths within 21 days after it was found that many medical institutions were flouting the law adding that nearly 10% births were not getting registered.

CRS and SRS

“To get an idea as to the coverage of civil registration in the country, the data generated from the Civil Registration System (CRS) has been compared with corresponding estimates thrown up by the Sample Registration System (SRS),” the 2009 report said.

While the CRS is the actual numbers, the SRS is the largest demographic survey in the country mandated to provide annual estimates of fertility and mortality indicators at the State and national level.

The EC’s move to conduct the SIR has invited criticism from Opposition parties terming it as a move to bring the National Register of Citizens (NRC) through the backdoor.

All India Majlis-e-Ittehadul Muslimeen (AIMIM) president Asaduddin Owaisi said the government should furnish the data on total number of illegal migrants in the country.

“How is the BLO (Booth Level Officer) going to scrutinise the documents? Why should people pay penalty for government not keeping a check on illegal migrants.. We want to know the criteria that was followed during the SIR in 2003,” Mr. Owaisi said.

In 2022, as many as 2,54,39,164 births were registered. In 2022, Bihar was among 14 States where 50%-80% births were registered in the stipulated 21-day period. The State registered 71% births within the prescribed limit of 21-days.

WHY IS THE ECI DE-LISTING POLITICAL PARTIES?

The story so far:

The Election Commission of India (ECI) has initiated steps to de-list 345 Registered Unrecognised Political Parties (RUPPs) that have not contested elections in the last six years and whose offices could not be physically located.

What are registered parties?

The right to form an association is a fundamental right guaranteed under Article 19(1)(c) of the Constitution to all citizens. Political parties are an association or body of individuals that can be formed by citizens.

Section 29A of the Representation of the People Act, 1951 (RP Act) lays down the requirements for registration of a political party with the ECI. Any political party that seeks registration should submit a copy of its memorandum/constitution within 30 days of its formation. Such a document should contain a provision that the party shall bear true faith and allegiance to the Constitution of India. It should also bear allegiance to the principles of socialism, secularism and democracy, and uphold the sovereignty, unity and integrity of India. The ECI reviews the memorandum/constitution of the political party to verify that it contains provisions for internal democracy like periodic elections for its office bearers. The ECI thereafter registers them as a RUPP.



The RUPPs enjoy the following benefits — (a) tax exemption for donations received under Section 13A of the Income Tax Act, 1961, (b) a common symbol for contesting general elections to the Lok Sabha/State Assemblies, and (c) 20 'star campaigners' during election campaigns.

RUPPs are required to maintain the details of individual donors who have donated above ₹20,000 in a financial year and submit these details to the ECI every year. As per Section 29C of the RP Act, failure to furnish these details will result in losing income tax exemption. The RUPPs under the Income Tax Act, 1961, are further required to accept donations in excess of ₹2000 only through cheque or bank transfers.

What are the issues?

As per ECI notification, there are more than 2,800 RUPPs in India as of May 2025. However, only around 750 of them contested the 2024 general elections. It has resulted in the moniker — 'letter pad parties' — for the rest of the RUPPs. The RP Act does not confer explicit powers on the ECI to de-register any political party if it fails to contest elections, conduct inner-party elections or lodge requisite returns. The Supreme Court in *Indian National Congress versus Institute of Social Welfare & Ors (2002)* had held that the ECI does not have the power to de-register any political party under the RP Act. It may de-register only under exceptional circumstances such as the registration being obtained by fraud or the political party ceasing to have allegiance to the Indian Constitution or if it is declared unlawful by the Government.

The ECI from time to time publishes the list of de-listed and inactive RUPPs. The notification of March 2024 (as amended till May 2025), contains the list of 281 de-listed and 217 inactive RUPPs. Parties have been de-listed after they were found to be 'non-existent' at their address even after notices from the ECI. Political parties that have not updated the material changes including the list of office bearers since 2014 have been classified as 'inactive'. These parties are denied the benefit of putting up candidates with a common symbol in an election. Considering the provisions of the RP Act and the Income Tax Act, they would also become ineligible for tax exemptions.

What needs to be done?

The present exercise has identified 345 RUPPs that have not contested any elections since 2019 and could not be physically located anywhere. The ECI has directed the Chief Electoral Officer of various States and Union Territories to issue show-cause notices to these RUPPs before deciding on de-listing them. This is a welcome step that would prevent such 'letter pad parties' from misusing the income tax exemptions or committing any other financial fraud.

There are still likely to be more than 1000 'active' RUPPs that do not regularly contest elections. The Law Commission in its 255th report (2015) had recommended amendments for de-registration of a political party if it fails to contest elections for 10 consecutive years. The ECI in its memorandum for electoral reforms (2016) had also suggested amendment to the RP Act that would empower it to de-register a party. Apart from the exercise of de-listing RUPPs, these recommendations can also be implemented. Another serious issue plaguing almost all political parties is the lack of inner-party democracy. It may not be ideal for an independent constitutional authority like the ECI to be involved in the muddle of party politics. However, as suggested by the Law Commission in its 170th and 255th report, the RP Act can be suitably amended to contain specific provisions for ensuring internal democracy in political parties.



AHEAD OF CENSUS, STATES ASKED TO LOCK BOUNDARY CHANGES BEFORE DEC. 31

The Registrar-General of India (RGI) has informed the States that the first phase of the Population Census 2027 — House Listing and Housing Schedule (HLO) — will tentatively begin on April 1, 2026 and preparations need to be made accordingly.

The RGI has also informed the States that the administrative boundaries will be frozen by December 31 and if any changes are to be made to the limits of police stations, tehsils, and districts, it should be done before the said date.

A senior government official told The Hindu that the dates and questions to be asked in the first phase will be notified in the Gazette later. Nearly 34 lakh enumerators and supervisors, mainly officials working with the State governments, and 1.3 lakh Census functionaries are expected to be deployed for the exercise, which will be done digitally for the first time.

Around 24 lakh enumeration blocks (EB) finalised for the 2021 Census are likely to be used for the 2027 Census.

Each EB usually comprises 150-180 houses or 650-800 people.

The exercise covers all States phase-wise and usually follows the April-September period, when the enumerator assigns a distinct number to each house, building or public space.

For Census 2021, which could not take off initially due to the COVID-19 pandemic and will now be known as Population Census-2027, the notification published on January 9, 2020 said that the first phase will begin on April 1, 2020 and end on September 30 the same year. For the 2021 Census, the Centre had notified 31 questions for the first phase related to household details.

UNDER FIRE

An accident is, by definition, both unexpected and preventable. But the numerous fireworks industry blasts that dot the summer months with stunning regularity in the firecracker manufacturing belt of Tamil Nadu in Virudhunagar challenge this definition. A total of 26 people have died and 20 others injured in eight accidents that have occurred in the first six months of 2025. According to official data, 17 accidents were reported in fireworks units in the State in 2024 and claimed the lives of 52 people. Of these, 42 people died in 12 accidents in Virudhunagar, which has roughly 1,000 fireworks units and 3,000 cracker shops. In 2023, 79 workers were killed in 27 accidents in the State, including 28 workers in 15 accidents in Virudhunagar. In the latest episode, eight persons died and five others were injured in an explosion at a fireworks factory in Sattur, near Sivakasi this week. Preliminary reports said friction caused during the process of filling chemicals that are used to make special fireworks may have caused the explosion. Investigations are on to pinpoint the exact cause. But whatever the cause, there is unlikely to be any new learning from this kind of post mortem.

Temperatures in the rather dry, hot belt of Virudhunagar often soar unbearably during the day. It is also common knowledge that firecracker units store chemicals that are highly inflammable, and can ignite and burn easily when exposed to an ignition source such as a spark, flame, or high heat. And yet, unerringly, the summer months, usually, have unfortunate accidents resulting in the death or the disability of people who are already vulnerable, socially and economically. While the laxity of manufacturers is condemnable, there is also a big role for the state in regulating these fireworks units, since all of them require a licence from the Petroleum and Explosives Safety

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



Organization to function. The Explosives Rules, 2008, which govern fireworks units, specify that packages containing explosives shall not be allowed to remain in the sun or exposed to excessive heat, and all due precautions ought to be taken to prevent accidents by fire or explosion. Following the rules is essential to retaining the licence to operate and manufacture explosives. Clearly, here is a situation where the heft of the state can be utilised to ensure compliance, but a better way of handling it is to involve manufacturers in an effort to ensure there are no further accidents, no further lives lost as a result. Such cooperation has produced results in the past in curbing the employment of child labourers in the industry. It will now have to be leveraged to save precious lives. A preventable tragedy that repeats itself makes a farce of state regulation and enforcement.

SHEER NEGLIGENCE

There have been nine stampedes in India in the past 12 months, with six of them at religious gatherings. This includes the most recent one, at the storied Jagannath temple's annual chariot procession in Puri, Odisha, early on June 29. Three people were killed and more than 50 injured. Acknowledging "negligence" and "security lapses", the State government was swift to order a probe. The centuries-old chariot procession is an annual and month-long event between June and July. But the heart of the festival is the nine-day chariot procession, or Rath Yatra, when Lord Jagannath travels with his two siblings, Balabhadra and Subhadra, to their aunt Gundicha's home. About half a million devotees visit the three-kilometre radius around the temple. While a full investigation is pending, initial reports suggest that tell-tale signs of a stampede were overlooked.

On the first day of the yatra, officials paused the drawing of Lord Jagannath's chariot around 7.45 p.m. because of an 'unprecedented rush', allowing only Balabhadra's and Subhadra's chariots to move. The Jagannath chariot was moved symbolically and deferred till early on Saturday. In the intervening hours, about 750 devotees were hospitalised due to heat, dehydration, and crowd stress. Eyewitnesses reported that a common exit gate was closed to create a separate "VIP entry," forcing everyday pilgrims to exit through the same entrance path that was already congested. A single corridor that was being used for the flow in both directions resulted in more congestion, amplifying crowd pressure. The delayed arrival of the chariot also caused a bottleneck outside the Gundicha temple just before dawn. With exhausted pilgrims, merged traffic flows and no exit access, the stage was set for a tragedy. Further, trucks with ritual materials entered this zone at 4.20 a.m. This unexpected movement shattered stalls, toppled devotees and triggered panic. This daily has highlighted India's tawdry record in crowd management, at religious gatherings, celebrity-studded events, political rallies or post sporting festivities. Given that the climate discourse is at front and centre globally, providing thermal comfort, hydration facilities and taking precautions to shield women, children and the elderly from the heat especially during peak summer should have been woven into the conduct of the rath yatra years ago. As for VIPs, one way is to restrict any privileged entry and to provide access at the beginning or at the end of festivities, allowing other visitors predictable and barrier-free access. But the best way is to end India's entrenched VIP culture.

LANGUAGE OF UNITY

The National Education Policy (NEP) 2020 mandates that all students across the country must learn three languages in school. Theoretically, NEP 2020 is more flexible than the previous versions of the three-language policy in India, which have always faced resistance not just in south India but also different States. Hindi is only one of the many Indian languages, and States are free to choose any two Indian languages and one foreign language in the mix of three, according to NEP



2020. However, the fear that Hindi will become the default option as the second Indian language apart from the native language is aggravated by Maharashtra government's attempts to prioritise Hindi over other regional languages and its continuing vacillation on the issue. The State has now withdrawn its decision that Hindi will 'generally' be taught until Class five, as the second Indian language, after it kicked off a political storm in the State and put the ruling Bharatiya Janata Party (BJP) on the back foot. A committee headed by Dr. Narendra Jadhav will now deliberate with all stakeholders on the relevance of the three-language policy. Chief Minister Devendra Fadnavis has said the government would accept its recommendation. This change of heart comes after estranged cousins Uddhav Thackeray and Raj Thackeray, legatees of a strident version of Marathi pride that often turned into violent xenophobia, came together to oppose what they see as "imposition" of Hindi. Evidently, the language issue is uniting political rivals against the BJP.

Languages associated with power gain more influence but attempts to force languages on people on the back of political power can be divisive. The paradox is that the BJP sees the three language policy as a question of national pride and unity. It is clear that most students, including those in India's Hindi-speaking regions, want to learn English. According to Maharashtra Minister Ashish Shelar, nearly a fifth of students in the State are learning a third language and the new policy would give that option to all students. There are 15 languages including Hindi available in schools under the third language option, and when at least 20 students demand a language in a school, it will be taught. While this sounds noble and politically neutral, the actual implementation is different. Hardly anyone in Bihar has learnt Tamil or Malayalam or Kannada or Telugu under the three language policy so far. The chances of an overwhelming majority of students ending up with Hindi as part of the three-language policy is high. No State or school can offer a vast range of languages. The BJP must reassess its language policy taking into account the responses that are emerging from different parts of the country. It must learn the language of unity.

MNS ASSAULT ON SHOP OWNER: A SLAP IN MUMBAI'S FACE

The assault on a sweetshop owner in Mumbai's Mira Road, allegedly by hooligans affiliated with the Maharashtra Navnirman Sena (MNS), for not speaking in Marathi, is not an isolated incident. It is a deeply troubling brand of politics rearing its head again. Coming in the wake of an agitation against the state government's ill-conceived resolutions on the three-language policy — first making Hindi mandatory at the primary school level, then making it optional — it is a warning that must be heeded. Both Raj Thackeray's MNS and Uddhav Thackeray's Shiv Sena (UBT) accused the BJP-led Mahayuti government of seeking to impose Hindi on the state, the estranged Thackeray cousins coming together after two decades on the plank of "Marathi pride". Maharashtra's Devendra Fadnavis government did well to withdraw its Hindi language mandate to schools. But that the incident of assault in Mumbai came as MNS workers celebrated the revocation and days before the protest-turned-victory rally called by the Thackerays on July 5, should ring alarm bells — a parochial politics cannot be allowed to change the subject and tip over into violence in India's most industrialised state.

Ever since it was founded in 2006, the MNS has periodically stoked the "Marathi pride" issue, employing divisive, even violent, tactics. At a Gudi Padwa rally earlier this year, Raj Thackeray said that his party would not hesitate to slap residents in the state should they refuse to speak Marathi — following this, MNS workers attacked officials at banks for not offering services in the language. However, it is also apparent that such belligerence resonates less and less among the people in a state where non-Marathi speakers make up a significant chunk of the population, and whose capital, Mumbai, attracts workers from across the country. The MNS's stark and growing



disconnect from the ground is evident in its electoral record: From 13 seats in the 2009 Assembly elections to one each in 2014 and 2019 to none at all in 2024. The Shiv Sena (UBT) is also currently engaged in a fight for relevance following the drubbing of the Maha Vikas Aghadi in the 2024 Assembly election — that may explain its regression to the lumpenism that long characterised the undivided Shiv Sena. In doing so, however, it risks stripping away the sheen that Uddhav Thackeray's chief ministership, seen to be steadying and sober during the pandemic, had earned for the party.

The hooliganism in Mira Road must be condemned and the perpetrators must face the consequences of taking the law into their own hands. The Mahayuti government, which came to power with a sweeping mandate, needs to deliver on promises of enhancing economic opportunity, ease of doing business and carving out wider avenues of development for Maharashtra's youth. This cannot happen if a narrowing political project is allowed to cock a snook at the rule of law.

HOW DID INDIAN UNIVERSITIES FARE ON THE QS RANKING LIST?

The story so far:

For the first time, in the international ranking of universities published by Quacquarelli Symonds (QS), a company specialising in higher education analysis based in the U.K., Indian universities have more than 50 spots in the top 1,500. The highest rank among Indian universities goes to IIT Delhi (Rank 123), closely followed by IIT Bombay, IIT Madras, IIT Kharagpur and IISc Bengaluru. This number has increased from 11 in 2015 to 54 in 2026, with eight universities, including Ashoka University in Haryana and Shiv Nadar Institute of Eminence in Greater Noida, getting featured for the first time.

What are the parameters?

The 2026 ranking is based on a whole range of parameters which include the learning environment on campus, academic reputation (30%), impactful research (citations for research papers count for 20%, and international research network 5%), diversity (student diversity, international faculty and students count for 10%), student outcomes (employer reputation counts for 15%, while student placements 5%) and campus sustainability (5%).

Has higher education improved?

These rankings reflect how Indian universities are increasingly adapting to the norms followed by universities worldwide, and are thus becoming comparable to international universities.

For instance, the average undergraduate student to faculty ratio in Indian universities is 19. In order to be internationally competitive, this number needs to be between 10-15. At Ashoka University, for instance, over the last year for about 3,000 undergraduates, the ratio was 11.5. These undergraduates come from 20 countries, which enhances the score for international diversity. Most universities in India have few international students, and most public universities cannot employ international faculty, which results in low scores in these categories.

Moreover, over the last few decades, Indian universities have not put much emphasis on original research carried out by faculty and students. For STEM subjects especially, the research is traditionally done in research institutes. This is in sharp contrast to global practices, as



universities are the primary institutions where creation of knowledge takes place, in addition to its transmission to students, worldwide.

However, this is now changing. More and more universities, particularly IITs/IISERs and new private sector universities, are paying particular attention to research. With the advent of the National Education Plan, 2020 (NEP), which emphasises on research in universities, more and more Indian institutions will take their place on international ranking lists.

Public universities used to pay very little attention to the employment opportunities of students, but professional institutes such as the IITs and IIMs have always had placement cells and employers' fairs. Now, even for large central universities, this is an important consideration. All this is crucial to international ranking lists such as the QS.

How can universities fare better?

As more and more universities begin to build research networks across the world, and hire quality faculty who can do research along with the necessary teaching of students, we will see the rise of Indian universities in these ranking lists. India needs to encourage international students and faculty to become part of its educational institutions and to closely work with industry in identifying potential employment destinations for students. Particular attention to environmental aspects and sustainability in campuses will also earn points for universities aspiring to be among the top educational institutions.

DU'S NEW TIE-BREAKER FOR UNDERGRADUATE ADMISSIONS: TRIPPING ON REFORM

When Delhi University (DU) adopted the Common University Entrance Test (CUET) for undergraduate admissions in 2022, it was seen as a long overdue step toward standardisation of a sprawling ecosystem. An improvement over the Central Universities Common Entrance Test introduced in 2010 for a handful of central universities, CUET promised to level the playing field by replacing the uneven Class XII cut-off system with a single, uniform test. It was an opportunity to move beyond the disparities of state boards, streamline admissions, and focus solely on merit. Though premised on fairness, some of the changes to the admission process this year — especially the addition of Class X scores as the penultimate tie-breaker, supplanting alphabetical order of candidates — tread a delicate line. In a country where access to higher education remains intensely competitive and deeply consequential, they risk reintroducing anxieties that CUET was designed to eliminate.

With 71,624 seats across 79 undergraduate programmes in 69 colleges up for applications this academic year, the new tie-breaker has been designed to offer, as DU's dean of admissions has put it, a "more rational and merit-based approach" to break CUET deadlocks. Class X performance is a reliable indicator of consistency, arguably less vulnerable to coaching-driven score inflation. It also reduces the arbitrariness of alphabetical tie-breakers, which, though neutral, fail to reward academic effort. However, it risks undermining CUET's foundational principle, rooted in the spirit of the National Education Policy (NEP) 2020, which advocates for equity and inclusivity in higher education. In decoupling undergraduate admission from board variability, CUET sought to ensure that scores alone did not dictate a student's future. Reintroducing board scores from Class X opens up old vulnerabilities. State board curricula and grading systems continue to vary widely in difficulty and leniency. As a result, students from better-resourced boards or urban backgrounds may gain an unintended advantage. Moreover, NEP 2020 encourages holistic assessments over rigid reliance on any single score. Shifting the focus to grades — especially one from years prior



— might be counterproductive for students who have matured academically in the years since or had faced personal setbacks at that stage.

Instead of tying the admission process up with three separate academic records — CUET, Class XII, and Class X — a possible alternative could have been the option of more granular tie-breakers within CUET itself; its scores could have been extended to more decimal places or to domain-specific section scores. As India reimagines its higher education architecture, policymakers must be careful that efforts to fix procedural gaps do not reignite old apprehensions or come at the cost of inclusivity.

MIZORAM IS INDIA'S FIRST FULLY LITERATE STATE: WHAT HAPPENS WHEN POLICY, PEOPLE AND PURPOSE ALIGN

In an age of widening social inequities, a quiet revolution has unfolded in the country's Northeast. Mizoram has become India's first fully literate state under the Centre's ULLAS — New India Literacy Programme. According to the latest data from the Periodic Labour Force Survey, 98.2 per cent of Mizo citizens aged seven and above are now literate — well above the national average of 80.9 per cent, and ahead even of Kerala, long celebrated for its human development achievements.

The story behind Mizoram's achievement is not one of top-down technocracy alone. It speaks of a broader, more holistic model of inclusive development that involves patient, community-led work or what Mizos recognise as *tlawmngaihna*. It is a story of volunteers who braved remote locations and poor connectivity to bring literacy to the last mile, and of individuals who aspired to be more. The result is success in an area where India has long struggled: Adult and functional literacy. Rural literacy in Mizoram stands at 98.1 per cent, while urban areas reach 98.3 per cent, indicating almost no urban-rural divide, an anomaly in a country where the gap often exceeds 15 percentage points. Mizoram ranks high on other important indicators as well. It boasts the third-highest female workforce participation rate in the country. Its sex ratio at birth (975 females per 1,000 males) surpasses the national average (929). It has the lowest infant mortality rate in the Northeast, and one of India's highest school attendance rates at both primary and secondary levels.

While size is a defining factor, in India, where development is often equated with urban growth, there is a lesson here for larger and more resource-rich states. Mizoram shows that policy nimbleness is often a function of intent and accountability, that investing in people, trusting local institutions, and building with community at the centre can move mountains. As India looks to a digital, green and global future, the path ahead must concern itself with the dignity and agency of all, including and especially those on the margins.

SATURDAY CLASSES, HOME LESSONS: MIZORAM ROAD TO 'FIRST FULLY LITERATE STATE'

Since the 1990s, Kerala has been known as India's most literate state. Under the Centre's 2022 literacy programme, Mizoram has pipped the southern state to emerge as India's "first fully literate state".

- Mizoram has now become India's "first fully literate state" under the Centre's ULLAS programme, officially called the Nav Bharat Saksharta Karyakram or the New India Literacy Programme. The literacy rate in Mizoram now stands at 98.2%. According to the Ministry of Education's 2024 definition, a state can be called "fully literate" if it achieves 95% literacy.



- The ULLAS programme, which has a five-year timeline aimed at non-literate people aged 15 years and above, was first implemented across the country in 2022.
- There are competing claims on which state became “fully literate” first based on different datasets. Kerala achieved “total literacy” in 1991 as per the National Literacy Mission (NLM) norms, which required 90% of a state’s population aged between 15 and 35 years to be literate. Kerala had claimed that 90% of its population aged between 15 and 60 years was literate back then.
- According to the 2011 Census, literacy in Kerala was 93.91% and 91.58% in Mizoram. Under the ‘Household Social Consumption: Education’ survey, a part of the National Sample Survey from July 2017 to June 2018, literacy among those aged 7 years and above in Kerala was 96.2%. This survey did not have data on Mizoram.
- However, according to the Periodic Labour Force Survey’s annual report from July 2023 to June 2024, Mizoram’s literacy rate for those aged 7 years and above was 98.2%, while Kerala’s stood at 95.3%.

Do You Know:

- The Ministry of Education wrote to the states in August last year, defining “literacy” and “100% literacy” for ULLAS. Literacy was defined as “the ability to read, write, and compute with comprehension, i.e., to identify, understand, interpret and create, along with critical life skills such as digital literacy, financial literacy, etc.”
- It added that achieving 95% literacy in a state/UT may be considered equivalent to being fully literate. The communication also referred to the National Education Policy 2020, which calls for government initiatives for adult education to “expedite the all-important aim of achieving 100% literacy”.
- ULLAS – Nav Bharat Saaksharta Karyakram or New India Literacy Programme (NILP) is a centrally sponsored scheme implemented from 2022-2027. It aims to equip 5 crore ‘non-literate individuals’ over the age of 15 across the country with foundational literacy and numeracy skills, which means basic reading and writing and simple arithmetic learnt in primary classes. The teaching material is also meant to impart ‘critical life skills’ like financial and digital literacy.
- The scheme aligns with the recommendations of the National Education Policy (NEP) 2020. It is based on the spirit of Kartavya Bodh and is being implemented on volunteerism.

WHEN DOES THE GENDER GAP EMERGE WITH RESPECT TO MATHEMATICAL ABILITIES?

Across the world, women are under-represented in STEM (science, technology, engineering, and mathematics). Their absence has consequences: it narrows perspectives in STEM, potentially hinders progress in research, and perpetuates gender differences at the workplace.

This inequality stands in stark contrast to the fact that boys and girls begin school with the same mathematical abilities. A gender gap begins to emerge only after boys and girls start learning the subject formally in school, that is, during the first year. These are the findings of a study published recently in Nature by researchers in France. Understanding this data and the underlying reasons are crucial as they can help policymakers intervene at the right time and in the right ways to narrow the gap.



Findings of the study

In the past, educationists, economists, sociologists, psychologists, and others have conducted several studies. One study in the U.S. showed that a maths gender gap favouring boys emerged within the first few years of schooling. Another study that followed 2,633 children in France found that a maths gender gap was absent in kindergarten but became favourable to boys by ages 7-8.

The latest study in Nature reinforces what other studies have found in the past, but by using “an exceptionally large and exhaustive dataset,” according to the researchers. The researchers studied 26.53 lakh children aged 5-7 years in France over four years. They analysed four consecutive cohorts from 2018 to 2022. All these children took the EvalAide, a nationwide battery of tests given to first and second grade students to assess their language and maths abilities.

When boys and girls entered school, their average maths performance was nearly identical in 2018. There were more boys clustered among the top and bottom performers. However, just after four months of schooling, the researchers found a small but highly significant gap emerging, which favoured boys. By the next year, there were twice as many boys as girls among the top 5% of performers.

Importantly, this gap was found in every cohort across the four consecutive years. This meant that it was not due to any specific societal, economic, or curricular changes in a particular year. The gap was found in each region of France, in schools serving communities at both high and low socio-economical levels, in private as well as public schools, and regardless of family composition.

Curiously, the gap between boys and girls was wider if the children were from high-income families — a phenomenon not found for language. It was also larger among high-income families where both parents held scientific occupations.

Analysing the gender gap

Since the children had similar abilities when they started formal education, we can conclude from the data that the gap is not related to any fundamental gender differences in aptitudes. So what explains the gap?

First, a few caveats. Researchers write that since the data is descriptive in nature, it can't be used to pin down causes. Second, a study conducted at intervals prevents any evaluation of the potentially continuous effect of school exposure or the effect of vacations. Third, the tests were not strictly identical at all points of time during the study. Fourth, the data is limited to one country.

Nevertheless, they offer some explanations consistent with their findings.

Maths problems are solved in a particular time frame and in a competitive setting, and these are conditions that girls are taught to fear. Their consequent anxiety could be exacerbating the gap. The researchers say this explanation is congruent with their finding that greater test difficulty enhances the gender gap.

Stereotypes that boys are better at maths could also be widening the gap. The researchers write that “maths-related activities or exercises (for example, counting and subtracting) start to be more clearly identified as belonging to the maths domain” in primary school. They believe that this “sudden labelling of maths-related activities as ‘maths’ (whereas language activities start earlier



in preschool) might give space for gender stereotypes surrounding maths to emerge, to be internalised by children and, eventually, to affect their self-concept and performance.”

The attitudes of primary school teachers may be a factor as well. For example, teachers may encourage girls to read more and boys to do more division and subtraction. That is, they may attribute intellect to boys and diligence to girls. Parents may also have such assumptions about aptitudes.

Suggested interventions

As the problem begins after children start schooling, the researchers believe improving teacher training will be a crucial intervention. If teachers are encouraged to question girls and boys equally often during maths and science classes, and also to focus equally on the talents and efforts of children of both genders, it could lead to improved outcomes.

Also, if teacher training in maths is increased to improve their confidence and interest in this topic, it could effectively reduce the gap. This, the researchers say, is especially true of a country such as France, where most primary school teachers are female.

Interventions could also be directed towards children. For boys and girls to become convinced that maths is worth the effort, they should be exposed to both male and female role models with whom they can identify.

The researchers also suggest that girls should be provided with ways to cope with anxiety related to competition. They suggest implementing self-affirmation tasks. They also express belief that accentuating an incremental view of intelligence — that is, emphasising that abilities and intelligence are malleable and can be developed through effort and learning — would help.

In short, it takes just a few months for a gender gap to emerge, so quick interventions could help close the gap effectively.

RISE IN DIGITAL SCAMS: THE SCAMMER'S TRAIL

There has been a sharp increase in “digital arrest” scams in India. As per data from the National Cybercrime Reporting Portal, the reported digital arrest scams and related cybercrimes have more than tripled, rising from 39,925 in 2022 to 1.23 lakh in 2024, with the defrauded amount growing from Rs 91.14 crore to Rs 1,935 crore. Such scams tend to involve fraudsters impersonating law enforcement officials such as the police, the CBI and the Income Tax Department in order to dupe people. The victims, who are from a cross-section of society, including industrialists, private sector professionals, and senior citizens, are ensnared through fake interrogations on video calls. An investigation in this paper has carefully documented several instances where people have been duped of lakhs and crores of rupees.

The reports in this paper show how money is transferred from the victims to mule accounts that are used by scammers, and then in some cases to other accounts across the country. In one instance, a staggering sum of nearly Rs 6 crore was transferred over many bank accounts in a matter of a few minutes. In another case, there are indications of the stolen funds being used to buy cryptocurrency. Recoveries have been few and far between. In most cases, the bulk of the amount is withdrawn in cash from the mule accounts. In one case reported in this paper, a retired IAF veteran, who was defrauded of Rs 1.59 crore, has till now got back only Rs 16.1 lakh. In another



case, the victim, a former deputy nursing superintendent, who had lost Rs 83 lakh of her pension and savings, has not recovered anything.

The authorities and banks have taken steps to spread awareness and monitor suspicious activities. On October 27, 2024, Prime Minister Narendra Modi, during his Mann Ki Baat, warned people against digital arrests. “Beware of digital arrest frauds. There is no system like digital arrest under the law,” he said. The Reserve Bank of India has also cautioned against digital arrest scams. Banks have launched awareness campaigns to educate the public regarding the nature of the scams. These efforts need to be ramped up urgently. Governments, banks and the central bank must continue to spread awareness about such scams and educate the public about the modus operandi of the fraudsters. Banks must further tighten the KYC process — as per a report in this paper, the addresses of the mule accounts were “fictitious” in a number of cases. Accounts with large suspicious transactions — for instance, there were 1,960 transactions in one account on one day — need to be flagged immediately and appropriate action taken. Such cases should also be investigated more swiftly.

THREAT OF GPS INTERFERENCE TO GLOBAL AIR & SEA TRANSPORTATION; THE SOLUTIONS

A Delhi-Jammu flight was forced to turn back last week. Two tankers collided at the entrance of the Strait of Hormuz earlier this month. A container ship ran aground near the port of Jeddah in May.

- GPS interference refers to spoofing or jamming, two types of deliberate cyber-attacks on Global Positioning System (GPS) signals, which disrupt or deceive vehicles’ navigation systems. While both are often used synonymously with each other, spoofing and jamming refer to slightly different kinds of interference.
- GPS jamming, also known as GPS intervention, involves a device (jammer) emitting strong radio signals on GPS frequencies in order to overpower weaker signals. This disrupts the functioning of GPS systems by rendering receivers unable to determine location or time.
- GPS spoofing involves a device transmitting signals on the same frequencies used by GPS satellites, overwhelming or blocking the GPS receivers from acquiring or maintaining the right satellite signals. Unlike jamming, which disrupts signals entirely, spoofing deceives the receiver into trusting false data.

Do You Know:

- GPS interference can disrupt both military and civilian transport operations from afar, without physical confrontation. “The risks are real and alarming. Spoofing can cause a pilot to misjudge the aircraft’s position, increasing the chance of collisions with terrain or other aircraft,” Air Marshal Bhushan Gokhale (retd), former vice-chief of Air Staff, told The Indian Express. “For ships, the consequences of loss of situational awareness include groundings or collisions, disrupting entire maritime operations,” he said.
- In 2024, reports indicated up to 700 daily GPS spoofing incidents globally, highlighting the scale of the threat. For critical infrastructure, such as air traffic control, port operations, and VTS-vessel traffic systems, spoofing can cascade into broader systemic failures.



- GPS interference can occur due to various reasons, not all of them malicious. These include electromagnetic radiation from nearby devices, adverse atmospheric conditions like ionospheric disturbances, solar activity (such as flares), and, of course, intentional jamming/spoofing.
- Inertial Navigation Systems (INS) are the primary backup: these use gyroscopes and accelerometers to track the aircraft's current position based on its last known location. VHF Omnidirectional Range (VOR) and Distance Measuring Equipment (DME) provide ground-based radio navigation, allowing pilots to further cross-check their position.
- The Indian military has deployed the indigenous Navigation with Indian Constellation (NavIC), developed by the Indian Space Research Organisation (ISRO). NavIC is designed to provide precise positioning and timing services across India, and up to 1,500 km beyond its borders.

HOW DOES A TELEPHONE INTERCOM FUNCTION IN AN OFFICE SETTING?

In most business environments, telephone calls are typically handled by a receptionist or directed to specific extensions using an internal intercom system. The technology enabling this seamless communication, both within and outside the organisation, is called EPABX. This system allows users to answer, transfer or forward calls as needed. It facilitates internal communication between different departments or branches, streamlining workplace connectivity.

What is EPABX?

EPABX stands for 'electronic private automatic branch exchange'.

When an employee, say Arun, wishes to call another colleague, Bharathi, within the same office, the EPABX system follows a structured procedure. Arun picks up the phone, completing an electrical circuit that sends an off-hook signal to the EPABX. The system responds with a dial tone, indicating that it is ready for input. Upon dialling the extension number, for example 104, the EPABX control unit identifies the corresponding line and connects Arun to Bharathi using its internal switching matrix.

For external calls, the procedure differs slightly. Arun begins by dialling an access code (commonly 0), followed by the external phone number. Instead of routing the call internally, the EPABX locates an available trunk line linked to the public switched telephone network (PSTN), which is the local telephone exchange. The dialled number is transmitted, and the call is connected, with voice signals passing through the EPABX to the external line.

If all trunk lines are occupied, the caller may hear a busy tone, indicating that no external lines are currently free.

How are incoming calls managed?

Incoming calls are managed differently based on the EPABX system configuration. The PSTN routes the call to an available trunk line on the EPABX. Older systems require a receptionist to transfer calls manually, but modern automatic EPABX systems enable callers to dial extensions directly.

Advanced digital EPABX setups can be programmed to play an interactive voice response menu, prompt callers to enter an extension or automatically route calls to predefined numbers, such as a reception desk. The switching unit then connects the caller to the desired extension without human intervention.



How does the switching mechanism work?

The switching mechanism is the most critical component of an EPABX system: it directs calls to the correct destination.

In early systems from the 1970s and 1980s, electromechanical switches such as crossbar relays were used. These worked similarly to adjusting a ceiling fan with a regulator, where turning a knob moved internal components to establish connections. When a call was initiated, an electromagnet would pull a copper strip, bridging two phone lines like a switch. This physical connection allowed voice signals to travel between extensions.

A basic electrical switch is like a tap. Turn it ON and current flows; turn it OFF and current stops. But telecom systems like EPABX use more complex switches.

The simplest variety is called 'single pole, single throw': it's like a light switch. The 'single pole, double throw' switch is more complex: it has one input and two output choices, like a fan regulator that switches between speeds. An even more complex switch is 'double pole, double throw', which has two inputs and four outputs.

Call switching in an EPABX is like a railway yard. An incoming call is like a train arriving at a central station with numerous platforms. The EPABX is the control system, directing the call to the correct extension just like a railway point switches guide trains to the right tracks.

When a user dials a number, the EPABX activates the proper sequence of relays, connecting the caller's line to the recipient's line, much like aligning railway tracks to allow a train to proceed smoothly to its designated platform. When the call ends, the relays are reset, preparing the system for the next connection.

Another way to visualise this switching process is as a multi-level network. A main incoming line can split into four branch lines, like platforms 1 to 4. Each of these branch lines can further sub-branch into sub-extensions, for example, 11, 12, 13, 14 under line 1; 21, 22, 23, 24 under line 2; and so on. If a call is intended for extension 104, the switcher activates the corresponding combination of relay switches in that order, completing the circuit to the correct line.

What switching techs is used today?

With the growth of electronics in the 1980s, electromechanical switchers were replaced with electronic devices. A more advanced digital electronic system converted each voice signal into digital by using Pulse Code Modulation (PCM). It further utilised Time Division Multiplexing (TDM), wherein each voice channel is assigned a time slot, enabling multiple intercom users to use the system simultaneously.

With the advent of internet technologies, Voice over IP (VoIP) technology is utilised in modern digital PBX systems. Just as the IP address directs your email to the recipient, voice or multimedia communications are transmitted over the internet to the designated telephone instrument.

The evolution from electromechanical relays to digital switching has significantly enhanced EPABX systems. Today's EPABX technology integrates seamlessly with modern communication tools, supporting features like voicemail, call recording, and automated attendants.



NAVY INDUCTS SECOND INDIGENOUS STEALTH FRIGATE IN RECORD TIME

Showcasing the country's growing military manufacturing capabilities and enhancing its naval power, INS Udaygiri — the second ship of Project 17A's stealth frigates — was delivered to the Indian Navy on Tuesday, according to a Defence Ministry statement.

The project is a successor of the Shivalik class frigates of Project 17 (P-17) that are now in active service. Udaygiri is the second among the seven Project 17A (P-17A) frigates under construction at Mazagon Dock Shipbuilders Ltd. (MDSL) in Mumbai, and Garden Reach Shipbuilders and Engineers in Kolkata.

These multi-mission frigates are capable of operating in a 'blue water' environment — referring to the open ocean — dealing with both conventional and non-conventional threats in the area of India's maritime interests, the Ministry said, adding that the remaining five ships will be delivered progressively by the end of 2026.

"It is a modern avatar of its predecessor, the erstwhile INS Udaygiri, which was a steam ship, decommissioned on August 24, 2007 after rendering 31 years of service to the nation."

'Quantum leap'

P-17A ships have enhanced stealth features and are fitted with an advanced, state-of-the-art weapon and sensor suite, a significant upgrade from the P-17 class, the Ministry said. "The ships represent a quantum leap in the Indian Navy's in-house design capabilities at the Warship Design Bureau," the statement added.

The weapons suite comprises a supersonic surface-to-surface missile system, a medium-range surface-to-air missile system, a 76 mm gun, and a combination of 30 mm and 12.7 mm rapid-fire close-in weapon systems, according to the Ministry.

TAMAL, THE LAST IMPORTED WARSHIP

With the commissioning of INS Tamal at the Yantar Shipyard in Kaliningrad, Russia, on Tuesday (July 1), the Indian Navy has likely inducted its last foreign-built warship.

- This is a major milestone for the Navy, which has, over the years, progressively indigenised shipbuilding, increasing bit by bit the indigenous content in warships, as well as designing them in India.
- INS Tamal is the eighth Talwar-class frigate — these are improved versions of the Krivak III-class frigates — built by Russia for the Indian Navy as a part of Project 1135.6.
- It is also the second of four additional follow-on ships of the class that were ordered in 2018. The first, INS Tushil, was commissioned in Kaliningrad in December last year. The final two, Triput and Tavasya, are being built in India by the Goa Shipyard Limited with transfer of technology and design assistance from Russia. Triput, which was launched into sea last July and is expected to be commissioned in 2026, will be India's first indigenously built Talwar-class frigate.
- INS Tamal is a multirole frigate with a displacement of 4,035 long tonnes (1 long tonne = 1,016 kg) at full load, a length of 124.8 m, and a beam (width at its widest point) of 15.2 m. It has a



maximum speed of 30 knots (56 km/h), and a range of upto 4,850 nautical miles (8,980 km). The ship will be manned by a crew of 250 sailors and 26 officers.

- INS Tamal carries two kinds of anti-aircraft missiles — 24 vertically-launched Shtil surface-to-air missiles with a range of upto 70 km, and eight short-range Iгла missiles. At close range, incoming aircraft and missiles can also be fended off by the ship's two AK-630s: fully-automated 30 mm rotary cannons that can fire more than 5,000 rounds per minute.
- INS Tamal's anti-ship/ land attack capabilities are centred around the BrahMos supersonic cruise missile. The ship carries a complement of eight such missiles which boast an operational range in the hundreds of kilometres, and can fly at speeds of upto Mach 3 (3,700 km/h).
- INS Ajay, a small patrol vessel commissioned in 1960, was the first indigenously-built ship in India.
- Today, the majority of the Navy's warships are built indigenously, using more than 75% indigenous components. Several Indian shipyards, both public-sector and privately held, build ships for the Navy.

Do You Know:

- The Defence Acquisition Council (DAC) Thursday cleared a series of big-ticket procurements worth Rs 1.05 lakh crore for the Armed Forces — which includes armoured recovery vehicles (ARV), electronic warfare (EW) system, integrated common inventory management system for the tri-services and surface to air missiles.
- The DAC is the top body for clearing major capital acquisitions for defence. The Ministry in a statement Thursday said these procurements will provide higher mobility, effective air defence, better supply chain management and augment the operational preparedness of the Armed Forces.
- The clearance to procure more surface to air missiles is likely based on India's stellar performance during military hostilities with Pakistan following Operation Sindoor of surface to air missile systems such as the indigenously-made Akash medium range surface to air missile and S-400 Triumf surface-to-air missile system.
- Similarly, a Common Inventory Management System for the tri-services would improve cost efficiency of commonly used systems by the three services and provide pan-service visibility in terms of availability of weapon systems, allowing balancing of resources based on the theatre that is active.

INTEGRATING COMPASSION, PRIORITISING PALLIATIVE CARE

In India, millions endure unnecessary suffering, making it imperative to integrate palliative care into its health-care system. Palliative care plays a crucial role in providing comfort and ensuring dignity to those navigating terminal conditions. Despite its proven impact, palliative care remains critically underfunded and underutilised in India, leaving millions without the support that they desperately need.

Palliative care, which is a form of specialised care addressing a person's physical, emotional, social and spiritual needs, remains a critical, yet underappreciated, component of health care. Unlike curative treatment that is aimed at eradicating disease, palliative care focuses on alleviating pain, reducing suffering, and improving quality of life — for patients and their families.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



According to the World Health Organization (WHO), an estimated 40 million people globally require palliative care each year, with 78% of them living in low and middle-income countries. However, only 14% of those in need receive such care. In India, where an estimated seven million to 10 million people require palliative care annually, only 1%-2% have access to it. This gap underscores the urgency for systemic intervention and policy prioritisation.

The demand for palliative care is increasing constantly due to the global rise in non-communicable diseases such as cancer, diabetes and chronic respiratory conditions. India's health-care system, which is already strained, faces increasing pressure, making it essential to integrate palliative care to reduce unnecessary hospitalisations and ease the emotional and financial burden on families.

The challenges in India

The inclusion of palliative care in the National Health Policy of 2017 in India marked a pivotal step in addressing the gap. Subsequent efforts in capacity building, community outreach and collaboration with global organisations have fostered growth in this field. However, even today, access remains uneven, especially in rural areas, and primarily among economically disadvantaged populations. Each year, approximately 7.2 million Indians need palliative care, yet systemic inefficiencies hinder its effective delivery.

One of the primary barriers is the shortage of trained professionals. Many doctors lack specialised training in palliative care, limiting their ability to provide comprehensive pain management and end-of-life care. While India's doctor-population ratio of 1:834, surpasses the WHO recommended norm of 1:1000, the availability of medical practitioners specialising in palliative care is disproportionately low.

Limited funding and lack of proper infrastructure further exacerbate the challenges. While palliative care is included in the primary health sector, its integration into tertiary care remains incomplete. Additionally, public awareness of palliative care remains limited, leading to misconceptions and late-stage access to these critical services.

Linking it with medical education

Strengthening the capacity of doctors to deliver this care, particularly in underserved regions, is imperative. In order to equip medical professionals with the skills and the empathy required to address end-of-life care, integrating palliative care into the core MBBS curriculum is crucial. The projects on pain and palliative care by the Indian Council of Medical Research and the All India Institute of Medical Sciences exemplify gradual progress in this area.

Given the limited availability of palliative care specialists, task-shifting (delegating responsibilities to trained allied health-care workers) emerges as a viable solution.

India has a huge base of 34.33 lakh registered nursing personnel and 13 lakh allied health-care professionals. Empowering this workforce through targeted training can help bridge the gap, ensuring holistic care, particularly in rural areas and underserved regions.

Policymakers must recognise the long-term benefits of investing in palliative care, from improving patient outcomes to reducing the overall burden on the health-care system. Governments should allocate dedicated funding for palliative care programmes, ensuring that public and private health-care facilities are equipped with the necessary infrastructure.



Insurance schemes such as Ayushman Bharat should expand coverage to include palliative care, making these services more financially accessible to patients and families. Partnerships with non-governmental organisations and private institutions can also accelerate the expansion of these facilities.

Raising public awareness

Public awareness campaigns can demystify palliative care and encourage early access to services. Many patients and families are unaware that palliative care extends beyond end-of-life support and includes pain management, psychological support, and improved quality of life at any stage of a serious illness. Educating communities about these benefits can drive demand and policy changes.

The United States has a well-established palliative care system that is driven by robust funding mechanisms, insurance coverage, and hospice care models. Most importantly, in the U.S., there is an emphasis on end-of-life care, which involves substantial and progressively rising health-care expenditures — an indication of how robust funding and insurance systems support comprehensive, patient-centred care, offering a model that India can learn from while balancing costs and dignity.

India can study and adapt these practices while considering its unique cultural, demographic and economic context. Continuous research and the adoption of evidence-based practices are essential for improving care delivery and patient outcomes.

Integrating palliative care into India's health-care framework has become inevitable. A multi-pronged approach of prioritising capacity building, embedding palliative care in medical education, empowering allied health professionals, and addressing systemic challenges can transform the landscape of end-of-life care in the country.

A NEW BHARAT — ESTABLISHING HEALTHY AGEING PARAMETERS FOR THE INDIAN POPULATION

We don't all age the same way, but we all do age. We intuitively recognise frailty when things start to slow down. Ageing unfolds at different rates, over time, between individuals, within and across populations. Often, it happens in bursts.

Ageing is complicated. It is driven by molecular and cellular interactions and is shaped by one's environment, lifestyle, and socio-economic conditions. This means one's chronological age often does not reflect how old one's body really is. Since researchers discovered in 1935 that ageing can be altered, they have been looking for reliable biological clues, called biomarkers, that in isolation or together can indicate how old our bodies are and how they might respond to factors such as diet, exercise, etc.

Last year, the Indian Institute of Science (IISc), Bengaluru, launched a large-scale study called BHARAT, short for 'Biomarkers of Healthy Aging, Resilience, Adversity, and Transitions', as part of its Longevity India Program. The study aims to map the physiological, molecular, and environmental indicators that drive ageing in the Indian population.

"We lack clear information on what features define or influence healthy ageing," says Deepak Kumar Saini, convener of BHARAT and professor of development biology and genetics at IISc. "We are building an information portal to understand the rules of healthy ageing in Indians."



Worldwide, life expectancy has risen significantly over the past few decades.

Living longer does not mean living healthier. Studies have predicted a 168% increase in Parkinson's disease cases in India by 2050 and a 200% rise in dementia across low- and middle-income countries. Yet much of what we know about health and disease risk comes from studies in Western populations, which means the diagnostic tools, biomarkers, and even treatments may not be optimal for people in India or other non-Western countries.

Gaps for patients

This limited focus has created a gap between population-based biomarkers and diagnostic cut-offs for people in the Global South. This can lead to misdiagnosis and treatments that do not reflect how diseases progress or respond to therapeutics in different groups.

"Western values for cholesterol, vitamin D, or B12 may label many Indians as deficient. But are these truly abnormal within our context? Our study aims to answer that. We are not only identifying biomarkers for healthy ageing but also building the Bharat Baseline — a reliable reference for what is normal in the Indian population," Prof. Saini says.

Earlier this year, researchers from Sichuan, China, reported in *Scientific Reports* that certain biomarkers for breast cancer, such as high levels of high-density lipoprotein cholesterol, could signal an elevated risk in European populations but may serve as supportive indicators in Asians.

"We see differences in inflammatory markers. For instance, C-reactive protein (CRP) levels tend to be elevated in Indians even without acute illness. This inflammation often results from early-life infections, environmental toxins, or chronic nutritional and metabolic issues," Shawn T. Joseph, senior consultant, head and neck surgical oncology, VPS Lakeshore Hospital in Kochi, says. "Applying Western CRP cut-offs risks missing early warning signs of cardiovascular or metabolic disease in Indian patients," he adds.

An India-specific database

BHARAT's goal is to change this. Its database will include genomic biomarkers (like mutations linked to disease susceptibility), proteomic and metabolic indicators (reflecting biological pathways and metabolic health), and environmental and lifestyle factors.

Identifying early warning signs of age-related changes can enable better prediction, intervention, and potentially delay the onset of disease. There is a need for proactive markers of health, indicators that can tell when an organ is functioning below its optimal level, even if it is not yet diseased. For instance, your liver age is more than your chronological age. To do that, researchers must sift through large, many-dimensional datasets and plan to take the help of artificial intelligence (AI) models.

"AI and machine learning are essential to integrate and analyse layered data to see the full picture. It can simulate the impact of interventions and augment existing datasets to improve signal detection that may otherwise be missed in high-dimensional, small-sample studies. This will help us choose the most effective interventions before launching costly trials," says Tavpritesh Sethi, professor of computational biology at the Indraprastha Institute of Information Technology, Delhi, who is also one of the investigators of BHARAT.

India's population is genetically, environmentally, and socio-economically diverse. Prof Saini anticipates a few challenges, including the difficulty of obtaining samples from healthy adults,



securing long-term government and philanthropic funding, and expanding the study to collect samples from across the country.

LARGE GENETIC MAP OF INDIANS FLAGS HIDDEN DISEASE RISKS

India's vast linguistic, cultural, and social diversity has long been evident, but only now are scientists beginning to uncover the genetic richness underpinning it. In a new study in *Cell*, researchers reported sequencing the genomes of 2,762 Indians from 23 States and Union Territories. The data captured variation across caste, tribal groups, language, geography, and rural-to-urban settings, offering the most comprehensive genomic map of India to date.

The findings are striking. The study reaffirmed the three primary sources of Indian ancestry and explored how this layered history, along with entrenched social practices, continues to shape health and disease risk today.

Using mutations as genetic clocks, the study confirmed that present-day Indians descend primarily from a single out-of-Africa migration around 50,000 years ago. Although archaeology suggests earlier human presence in the subcontinent, "those populations may not have survived or left lasting genetic traces," said Elise Kerdoncuff, the study's first author.

The researchers modelled Indian ancestry as a blend of three ancient populations: indigenous hunter-gatherers known as Ancient Ancestral South Indians; Iranian-related Neolithic farmers, best represented by fourth millennium BCE herders from Sarazm in present-day Tajikistan; and Eurasian Steppe pastoralists, who arrived around 2000 BCE and are associated with the spread of Indo-European languages. While most Indians fall along a genetic spectrum reflecting different proportions of this admixture, individuals from East and Northeast India, and a subset from Central India, carry East Asian-related ancestry, with levels reaching up to 5% in West Bengal. This likely entered around 520 CE, after the Gupta Empire's decline or with an earlier spread of rice farming.

India's population structure reflects long-standing practices of marriage within communities. This has produced strong founder effects, where a small ancestral gene pool gets amplified over generations. As a result, Indians, especially in South India, have 2-9x more homozygosity than Europeans or East Asians, making them more likely to inherit the same version of a gene from both parents. Every individual in the study had at least one genetic relative, indicating levels of relatedness far exceeding those seen elsewhere. This tight-knit structure may make recessive disorders caused by inheriting faulty copies of the same gene from both parents more common than currently recognised.

One example is a pathogenic BCHE variant linked to severe anaesthetic reactions found enriched in Telangana.

Like all non-Africans, Indians carry traces of ancient interbreeding with other hominins, with Neanderthal or Denisovan segments covering up to 1.5% of the genome in some Indians. They also have the widest variety of Neanderthal segments. "Multiple waves of migration, followed by caste-based endogamy, likely fixed archaic segments within specific groups, contributing to this high diversity," Lomous Kumar, population geneticist at the Centre for Anthropobiology and Genomics of Toulouse, France, said.

Neanderthal-derived sequences are enriched in immune system genes. A region on chromosome 3 (linked to severe COVID-19) is especially common in East and Northeast India. Denisovan



variants appear in immune-related pathways and regions such as the MHC, a key genomic region involved in detecting and fighting infections. “Enrichments in TRIM and BTNL2, involved in mounting immune responses to viruses, suggests that some variants were retained because they conferred an adaptive advantage,” Dr. Kerdoncuff said. “As humans moved into new environments, inheriting these variations from archaic populations likely helped them adapt to unfamiliar pathogens.”

The researchers uncovered 2.6 crore undocumented genetic variants. Of these, over 1.6 lakh were protein-altering variants absent from global databases and about 7% were linked to thalassemia, congenital deafness, cystic fibrosis, and metabolic disorders. “This highlights how neglected Indians are in genomic surveys,” Dr. Kerdoncuff said, “limiting scientific discovery and reducing the accuracy of risk predictions. The promise of precision medicine for underrepresented populations ultimately suffers.” Dr. Kumar added: “Within India as well, population-specific rare and unique variants continue to make the scenario complex,” emphasising localised efforts are also imperative.

To help close this gap, Dr. Kerdoncuff said, the team is expanding the study to include more genetically isolated communities. They’re also studying proteins and metabolism to better understand how genes influence health outcomes. In parallel, they’re developing new tools to trace the origins of disease-linked genes in Indian populations.

To make medicine truly inclusive, India’s vast genetic diversity must be central to global research and matched by deeper, community-level efforts at home.

ENDOCRINE DISRUPTORS IN PLASTIC WASTE: A NEW PUBLIC HEALTH THREAT

Plastics have revolutionised modern living with their convenience and affordability, but this same ubiquity is spawning an invisible, long-term health crisis. Beyond choking oceans and clogging landfills, plastics are now infiltrating our bodies through microplastic particles and a cocktail of endocrine-disrupting chemicals (EDCs).

The evidence is clear and deeply concerning: these substances are interfering with our hormonal systems, damaging reproductive health and increasing our susceptibility to chronic diseases, including cancer. India, now the world’s largest generator of plastic waste, stands at the epicentre of this escalating public health emergency.

Once considered inert pollutants, microplastics — plastic particles smaller than 5 mm — are now recognised as biologically active. A 2022 study by Vrije Universiteit Amsterdam detected microplastics in the blood of 80% of human participants. Further, a 2024 study published in Nature Scientific Reports reported the presence of microplastics in nearly 89% of blood samples in India, with an average concentration of 4.2 particles per millilitre. These particles have also been found in human lungs, hearts, placentas, breast milk, ovarian follicular fluid, and semen. Alarmingly, testicular tissue in Indian men was found to contain three times more microplastics than in dogs.

The plastics in our lives are not chemically neutral. They often contain EDCs such as: Bisphenol A (BPA) and BPS: used in water bottles, food containers, and thermal paper. They also have Phthalates (e.g., DEHP, DBP) that are used to soften plastics and found in cosmetics, toys and IV tubing and PFAS (Per- and polyfluoroalkyl substances), found in food packaging and non-stick cookware.



These chemicals mimic or block natural hormones such as estrogen, testosterone, thyroid hormones, and cortisol. They interfere with receptor binding, disrupt gene expression in reproductive organs, and induce oxidative stress, inflammation, and apoptosis (cell death).

Animal studies published in *Food and Chemical Toxicology* (2023) showed that even low doses of polystyrene microplastics disrupted testosterone levels, impaired sperm production, and damaged the blood-testis barrier. Similar effects were observed in ovaries, where microplastics reduced anti-Müllerian hormone levels, triggered oxidative stress pathways, and induced cell death.

Microplastics in sperm

Recent clinical studies from China and India have linked the presence of microplastics in semen to reduced sperm count, concentration and motility. Exposure to BPA and phthalates has been associated with lower testosterone levels and elevated luteinizing hormone (LH) levels — both indicators of endocrine disruption. A global review published in *Science of the Total Environment* further supports the connection between microplastics and male subfertility. Notably, a 2023 study in *Environmental Science & Technology Letters* reported a strong correlation between microplastic levels in semen and decreased sperm count, motility, and abnormal morphology in Chinese men. In India, studies have documented a 30% decline in average sperm count over the past two decades.

A study published in *Ecotoxicology and Environmental Safety* (2025) found microplastics in 14 out of 18 follicular fluid samples collected from women undergoing fertility treatment in Italy. These particles, along with their associated endocrine-disrupting chemicals (EDCs), were found to compromise egg quality and were linked to menstrual irregularities, reduced estradiol levels, and an increased risk of miscarriage. Epidemiological studies have also linked exposure to phthalates and BPA with conditions such as polycystic ovary syndrome (PCOS), endometriosis, and spontaneous abortions. These associations have been further supported by findings published in *Advances in Pharmacology* (2021) and *Frontiers in Cell and Developmental Biology* (2023).

The International Agency for Research on Cancer (IARC) now classifies several plastic additives as probable human carcinogens.

Case-control studies from India have shown that women with elevated levels of DEHP in their urine face nearly a threefold increased risk of breast cancer (odds ratio = 2.97). Exposure to BPA and phthalates has also been linked to higher incidences of prostate, uterine, and testicular cancers.

In addition to their carcinogenic potential, these EDCs have been implicated in metabolic disorders. By mimicking cortisol, altering insulin sensitivity, and promoting fat storage, EDCs contribute to the development of obesity and type 2 diabetes. Moreover, PFAS exposure has been associated with metabolic syndrome, cardiovascular disease, and thyroid dysfunction, as reported in a 2024 study published in *Frontiers in Public Health*.

Plastic waste in India

India generates over 9.3 million tonnes of plastic waste each year. Of this, approximately 5.8 million tonnes are incinerated, releasing toxic gases, while 3.5 million tonnes end up polluting the environment. Studies have shown that residents in cities like Mumbai are exposed to between 382



and 2,012 microplastic particles daily through air, food, and water. In Nagpur, doctors are reporting an increase in cases of early puberty, respiratory problems, obesity, and learning disorders in children — conditions increasingly linked to plastic pollution. Recent testing by the Central Pollution Control Board (CPCB) detected phthalate concentrations in drinking water samples from Delhi, Jabalpur, and Chennai that exceeded European Union safety limits.

Despite progressive policies like the Plastic Waste Management Rules (2016, updated in 2022 and 2024), enforcement remains inconsistent. Current regulations do not account for low-dose effects or the complex interactions of EDCs, nor do they address the specific vulnerabilities of children and pregnant women.

The health burden associated with EDCs in India is staggering, costing over ₹25,000 crore annually due to increased healthcare spending and lost productivity. The poorest populations, often living near waste dumps or working in the informal recycling sector, bear the brunt of this crisis. Globally, the U.S. reports annual healthcare costs of \$250 billion linked to plastic-related chemicals, according to the Endocrine Society.

Biomonitoring and surveillance are crucial for establishing national programmes that measure EDC levels in blood, urine, and breast milk. Longitudinal studies must be funded to assess the health impacts of EDC exposure on fertility, neurodevelopment, and chronic diseases. In addition, public awareness needs to be improved, and behaviour changes should be encouraged, such as educating people on the risks of microwaving food in plastic containers and promoting the use of glass, stainless steel, and EDC-free alternatives. It is also important to advocate for antioxidant-rich diets to help counteract oxidative stress.

Further actions should include enforcing plastic segregation, recycling, and safe disposal, while investing in microplastic filtration systems for water treatment plants. Additionally, incentivising the development of biodegradable, non-toxic materials is essential to reduce EDC exposure.

Plastic pollution is no longer a distant environmental concern; it is a biological invasion with profound implications for human health. The infiltration of microplastics and plastic-derived EDCs into our bodies is triggering hormonal disruption, reproductive dysfunction and chronic diseases.

The science is undeniable, and the time for action is now. For India, the world's most exposed population, this is more than a policy issue — it is a generational imperative. We must address this silent epidemic through science-driven regulation, robust monitoring, education, and systemic change. The health of our people, especially our children, depends on it.

WEIGHING 337 TONNES, UNION CARBIDE WASTE INCINERATED, RESIDUE BURIAL IN LANDFILL CELLS

The entire 337 tonnes of waste from the now-defunct Union Carbide factory in Bhopal has been incinerated, officials said on Monday.

- Bhopal Gas Tragedy Relief and Rehabilitation director Swatantra Kumar Singh told The Indian Express, “The pollution board officials have informed us that all the waste has been disposed of as per protocol.”
- More than 40 years after the Bhopal gas tragedy, the process of relocating the toxic waste from Bhopal’s Union Carbide factory began on January 1, when 12 containers carrying 337 metric



tonnes of hazardous waste left for a private disposal plant in Pithampur run by the firm Re Sustainability.

- This came after the Madhya Pradesh High Court on December 3 set a four-week deadline for the authorities to dispose of the waste. On December 5, the HC pulled up the state government over the lack of progress, observing that the authorities were “still in a state of inertia despite 40 years” having gone by.
- While 30 tonnes of waste had been incinerated until March 13, the process of burning the rest at the disposal plant began around 7:45 pm on May 5 and ended on the intervening night of June 29-30 at 1 am, officials said.
- As per protocol, the ash and other residue left after burning the waste were safely packed in sacks and stored in a leak-proof shed at the plant.
- Special landfill cells were being constructed to bury the residue in the ground, and this work is expected to be completed by November. “The entire disposal was carried out as per established safety standards. The emission of different gases and particles from the Pithampur plant was monitored on a real-time basis by an online mechanism, and all the emissions were found to be within the standard limits,” said a state pollution control board officer.
- Protests against the disposal of toxic waste had broken out in Pithampur at the beginning of this year, with two men also attempting to self-immolate. The Indore district officials had assured locals in multiple meetings about the safety standards and the need to carry out the disposal due to court orders.

Do You Know:

- The operation was set in motion when the Jabalpur bench of the Madhya Pradesh High Court directed “immediate clean-up of the Union Carbide factory site” and “safe disposal of the entire toxic waste/material from the area concerned”.
- The waste consists of different categories: 162 MT of excavated contaminated soil; 92 MT of naphthol and carbaryl, also known as Sevin insecticide; 54 MT of semi processed pesticide waste; and 29 MT of residue from the plant’s reactor. “All the waste is in solid form. This waste is largely linked to the manufacturing process, raw material dumps and what was in the reactors,” said a government scientist who was part of the monitoring team at the plant.
- The jumbo bags in which the hazardous waste was repacked were then weighed and labelled as per the Hazardous Waste Management Rules.
- The Bhopal disaster, also known as the Bhopal gas tragedy, was a chemical accident that occurred at the Union Carbide India Limited (UCIL) pesticide facility in Bhopal, Madhya Pradesh, India, during the night of December 2-3, 1984. The industrial disaster is regarded as the worst in history.
- Union Carbide (India) Ltd. (UCIL) was a subsidiary of the Union Carbide Corporation (UCC), a US corporation. The UCIL pesticide manufacturing factory was located on the outskirts of Bhopal. On December 2, highly toxic MIC gas escaped the plant. People living in nearby areas reported a burning sensation in their eyes and difficulties in breathing, with many also losing consciousness.



CENTRE'S CURBS ON END-OF-LIFE VEHICLES: NOT EVEN A BAND-AID

The Delhi government has asked the Centre's Commission for Air Quality Management (CAQM) to pause the fuel ban on end-of-life vehicles. The order to stop fuel supply to 10-year-old diesel-run vehicles and 15-year-old petrol vehicles, which came into effect on July 1, was justified as an anti-pollution measure. Delhi's Environment Minister, Manjinder Singh Sirsa, however, said that the move could be "counter-productive". He is right, to an extent. The restrictions could push owners of ageing vehicles to source diesel or petrol from Delhi's neighbouring states and create conditions for an illicit inter-state fuel market. Delhi CM Rekha Gupta's argument that the ban will jeopardise the livelihoods of a large section of the city's population that depends on two-wheelers is also valid. However, both the restrictions and the pushback against them are symptomatic of a longstanding failing of both the Centre and its agencies, including the CAQM, as well as successive Delhi governments. The Capital has longed for a well-thought-out plan to clean its air for at least a decade-and-a-half. All it has got are blunt measures and piecemeal solutions.

The CAQM had put the onus on petrol pump dealers to enforce the ban. Failure to do so would attract penalties under Section 192 of the Motor Vehicles Act, 1988. As a Petrol Dealers Association petition to the Delhi High Court pointed out, the move burdened "petrol pump owners and their attendants... without them being necessarily equipped or authorised under any law to carry out such a responsibility". On paper, the end-of-life vehicles are flagged by the Automatic Number Plate Recognition (ANPR) system installed at fuel stations and match the data against the government's Vahan portal. The trial run for these systems began at the end of last year, and last month the CAQM reportedly claimed that the ANPR scanners were ready to implement the ban on end-of-life vehicles. But, as Sirsa admitted, at several places in the city, ANPRs are riddled with technical glitches, including faulty sensors and incorrect placement of cameras. That the system is not integrated across the NCR shows that very little planning went into making the restrictions effective.

Stemming vehicular pollution requires sustained engagement with the complex reasons behind motorisation — lifestyle choices, livelihood imperatives and urban sprawl that increases travel time and distances. Successive governments in Delhi haven't addressed this imperative adequately. Even the relatively easier task of nudging people to invest in the fitness of their vehicles has never received the policy attention it required. In the months it has been in office, Delhi's BJP government has given little indication of learning from the failures of its predecessors. It must course correct.

EXPRESS VIEW: ASIA ON THE BOIL

It's now well known that though climate change affects all parts of the world, some regions are more vulnerable than others. Asia, for example, is prone to almost all the consequences of global warming — heat waves, floods, erratic monsoons, melting glaciers and sea-level rises. A new report by the World Meteorological Organisation (WMO) released this week has found that the continent is warming twice as fast as the global average. Asia's vulnerability is exacerbated by its geology. The continent has the largest landmass — 44.58 million square kilometres. Temperature increases over land are greater than those over the oceans. The exceptionally high temperatures then cause oceans to warm up. That's why the continent experienced marine heat waves last year, the WMO report points out. The surface temperatures of the Indian and Pacific Oceans touched a record high last year. Ocean temperatures around Asia have risen at 0.24 degrees Celsius per decade over the past 10 years — nearly double the global average of 0.13 degrees.



As natural disasters over the past 10 years have underlined, communities in South and Southeast Asia are particularly vulnerable to sea-level rises. The WMO report also draws attention to floods in Pakistan and Kazakhstan, heatwaves in China and Central Asian countries, typhoons in Southeast Asia and the landslide that struck Wayanad in Kerala last year. Outdoor work is important to the labour-intensive economies of most countries in the region, making people vulnerable to heat, rain and cold. Studies have also shown that though overall agricultural productivity has increased in Asia, climate change has slowed down progress. Research now indicates threats to food and water security in the world's most populous continent. For instance, the vulnerability of rice — a key staple in the region — to droughts, increasing salinity and soil damage has been underscored by several studies, including those by the IPCC.

Almost every Asian country has a global warming mitigation plan. Increasingly, however, it's becoming clear that people will need to adapt to erratic weather. The WMO report underlines the need to put in place early warning systems. Such systems should help people deal with multiple hazards. For instance, intense spells of rain can trigger floods and landslides while high temperatures can spark wildfires or make them more severe. If there's one message in the WMO report, it's this — policymakers in Asia will need to invest in increasing people's resilience and weatherproofing economies.

LOW PRESSURE SYSTEMS & MJO: BEHIND MONSOON'S EARLY NATIONAL COVERAGE

The southwest monsoon covered the entire country on June 29, nine days ahead of its normal schedule of July 8. Since 1960, this was only the tenth occasion when the monsoon completed the national coverage in June.

- This year, the monsoon onset was early as well. It arrived in Kerala on May 24, eight days before the usual date schedule of June 1. This happened due to a range of different reasons including the active phase of the Madden-Julian Oscillation (MJO) — a moving system of wind, cloud and pressure that brings rain as it circles around the equator — in mid-May.
- After the onset, the monsoon progress largely remained ahead of its normal schedule over south peninsular, east and northeast India, and near normal over the northwest. However, it was slightly delayed over the central India region.
- In June, the all-India average rainfall stood at 180 mm, which was quantitatively 9% above normal, according to the IMD. This year, the deficit rainfall trend observed during June since 2022 was discontinued.
- Over central India, June's average rainfall was 24.8% above normal — a trend which was seen for the first time since 2022. The region received 212.6 mm of rainfall.
- State-wise rainfall figures suggested that, for the first time since 2019 and 2020, Manipur (242.7 mm) and Mizoram (466.9 mm) respectively recorded normal rainfall this June. However, the month ended with below normal rainfall across Arunachal Pradesh, Assam, Meghalaya, Sikkim, Bihar, Delhi, Chhattisgarh, Andhra Pradesh, Telangana and Lakshadweep.

Do You Know:

According to the India Meteorological Department, the monsoon's rapid progress was driven by:



- **LOW PRESSURE SYSTEMS:** India witnessed the development of five low pressure systems over different regions in June. These systems are essentially areas where the atmospheric pressure is lower than the surrounding regions.
- **ACTIVE PHASE OF MJO:** Like in May, June also witnessed an active phase of the MJO. In this phase, the MJO brings more clouds to south of India, which are then carried northwards by the monsoon winds, leading to enhanced rainfall.
- **MONSOON TROUGH'S POSITION:** A monsoon trough is an elongated low pressure area stretching from northwest India to the Bay of Bengal, whose position affects the monsoon conditions over the country. In June, as it remained largely to the south of its normal, it drew moisture-laden air, bringing in the monsoon early over the entire country.
- **NEUTRAL PHASE OF ENSO & IOD:** The southwest monsoon is affected by two other factors, El Niño-Southern Oscillation (ENSO) and Indian Ocean Dipole (IOD). ENSO — a climate phenomenon characterised by changes in sea temperatures along the central and eastern tropical Pacific Ocean, accompanied by fluctuations in the atmosphere overhead — has three phases, El Niño, La Niña, and neutral.
- **IOD,** which is the difference in sea surface temperatures (SSTs) between the eastern and western regions of the Indian Ocean, also has three phases, positive, negative, and neutral. While a positive IOD leads to more rainfall, a negative phase results in less rainfall. A neutral IOD has minimal impact. In June, IOD was in a neutral phase.

PRADA REPS KOLHAPURI CHAPPALS: GRACE IS ALWAYS IN VOGUE

Long before it gave its name to one of the most iconic patterns in fashion, Paisley was just another Scottish town. Its star rose in the 19th century, when it became so well-known for its imitation Kashmiri shawls that the shawls' traditional "buta" pattern was soon named "paisley". This erasure of the pattern's origin, removing it from the specific cultural context in which it was first created — the "buta" is said to be inspired by the shape of either a pinecone or mango — makes it an early instance of cultural appropriation. But is this also what is happening with the footwear — strongly resembling Kolhapuri chappals — that the Italian fashion house Prada featured as part of its Spring-Summer 2026 collection this week?

In its show notes, Prada described the footwear as "leather sandals", with no reference to an Indian connection. This has infuriated many in India's fashion community as well as traditional makers of Kolhapuri chappals. The history of fashion, of course, is one of crosscurrents and confluences, with textiles, motifs and styles passing from region to region, and wardrobe staples in one place inspiring luxury creations in another. But fashion labels in the West have a history of appropriating and flattening different cultures — often tipping over into controversy, such as when Gucci sent out models wearing Sikh-style turbans in 2016. This understandably leads to wariness among designers and craftspeople in the Global South.

Change, however, is already underway, with labels like Dior and Louboutin starting to look for collaborators, not just ideas, in other cultures — the former worked with Mumbai's Chanakya School of Craft for its pre-fall 2023 line, while the latter teamed up with designer Sabyasachi Mukherjee for a capsule collection in 2017. With Prada yet to make the details of its latest collection public, it still has the chance to give credit where it's due. Grace, after all, is one of those things that never go out of style.



CAN A G.I. TAG PREVENT CULTURAL MISAPPROPRIATION?

The story so far:

On June 25, at its Spring/Summer 2026 menswear show in Milan, Italian luxury brand Prada unveiled footwear inspired by India's Geographical Indication (GI)-tagged Kolhapuri chappals, sparking accusations of 'cultural misappropriation'.

What is a geographical indication?

It is a form of 'intellectual property' that identifies goods as originating from a specific country, region or locality, where their distinctive qualities, characteristics, or reputation are essentially linked to that 'place of origin'. In India, there are currently 658 registered GI-tagged goods, including Chanderi sarees (Madhya Pradesh), Madhubani painting (Bihar), Pashmina shawls (J&K), Kancheepuram silk (Tamil Nadu), and Darjeeling tea (West Bengal). Importantly, GIs serve as a powerful marketing tool, driving rural development, boosting exports, enhancing consumer confidence, and preserving 'cultural knowledge' of local communities, farmers and indigenous groups. Unlike trademarks, which are owned by enterprises, GIs are public property belonging to the producers of the concerned goods and cannot be assigned, transmitted or licenced.

The legal protection of GIs stem from international instruments like the Paris Convention for the Protection of Industrial Property (1883), and later gained a clearer definition under the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, 1995. India, as a TRIPS signatory, enacted the Geographical Indications of Goods (Registration and Protection) Act, 1999, which came into force in 2003. The Act provides for GI registration, enforcement of rights, prohibition of unauthorised use and penalties for infringement.

How can infringement be tackled?

The registered proprietor or authorised users may initiate infringement action when an unauthorised user misleads the public about the origin of goods, causes unfair competition or passing off, or falsely represents goods as originating from a GI-registered region. However, it is important to note that GI rights are primarily 'territorial' and consequently limited to the country (or region) where protection is granted. At present, no automatic 'world' or 'international' GI right exists. Nevertheless, several mechanisms exist for cross-border protection. GIs can be protected internationally by first securing recognition in the country of origin, as many jurisdictions require this as a precondition and then obtaining protection directly in the jurisdiction concerned.

Is this the first such case?

Indian traditional products have time and again suffered exploitation by global corporations. In 1997, the U.S. Patent and Trademark Office (USPTO) controversially granted a patent to Ricetec Inc., a Texas-based company, for novel "lines and grains" of Basmati rice. After significant Indian legal efforts, the USPTO disallowed the patent holder from using the name "Basmati". Similar challenges arose with 'turmeric' when the University of Mississippi medical centre was granted a patent in 1995 for turmeric's wound-healing properties — a use long known in Indian traditional medicine. The Council of Scientific and Industrial Research contested the claim, leading to the revocation of the patent. Likewise, the European Patent Office in 2000 revoked a patent granted to the U.S. Department of Agriculture and a multinational firm W.R. Grace, for neem-based antifungal formulations, as the therapeutic use of neem was already part of Indian knowledge systems.



To prevent such cases in the future, one could start by expanding the Traditional Knowledge Digital Library to include wider traditional grassroots expressions. Making a 'searchable database' would allow brands to conduct due diligence and searches to identify right holder communities for collaboration.

MINISTRY DEFERS FOREST LAND NOD FOR PURI AIRPORT, CITES CONCERNS OVER OLIVE RIDLEY TURTLES, MIGRATORY BIRDS

The Environment Ministry's Forest Advisory Committee (FAC) has deferred its clearance for the proposed international airport in Odisha's Puri, citing its regional office's concerns about potential harm to Olive Ridley turtles, Irrawaddy dolphins and migratory birds, and the impact of the loss of 13,000 trees that protect the coastline from cyclones.

- The FAC, which scrutinises proposals seeking forest land for large projects, asked the Odisha government to take a precautionary approach and refer the matter to the Wildlife Institute of India (WII).
- The Shree Jagannath International Airport airport, cleared by the Union Aviation Ministry on May 5, is proposed to come up on around 471 hectares of land in Puri district's Sipasarubali. The state government has sought approval for the use of 27.88 hectares of forest land for the project, which will cost an estimated ₹5,631 crore.
- The regional office raised concerns that cutting the 13,000 trees — mostly casuarina, cashew, acacia and noni — would remove a natural shield against cyclones in Puri. The FAC directed the Odisha government to justify the felling and submit a mitigation plan for "climate eventualities". Odisha is a particularly cyclone-prone state.
- In a detailed site inspection report, the regional office also raised potential risks to not only turtle nesting sites in Brahmagiri forest division, adjoining the project site, but also lakhs of migratory birds that visit the Chilika estuarine lake. It flagged the potential of bird hits on airplanes.
- "The Chilika (satpada) lake boundary is at a distance of approximately 10-11 km from the proposed area. The Olive Ridley nesting site at Balukhand wildlife sanctuary is at a distance of 2.3 km from the proposed airport site, and it is also contiguous to the sea and beach adjacent to the site", the inspection report stated.
- In response to concerns raised by the ministry on turtles, the state said that a site-specific wildlife conservation plan could be formulated, which would include detailed mitigation measures. On concerns over dolphins, the state said that the Zoological Survey of India's regional office in Gopalpur was conducting a study.
- On concerns about the project's impact on the flyway, or routes of migratory birds, the Odisha government said flights from eastern to southern cities already operate in the same airspace.
- The Central Asian Flyway is one among the world's nine major flyways or migration routes. It is used by lakhs of birds, especially waterbirds. The flyway links the northernmost breeding grounds in Siberia, Russia to South Asia and West Asia. India is a critical stopover site for these birds.



Do You Know:

- Olive ridley turtles (*Lepidochelys olivacea*) are the smallest and most abundant of all sea turtles in the world. They get their name from the olive green colour of their heart-shaped shell, and inhabit warm waters of the Pacific, Atlantic, and Indian oceans.
- Olive ridleys can grow about two feet in length, and 50 kg in weight. Scientists do not know exactly how long they live, but like other sea turtles, Olive ridleys are likely long-lived — they reach maturity around 14 years of age.
- These marine reptiles are best known for their unique mass nesting — also called arribada, Spanish for “arrival” — during which thousands of females come together on the same beach to lay eggs.
- While solitary nesting by Olive ridleys is known to take place in approximately 40 countries worldwide, arribada nesting occurs on only a few beaches. The coast of Odisha (where Rushikulya and Gahirmatha rookeries are situated) is the largest mass nesting site for the Olive ridley, followed by the coasts of Mexico and Costa Rica.
- The Forest Advisory Committee (FAC) is a statutory body under the provisions of section-3 of the Forest (Conservation) Act, 1980. The role of the FAC is recommendatory in nature so far as diversion of forest land for the purpose of non-forestry use, including mining, is concerned.

683 SPECIES ADDED TO INDIA'S FAUNA, 433 TAXA TO ITS FLORA DURING 2024

India added 683 new species to its fauna in the year 2024, which included 459 new species and 224 species new records. The country also added 433 taxa of flora during the same period, which included 410 species and 23 infra-specific taxa of plants.

The details of new discoveries and new records were released by Union Minister for Environment Forest and Climate Change Bhupender Yadav in Kolkata on Monday.

The maximum number of new discoveries of fauna in 2024 was recorded from Kerala — with 101 species (80 new species and 21 new records) — followed by Karnataka — 82 (68 new species and 14 new records). Tamil Nadu recorded 63 discoveries with 50 new species and 13 new records.

In the east and northeast, Arunachal Pradesh recorded 72 animal discoveries (42 new species and 30 new records), Meghalaya 42 new discoveries (25 new species and 17 new records) and West Bengal 56 new discoveries (25 new species and 31 new records). Andaman and Nicobar Islands, another biological hotspot in the country, recorded 43 new discoveries of fauna from the region, which included 14 new discoveries of fauna and 29 new records.

In terms of plant discoveries, the highest number of flora discovered were from Kerala (58), followed by Maharashtra (45) and Uttarakhand (40). The new plant discoveries for 2024 record 154 angiosperms, 4 pteridophytes, 15 bryophytes, 63 lichens, 156 fungi, 32 algae and 9 microbes. The hotspot regions such as Western Ghats and North-Eastern regions have contributed 35% of total discoveries. India has recorded and documented 56,177 species of plants — angiosperms, gymnosperms, pteridophytes, bryophytes, lichens, fungi, and algae etc.

The significant faunal discoveries for the year 2024 include two new genus and 37 species of reptiles and five new species of amphibians. The significant discovery of reptiles included



Dravidoseps gouensis, belonging to the new genus, and *Anguiculus dicaprio* is a member of Colubridae family, named after Hollywood star, Leonardo Di Caprio.

In terms of flora, the significant discoveries include important orchid species such as *Bulbophyllum gopalianum*, *Coelogyne tripurensis*, *Gastrodia indica* and *Gastrodia sikkimensis*.

RAMLEELA IN TRINIDAD: AN ENDURING REPRESENTATION OF 'INDIANNESS'

"Our bonds go well beyond geography and generations," Prime Minister Narendra Modi said on Thursday (July 3) at a community event in Trinidad, calling Lord Ram "the divine link beyond oceans".

- Trinidad and Tobago, a tiny island country in the Caribbean, has a population of around 13 lakh, almost half of which traces its origin to India. The diaspora was brought to the islands as bonded labour in the 19th and early 20th centuries, and brought with them Lord Ram — specifically the tradition of Ramleela, the episodic dramatisation of Tulsidas's Ramcharitmanas.
- Britain banned slave trade in 1807, and finally abolished slavery in the British Empire in 1834. This created a labour crisis in many British colonies dependent on slave labour — including in Trinidad whose economy revolved around slave-run sugar plantations.
- In 1838, the enactment of the emancipation legislation in Trinidad was followed by a large-scale emigration of emancipated slaves from the sugar estates. Plantation owners thus turned to indentured labour from India. The very first boatload of indentured Indians came to Trinidad on May 30, 1845.
- This effectively ensured that labourers would be under bondage while working in back breaking conditions on plantations in faraway lands. These labourers were colloquially called *girimtiyas*, a corruption of the word "agreement" that the labourers had to sign. Indians arrived in Trinidad till about 1917, mostly from present-day eastern Uttar Pradesh and Bihar.
- "Although Indian Hindus carried only a few belongings to Trinidad, they are said to have brought the *Manas* [Ramcharitmanas], either in memory or book form," Paula Richman wrote in her paper 'Ramlila in Trinidad' (2010). Most, she wrote, grew up hearing the text recited and watching it enacted.
- This is how Ramleela arrived in Trinidad. In villages in the countryside, thronged by Indians speaking Bhojpuri and eating chapatis, Ramleela saw widespread participation of the community.
- By the later half of the 19th century, however, the popularity of Ramleela began to wane. As formal education spread, Bhojpuri was slowly replaced by English among the Indian population — younger generations were simply not as familiar with the *Manas*.

Do You Know:

- In 1998, UNESCO designated August 23 as the International Day for Remembrance of the Slave Trade & Abolition to commemorate "the tragedy of the slave trade in the memory of all peoples".
- UNESCO also established an international, intercultural project called 'The Slave Route' to document and conduct an "analysis of the interactions to which it has given rise between Africa, Europe, the Americas and the Caribbean."



- Indentured servitude from India started in 1834 and lasted up till 1922, despite having been officially banned in 1917 by British India's Imperial Legislative Council after pressure from freedom fighters like Mahatma Gandhi.
- Between 1830-1860, the British, French and the Portuguese during the colonisation of India, prohibited slavery that was implemented by several acts under their individual domains. It was replaced with another form of bonded servitude and euphemistically term it 'indentured labour'.
- This practice of indentured labour resulted in the growth of a large diaspora with Indo-Caribbean, Indo-African and Indo-Malaysian heritage that continue to live in the Caribbean, Fiji, Réunion, Natal, Mauritius, Malaysia, Sri Lanka etc.
- The migrants took their culture with them through their language, food and music and the meagre belongings that they were permitted to carry. Once they reached these colonies, they created their unique socio-cultural ecosystems while they were limited to living in the confines of these large plantations.

SINHALESE MIGRATED FROM SOUTHERN INDIA, MIXED WITH ADIVASIS: STUDY

Analyses of whole-genome sequence data of urban Sinhalese and two indigenous Adivasi clans in Sri Lanka, which live in geographically separated regions in the country, have shed light on the migratory history of these populations and their genetic relationship to each other and to many Indian populations.

The study, published recently in the journal *Current Biology*, found that Sinhalese and Adivasi are genetically closest to each other and to South Indians, but at a regional and fine-scale level, the two Adivasi clans are genetically distinct.

For the study, whole genomes of 35 urban Sinhalese individuals and 19 individuals from two indigenous Adivasi clans were sequenced. Of the 19 genomes of Adivasi clans that were sequenced, five were from among Interior Adivasi and 14 were from among Coastal Adivasi.

A genetic perspective

The sampling and data generation were possible due to the outreach efforts of Sri Lankan collaborator Ruwandi Ranasinghe, from the University of Colombo. In addition, the whole genome data of 35 Sri Lankan Tamils sampled in the U.K., which were already sequenced as part of the 1,000 Genomes Project, were included in the analyses.

Sinhalese chronicles and previous genetic studies had proposed that the Sinhalese people had migrated from northern or northwest India around 500 BCE, though their exact origins and migratory history are still debated. That the Sinhalese speak an Indo-European language, Sinhala, whose present-day distribution lies primarily in northern India, further supported the idea of their migration from northern India. But the current study contradicted the findings of the previous studies from a genetic perspective.

"The genetic ancestries and their proportions in the Adivasi and Sinhalese are most similar to Dravidian speaking populations, which live in Southern India today," Niraj Rai of the Birbal Sahni Institute of Palaeosciences (BSIP), Lucknow, and one of the corresponding authors of the paper, told *The Hindu*.



“Even among South Indian populations, we find that the Sinhalese are genetically closest to those communities that have higher proportions of the so-called ASI or Ancestral South Indian ancestry,” Maanasa Raghavan, assistant professor at the University of Chicago and a corresponding author of the study, said.

“In contrast to many North Indians, these populations generally have lower levels of a genetic ancestry related to ancient groups from the Eurasian Steppe, proposed to have carried Indo-European languages into South Asia and that are today spoken widely in northern regions of India.”

Genes and linguistic affinities

But how does one reconcile the fact that the Sinhalese people speak a language that is classified as Indo-European, which today is spoken mostly in North India?

The authors explained that genes do not reflect linguistic affinities and that biological and cultural evolution can have different trajectories. They have speculated that this genetic-linguistic discordance may have been caused by the Sinhalese population having migrated from somewhere in North India geographically, but genetically speaking, the migration may have come from a group that resembles more South Indian Dravidian speakers today.

An alternative explanation is that a small group of Sinhalese people, perhaps representing the elite, might have migrated to Sri Lanka and transmitted the language but not the genes.

“If the Sinhalese were derived from a North Indian genetic cluster with higher Steppe-related ancestry, mixing had to have happened with ASI populations to dilute their genetic ancestries and pull them genetically closer to South Indian populations in our analyses. More anthropological studies are needed to fully understand these differing genetic and cultural affinities of the Sinhalese,” Raghavan said.

Support from anthropological studies

The time of formation of the Sinhalese genetic pool was dated in the study to about 3,000 years ago, falling within the range of dates displayed broadly by Indian and other Sri Lankan populations and around the time of the proposed migration date of the Sinhalese in the chronicles (500 BCE).

“The date our analysis reveals is interesting. It implies that the Sinhalese ancestors migrated to Sri Lanka fairly close in time to the dynamic genetic mixing events that were occurring about 2,000-4,000 years ago in India that created the ANI-ASI genetic spectrum we see in today’s populations,” Rai explained. (ANI stands for ‘ancestral north India’ and ASI for ‘ancestral south Indian’.)

Sinhalese chronicles also say that when the Sinhalese people migrated from India to Sri Lanka about 3,000 years ago, the Adivasi were already living in Sri Lanka. This is also supported by anthropological studies that propose that the Adivasi are descended from early hunter-gatherers in the region. The Adivasi are in fact traditionally hunter-gatherers and the Indigenous peoples of Sri Lanka.

“At a broad scale, Adivasi today look genetically very similar to the Sinhalese and Sri Lankan Tamil. This must mean that the Sinhalese, Sri Lankan Tamils, or other groups migrating from South India must have met the Adivasi, mixed with them heavily, and contributed to what is the present-day genetic structure of the Adivasi,” Raghavan said.



The Sinhalese and the Adivasi are close to each other and share broad-level genetic similarities. On a finer-scale demographic resolution, however, the study found that the two Adivasi clans are a bit different from the Sinhalese. The Adivasi have slightly higher levels of ancient hunter-gatherer ancestry than the Sinhalese and the Sri Lankan Tamils, and have maintained smaller population sizes over the course of their history, both of which support their traditional hunting and gathering lifestyle.

The Adivasi genomes also display signatures of endogamy, which appear as long stretches of DNA inherited from a common ancestor. The study further reported that a consequence of the low population size and endogamy is that the genetic diversity among the Adivasi is lower than that in the urban populations, which may have an impact on their health and disease status.

While both Adivasi clans have maintained lower population sizes compared to the Sinhalese and Sri Lankan Tamils, the authors found that the Interior Adivasi clan seemed to have undergone a stronger reduction in their population size compared to the Coastal Adivasi, leading to a greater loss of their genetic diversity.

“We find the two Adivasi clans — the Coastal Adivasi and the Interior Adivasi — also have some differences in their genetic ancestry arising due to distinct geographic separation between them,” Rai said.

This, according to Raghavan, indicated that the Interior Adivasi clan must have undergone stronger pressures, perhaps societal or environmental, to keep the population size lower compared to their Coastal counterparts. Explaining how the two Adivasi clans are more similar to each other, but still have genetic differences at a fine scale, she said that this basically means at some point in time, due to geographic separation, the genetic and lifestyle attributes of the two clans started to drift apart.

Capturing the population history

In fact, the fragmented nature of the Adivasi clans also impacted the study sampling strategy. While 35 individuals representing the two large groups — Sinhalese and Sri Lankan Tamils — have been included in the analyses, the numbers for the two Adivasi populations were small: five from among the interior Adivasi and 14 from among the Coastal Adivasi. Though it would be ideal to keep matched sample sizes of different populations for genetic analyses, the reason for including only small numbers for the two Adivasi clans was because the Adivasi communities today are very fragmented.

“Historical, anthropological, as well as our genetic results all suggest that these communities live in small sizes and practice endogamy,” Raghavan said. “Because of endogamy, a lot of these individuals tend to be quite related to one another. Having really high relatedness in a group impacts the genetic analyses because then everybody’s going to look like each other. So that’s why our sample sizes were lower for the two Adivasi clans.”

Despite the number of individuals representing the two Adivasi clans being small, the researchers were able to recapture the entire population history of these two groups. The study was able to address the questions that the researchers set out to do despite the Adivasi sample sizes being small, according to Raghavan.

“Since every individual’s genome is a mosaic of their ancestor’s genomes, even a small number of individuals can represent their population’s genetic histories. Moreover, we didn’t find any



genetic outliers within the Adivasi clans. So, all the sampled individuals fit into the model that we propose,” Rai clarified.

“This is the first time that high-resolution genome data have been sequenced from multiple populations in Sri Lanka, including the Indigenous Adivasi and urban Sinhalese, to understand the deeply rooted ancestries and their population histories,” Rai added.

A LOOK AT INDIA’S SPORTS POLICY JOURNEY

The story so far:

Sport in India can trace its roots back to pre-historic times, when physical skills that are now foundational to modern sports were then integral to daily life. As hunters and gatherers, humans relied on abilities like archery, wrestling, swimming, and climbing, not for recreation, but for survival. These have now evolved into the individual and team sports that we are familiar with today.

How did sports do post 1947?

India’s sports policy journey since 1947 must be seen in the context of the nation’s broader socio-economic development. Post the British Raj, India’s prime focus was on rebuilding the nation by addressing poverty, health, and education. It is therefore understandable that sectors like sports did not feature prominently in the national agenda. Even so, India hosted the first Asian Games in New Delhi in 1951, a bold assertion of the country’s regional aspirations and soft power. In 1954, the government set up the All-India Council of Sports (AICS) to advise on sports matters, support federations, and fund elite athletes.

However, allocations were modest, resulting in athletes missing international competitions due to a lack of financial support. For nearly three decades, nothing notable transpired on the policy front. Yet, India’s men’s hockey team dominated the Olympics from 1920 to 1980. And Indian athletics saw stars emerge such as Milkha Singh (200/400m), Gurbachan Singh (decathlon), Praveen Kumar Sobti (discus and hammer throw), and Kamaljeet Sandhu, the first Indian woman to win an individual gold medal at the Asian Games.

When did India’s sports policy begin?

The 1982 Asian Games catalysed change. The government created a dedicated Department of Sports under the Ministry of Human Resource Development. Riding the post-Games momentum, India finally unveiled its first National Sports Policy (NSP) in 1984. The NSP 1984 aimed to improve infrastructure, promote mass participation, and raise standards in elite sports. It also stressed the importance of integrating sports with education, which was formalised in the 1986 National Education Policy. That same year, the Sports Authority of India (SAI) was established to implement policy, and athlete development programs.

While global sports ecosystems evolved rapidly between 1986 and 2000, they remained tepid in India. Sports is a ‘State’ subject in the Constitution and though the Union government had earmarked it a modest budget, the involvement of society and markets were minimal. Policies remained weak, and implementation inconsistent. India’s economy too remained sluggish through the 1980s. However, 1991 marked a turning point, with the emergence of liberalisation. This economic shift coincided with cultural changes. Cable television, global exposure, and a rising middle class brought greater visibility and aspiration for sports. A Draft NSP in 1997 recognised



this, proposing that States focus on broadbasing, while the Union concentrated on elite excellence. But it never went beyond the draft stage.

How has sports evolved post-2000?

In 2000, India created a dedicated Ministry of Youth Affairs and Sports (MYAS). A revised National Sports Policy was launched in 2001, setting clearer goals for mass participation and international excellence. This period also saw sports feature in the Union Budget, albeit with a small allocation. India's Olympic medal tally remained modest, with Rajyavardhan Rathore's silver (2004), Abhinav Bindra's gold (2008) and bronzes in boxing from Vijender Singh (2008) and Mary Kom (2012).

In 2011, the National Sports Development Code (NSDC) was introduced, aiming to regulate and professionalise National Sports Federations (NSFs). It addressed governance, anti-doping, age fraud, betting, gender issues etc. but as always, implementation remained the hurdle.

However, several impactful schemes were launched over the years — TOPS (Target Olympic Podium Scheme 2014) provided elite athletes with coaching, nutrition, and infrastructure support; Khelo India (2017) conducted youth talent identification across schools and universities; and the Fit India Movement (2019) promoted physical activity and fitness as a public health priority.

Can India host the Olympics?

India's intent to host the 2036 Olympics has ignited momentum. In 2024, the government released both the Draft National Sports Policy and the Draft National Sports Governance Bill for public feedback. Whether these make it to law remains to be seen. The good news is that yesterday the NSP 2025 was announced, unveiled as " Khelo Bharat Niti - 2025", reinforcing India's 2036 Olympic bid.

Similarly, measures that have been deliberated for a while, like the Draft National Code for Good Governance in Sports, 2017 should be given the go-ahead. India had the ignominious distinction of topping the latest global doping list released by WADA. It's about time for all stakeholders to move beyond self-interest and enforce reforms for the larger good of Indian sport. We must now prioritise scientific coaching, physical literacy, and sports education. Lasting change demands sustained action. Building a 'sporting nation' doesn't happen overnight.

SHORT NEWS

OTTAWA CONVENTION

- After Russia's extensive aerial attack on Ukraine, it is learnt that Ukrainian President Volodymyr Zelenskyy signed a decree to withdraw Ukraine from the Ottawa Convention banning antipersonnel land mines.
- Anti-personnel landmines are generally hidden in the ground and designed to detonate automatically when someone steps on them or passes nearby.
- The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction. It is the international agreement that bans



antipersonnel landmines. It is usually referred to as the Ottawa Convention or the Anti-Personnel Mine Ban Treaty.

PM MODI CONFERRED GHANA'S NATIONAL HONOUR

— Prime Minister Narendra Modi was conferred with 'The Officer of the Order of the Star of Ghana', the country's national honour, for his "distinguished statesmanship and influential global leadership".

— The award was conferred on the prime minister in recognition of his "distinguished statesmanship and influential global leadership," the Ministry of External Affairs (MEA) said in a press release.

IN GHANA, PM MODI SAYS POST-WORLD WAR II GLOBAL ORDER CHANGING FAST, CALLS FOR 'CREDIBLE' REFORMS TO GOVERNANCE

India and Ghana elevated their bilateral relationship to a "comprehensive partnership" on Wednesday as Prime Minister Narendra Modi and Ghanaian President John Mahama met in Accra. The two leaders decided to double bilateral trade in five years and increase cooperation in areas such as defence and healthcare.

PM MODI CONFERRED TRINIDAD AND TOBAGO'S HIGHEST CIVILIAN HONOUR

— Prime Minister Narendra Modi was conferred with 'The Order of the Republic of Trinidad and Tobago' – the country's highest civilian honour. Modi is on a two-day visit to the Caribbean island nation on the second leg of his five-nation tour.

— This is Modi's first visit to the country as prime minister and the first Indian bilateral visit at the prime ministerial level to Trinidad and Tobago since 1999.

— Modi said Trinidad and Tobago is not only a CARICOM partner for India but also an important partner globally. "Our cooperation is significant for the entire Global South," he added.

CARICOM

➔ CARICOM, the Caribbean Community, is a regional political and economic union of 15 states and five associated members. It was formed on 4 July 1973 after signing the Treaty of Chaguaramas.

➔ Member states: Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St Lucia, St. Vincent and the Grenadines, Suriname and Trinidad & Tobago.

➔ Of the 15, all except Montserrat are nation States. Anguilla, Bermuda, British Virgin Islands, Cayman Islands and Turks & Caicos Islands are Associate Members of the Community.

➔ The Chairmanship of the Community is rotated every six months among the member countries' Heads.



QUAD COMES TOGETHER TO CREATE SUPPLY CHAINS FOR CRITICAL MINERALS: CAN IT COUNTER CHINA?

In a direct reference to China, they said that “reliance on any one country for processing and refining critical minerals and derivative goods production exposes our industries to economic coercion, price manipulation, and supply chain disruptions, which further harms our economic and national security”.

F-35B LIGHTNING JET

- An engineering team from the United Kingdom arrived at the Thiruvananthapuram International Airport in Kerala to assess and repair the British Royal Navy’s F-35B fighter jet, which made an emergency landing on June 14 and had been stranded there for more than three weeks.
- The F-35B from the Royal Navy’s aircraft carrier HMS Prince of Wales made the landing in Thiruvananthapuram when it was undertaking a routine flight outside the Indian air defence identification zone, which is a designated area of airspace extending beyond a country’s sovereign territory.
- Thiruvananthapuram was designated as the emergency recovery airfield, a location where aircraft can land in the event of an in-flight emergency.
- The F-35B is the only fifth-generation fighter jet with short take-off and vertical landing (STOVL) capabilities, making it ideal for operating from smaller decks, austere bases, and ships. Known simply as the ‘Lightning’ in British service, the F-35B is the STOVL variant of the fighter jet, designed to operate from short-field bases and air-capable ships.

RAILONE APP

- The Railways Minister Ashwini Vaishnaw has launched the RailOne App as a one stop solution for all passenger services.
- The app integrates services spread across different apps into a single platform for reserved, unreserved and platform ticket bookings, live train tracking, grievance redressal mechanism through RailMadad, PNR enquiry and e-catering.
- Officials said that 3% discount will be offered on unreserved tickets purchased through R-Wallet.

PUNJAB’S LAND POOLING POLICY AND ITS CRITICISM

A land pooling policy, meant to acquire more than 40,000 acres of farmland for housing purposes, has triggered protests in Punjab.

The Land Pooling Policy, 2025 is a flagship initiative of the Punjab government with the stated aim of promoting “planned urban development”. Unlike in traditional land acquisition, where the state simply acquires land for compensation, the pooling initiative is meant to be voluntary.



NIPAH VIRUS

The Kerala Health Department has stepped up vigil against the Nipah virus after two positive cases of the deadly zoonotic disease were detected in two districts.

— Nipah is a viral infection that mainly affects animals such as bats, pigs, dogs, and horses but can jump to humans who come in contact with the infected animals and cause a serious disease. The transmission can happen due to “consumption of raw date palm sap or fruit that has been contaminated with saliva or urine from infected bats.”

— According to the US Centers for Disease Control and Prevention (CDC), its symptoms are fever, headache, cough, sore throat, difficulty in breathing, and vomiting. In severe cases, disorientation, drowsiness, seizures, encephalitis (swelling of the brain) can occur, progressing to coma and death.

SAMJUNG, NEPAL

— Samjung is a Himalayan village located in Nepal. After generations of herding and harvesting in the mountains, villagers in Samjung have been forced to relocate as snow fails, rains flood, and water sources disappear.

— The Hindu Kush and Himalayan mountain regions, stretching from Afghanistan to Myanmar, hold more ice than anywhere else outside the Arctic and Antarctic. Their glaciers feed major rivers that support 240 million people in the mountains, and 1.65 billion more downstream.

— Such high-altitude areas are warming faster than the lowlands. Glaciers are retreating and permafrost areas are thawing as snowfall becomes scarcer and more erratic, according to the Kathmandu-based International Centre for Integrated Mountain Development (ICMOD).

SUB LT AASTHA POONIA

— Sub Lieutenant Aastha Poonia has become the first woman to be streamed into the fighter stream of Naval Aviation, the Navy said Friday (4th July).

— Once she completes her year-long training, she would qualify for the fighter stream of naval aviation and may fly the MiG-29K or Rafale M fighter jet off the Navy’s aircraft carriers.

— Advanced flying training of India military pilots take place in the British-origin Hawk Mk 132 advanced jet trainer before they train on frontline fighter jets.

— The Navy operates two aircraft carriers, which are the INS Vikrant and INS Vikramaditya. The MiG-29K is the primary aircraft that operates from INS Vikramaditya.

NEERAJ CHOPRA CLASSIC 2025

— Neeraj Chopra, with a javelin throw of 86.18m, won the inaugural NC Classic 2025. Julius Yego (84.51m) and Rumesh Pathirage (84.34m) came second and third, respectively.

— NC Classic is India’s first-ever international javelin competition, which took place at the Sree Kanteerava Stadium in Bengaluru on Saturday (5th July).



BUSINESS AND ECONOMY

WHY CANADA MADE A U-TURN ON ITS CONTENTIOUS DIGITAL SERVICES TAX

In a bid to restart stalled trade negotiations with the United States, Canada scrapped its Digital Services Tax (DST) hours before it was due to take effect on Monday.

- Calling the DST “a direct and blatant attack” on the US, President Donald Trump had on Friday announced the termination of all trade discussions with Canada. With the contentious tax out of the way, talks between Washington and Ottawa will likely resume.
- The DST was a 3% levy on the digital services revenue a firm made from Canadian users above \$20 million in a calendar year. Controversially, the tax was set to be retroactively implemented beginning 2022.
- This would have had a significant impact on American technology giants such as Google, Meta, Apple, and Amazon — American tech companies would have had to pay roughly \$2.7 billion to the Canadian government, if the tax were to be implemented, The New York Times had reported.
- “The DST was announced in 2020 to address the fact that many large technology companies operating in Canada may not otherwise pay tax on revenues generated from Canadians...,” Canada’s finance ministry said in its statement.

Do You Know:

- Canada is the United States’ second-largest trading partner after Mexico, and the largest buyer of US exports. It bought \$349.4 billion of US goods and exported \$412.7 billion to the US last year, according to US Census Bureau data.
- At the same time, it currently faces the steepest of Trump’s tariffs: apart from the 10% base tariff imposed on most countries, Canada (and Mexico) face an additional 25% on all exports to the US, apparently meant to curb illegal immigration and stop fentanyl smuggling. Trump has also slapped 50% tariffs on steel and aluminium imports from Canada and 25% on auto imports.
- This makes getting a trade deal with the US a top priority for Canada. Scrapping the DST would help in this regard — Trump had been among its most vehement critics. Early indications are that Washington and Ottawa could meet the previously-set July 21 deadline for a trade agreement.
- Domestically, the U-turn is unlikely to hurt Canada’s Prime Minister Mark Carney, despite his election platform revolving around standing up to the US President. This is because the DST was not particularly popular in Canada either since it could have raised the cost of all kinds of digital services — from hailing cab rides to streaming movies.

GERMANY SEEKS SKILLED MIGRANTS AMID AGEING POPULATION AND LABOUR CRUNCH

Germany, grappling with an ageing population and a labour shortage, is actively recruiting skilled workers from countries like India to sustain its economy. The country requires approximately 400,000 new workers annually to meet demand in sectors such as nursing, education, IT, gastronomy, and hospitality, a need projected to persist until the mid-2060s. To address this, Germany passed the Skilled Immigration Act in 2024, introducing reforms to attract foreign professionals. A key component is the **Opportunity Card**, allowing non-EU nationals to reside in



Germany for up to one year while seeking employment, based on a points system evaluating qualifications, experience, language skills, and age.

India is a priority for Germany due to its vast labour pool. Over 137,000 Indians were employed in skilled roles in Germany as of February 2024, a significant increase from 23,000 in 2015, with an unemployment rate among Indians at just 3.7% compared to the national 6.3%. Indian students, numbering over 40,000, are the largest non-EU student group in Germany, valued for their language skills and high retention rates in the job market.

However, challenges persist. Germany's bureaucracy often delays immigration processes, and the country is navigating an economic recession exacerbated by Russia's war in Ukraine, which has driven up energy costs and impacted industrial jobs. The rise of the far-right **Alternative for Germany (AfD)** party, which gained 20.8% of votes in the February 2025 election, fuels anti-immigrant sentiment, though officials note that even AfD acknowledges the need for skilled labour. German officials emphasize a clear distinction between illegal migration, which they aim to curb, and skilled migration, which is broadly supported across political spectra.

Despite economic and political hurdles, Germany is modernizing its immigration system, including digital visa processes and bilateral agreements like the **Migration and Mobility Partnership Agreement (MMPA)** with India, aiming to issue 90,000 skilled labour visas annually to Indians. These efforts underscore Germany's urgent need to address demographic shifts and maintain economic stability through skilled immigration.

SENATE PASSES TRUMP'S SWEEPING TAX-CUT, SPENDING BILL, SENDS IT FOR HOUSE CLEARANCE

The Republican-controlled US Senate on Tuesday narrowly passed President Donald Trump's sweeping tax and spending legislation, a mammoth 940-page package that cements several of his key domestic priorities but adds an estimated \$3.3 trillion to the national debt.

- The bill, dubbed the "One Big Beautiful Bill Act", passed in the Senate with a thin 51-50 margin, with Vice President JD Vance casting the tie-breaking vote after over 24 hours of debate. Only three Republican senators defected.
- The legislation now heads to the House of Representatives, where it is expected to face a tight vote in the coming days. Trump has set a July 4 Independence Day deadline for Congress to send the bill to his desk, putting pressure on House Republicans — who hold a narrow 220-212 majority — to fall in line.
- If passed, the legislation would make permanent the Trump-era 2017 tax cuts for businesses and individuals, while introducing new tax breaks for overtime workers, tipped income, and senior citizens. It also provides tens of billions for immigration enforcement and scraps major components of former President Joe Biden's green-energy initiatives, a report by news agency Reuters reported.
- However, the bill has drawn sharp criticism for deep spending cuts to Medicaid and food assistance, tighter eligibility for safety net programs, and an overall increase in the national debt. According to the nonpartisan Congressional Budget Office (CBO), the Senate version adds \$800 billion more in debt than the version previously passed by the House in May.



Do You Know:

- The latest draft of the One Big Beautiful Bill Act, released early on Saturday, has some notable differences from the earlier version which was passed in the House of Representatives in May by a single vote. Senators have been working through the weekend to pass the bill and send it back to the House for a final vote as Trump told Republicans to skip holiday vacations and deliver the bill by July 4.
- Republican leaders hold a narrow majority in the House and Senate and would require a complete unity in their group for the bill to be passed. However, criticism of the bill by GOP cheerleaders, like Elon Musk have given a headache to the Trump administration and the passage of the bill.
- Key changes have been made in the One Big Beautiful Bill Act, latest draft of which has been released on Saturday. The changes include increased cuts to Medicaid, increased proportion of tax deduction for older Americans under Social Security taxes, increasing the deduction limit for state and local taxes (SALT).

NEW U.S. DRAFT LAW ON FOREIGN REMITTANCES DILUTES TAX RATES, SPARES CARD TRANSFERS

U.S. legislators have significantly diluted a provision in a proposed law to tax remittances to other countries. The latest draft of the “One Big Beautiful Bill Act”, released on Friday, reduces the tax on remittances to 1% from the earlier proposal of 3.5%, and also exempts remittances made from bank accounts and other financial institutions, or made using debit or credit cards.

The 1% tax will now apply only on remittances made in cash, a money order, or a cashier’s cheque. According to international tax experts, this will come as a relief to the non-resident Indians in the U.S.

“There is hereby imposed on any remittance transfer a tax equal to 1 percent of the amount of such transfer,” the latest version of the Bill says. “The tax imposed by this section with respect to any remittance transfer shall be paid by the sender with respect to such transfer.”

“The tax imposed under subsection (a) shall apply only to any remittance transfer for which the sender provides cash, a money order, a cashier’s check, or any other similar physical instrument (as determined by the Secretary) to the remittance transfer provider,” the latest draft adds. It says that remittances made from “an account held in or by a financial institution” and “funded with a debit card or a credit card which is issued in the United States” are exempt from the tax.

The Act was passed by the U.S. House of Representatives in May. It is now up for debate in the U.S. Senate, following which it will be voted upon.

WHY ARE THE INFAMOUS BOND VIGILANTES HOLDING BACK THEIR FIRE?

Sovereign borrowers are hard to sue and harder still to enforce claims against. And because they are sovereign, they can do things that private companies can’t, like pass laws and inflate their currencies. Investors, and particularly foreign investors, therefore, should naturally be wary of lending to sovereigns. And yet, in many cases, they do.



For example, roughly a third of U.S. Treasuries were held in foreign hands as of March. Why take the risk? The answer given by academic theory is that investors typically lend to sovereign borrowers when the country has institutions in place to protect against the threat of expropriation. Conversely, if a country's institutions are weak, or weakening, creditors will significantly increase the sovereign's borrowing costs to compensate for the rising risk. The classic academic article on this topic was written by Douglas North and Barry Weingast in 1989. It considered the issue by examining constitutional arrangements in 17th century England.

The country was able to borrow significantly more, they argued, after putting in place effective institutions intended to assure investors that Parliament could, and would, check the monarch's temptation to expropriate. And that, in turn, helped England become a global superpower, they had said.

Trump premium?

So what about the United States? Since January, Donald Trump's administration has challenged many domestic institutional norms long considered key constraining mechanisms on the executive.

And then, there are the numerous international agreements the administration has backed out of or undermined, including the Paris Agreement on climate change and the World Health Organization. Moreover, the announcement of broad-based "reciprocal tariffs" challenges the foundation of the modern trade system as regulated by the World Trade Organization. Put all of the foregoing together, and we would have expected to see a significant move upward in U.S. Treasury yields.

But that hasn't happened. There have certainly been some signs of discontent among bond investors, including after Trump's "Liberation Day" tariff announcement and following his musings that Federal Reserve Chair Jerome Powell's termination "cannot come fast enough." In both cases, the bond market moves were notable but not earth-shattering. They did appear to have the desired effect, as the administration responded by either softening its language or postponing controversial policies, and these pivots led to market recoveries. But given the stakes, jumps of less than 75 basis points in the 10-year Treasury yield seem rather contained. It's also true that the term premium on the 10-year U.S. Treasury note – a measure of compensation investors demand for holding longer-dated U.S. government debt – hit a 10-year high in May, though that's far from elevated by historical standards.

Why are the infamous bond vigilantes holding back? There are several possible explanations. First, the theory about the link between institutional strength and borrowing costs could be wrong. Ultimately, bondholders care about one thing: getting paid.

And the risk of a U.S. default remains low. While investors have been getting antsy about the potential for Trump's One Big Beautiful Bill to add around \$3.3 trillion to the deficit over the next decade, according to the Congressional Budget Office, the dollar remains the world's reserve currency, so the U.S. has more room for fiscal profligacy than most. Indeed, U.S. Treasuries' long-held role as the global risk-free asset may be why yield spikes have been contained. The \$28 trillion U.S. Treasury market remains a key pillar of the global financial architecture, and there is no ready substitute with the same size, liquidity and depth. So it's understandable why investors are loath to flee.



TRUMP ADMINISTRATION'S PRESSURE ON GM PRODUCE UNDERLINES INDIAN FARMERS' PREDICAMENT

The Donald Trump administration is exerting pressure on India to open up its market to American soyabean and maize, which are both almost entirely genetically modified (GM) produce. These are crops where the US has huge stakes, with its exports of raw soyabean alone valued at \$24.5 billion and of maize at \$13.7 billion in 2024. It would be more — around \$52 billion — if exports of soyabean meal (\$6.3 billion) and maize-derived ethanol (\$4.3 billion) and dried distillers grains (\$3.1 billion) are added. The economic imperative to find new markets is reinforced by Trump's political compulsion to cater to voters in the "corn belt" states of the Midwestern US. Some of them, growing the bulk of the country's soyabean, maize and wheat — Illinois, Indiana, and Ohio — are also part of the "rust belt" that constituted its industrial heartland. With Trump having swept both belts in the presidential elections, he has to evidently return that favour.

For India, this presents a dilemma that has less to do with economics. Average soyabean yields in the US are more than 3.5 times that of India. That makes American growers much more cost competitive. Moreover, India imports close to 5 million tonnes (mt) of soyabean oil annually. From a domestic value addition standpoint, it makes sense to import soyabean itself, which can then be processed to yield both oil and the residual protein-rich cake or meal. The yield difference may be somewhat less for maize, where many Bihar farmers harvest almost the same per-hectare tonnage as their counterparts in Iowa or Illinois. But India's maize consumption is growing on the back of both feed and ethanol biofuel demand. Imports are going to be a practical necessity in both maize and soyabean meal, as rising incomes lead Indians to consume more dairy and other animal products that require these as key feed ingredients.

The problem is more political. Maize and soyabean are grown on areas of 12 million hectares and 13 million hectares respectively in the country. Given the sheer number of farmers involved, the government cannot be oblivious to their interests. But that's where policy own-goals have not helped either. GM technology has allowed US farmers to plant soyabean and maize varieties that can tolerate application of herbicides and resist deadly insect attacks. They are, therefore, able to harvest higher yields through better weed and pest control. Unfortunately, the same technology has been denied to Indian farmers, who are now expected to compete against imports from countries whose governments have not succumbed to Luddite interests. Blocking technology in the name of Swadeshi has led to India turning from a net exporter to importer of cotton. The Trump pressure is like adding salt to the wound.

4 RED LINES IN INDIA-US TRADE TALKS: CORN, ETHANOL, SOYABEAN & DAIRY

United States President Donald Trump has said his administration is going to sign "a very big" trade deal "to open up India", "where we are able to go in and compete (with) much less tariffs".

- India has maintained that agriculture and dairy are its "red lines" in its ongoing negotiations with the US. "There's no way we could do anything that would weaken our agriculture, our farmers' positions," Finance Minister Nirmala Sitharaman said in an interview with the Financial Express.

- It basically reduces to four farm products: corn (maize), ethanol, soyabean and dairy. On these, India imposes both tariff and non-tariff restrictions, and the US is pushing for greater market access.



- **Corn:** The US is the world's biggest maize producer and exporter, with an estimated 377.6 million tonnes (mt) output, as against India's 42.3 mt, in 2024-25. As much as 94% of the total area planted to corn in the US last year was under genetically modified (GM) varieties.
- India charges 15% duty on maize imports of up to 0.5 mt annually, with quantities beyond that attracting a higher 50% rate. Moreover, it neither grows nor allows import of GM maize.
- One proposal mooted is to permit import of GM maize exclusively for use as a feedstock to manufacture fuel ethanol. Over 46% of the ethanol being made available by Indian distilleries for blending with petrol is, in fact, currently coming from maize. That's more than the share of other feedstocks: Sugarcane juice/molasses (32%) and surplus/broken rice (22%).
- **Ethanol:** The US is the world's biggest producer and exporter of ethanol too. In 2024, it exported \$4.3 billion worth of ethanol, with India being the third largest market (at \$441.3 million) after Canada (\$1.5 billion) and United Kingdom (\$535.1 million).
- India now allows ethanol imports only against "actual user" licence for non-fuel industrial purposes. Imports can be for manufacturing alcohol-based chemicals, medicines or beverages, but not for blending in petrol and diesel.
- Given India's total projected ethanol consumption of 11,350 million litres in 2025, with fuel's share at 9,650 million and industrial use at just 1,700 million litres, the US would want an opening up of the market.
- **Soybean:** US is the second biggest producer and exporter of soyabean after Brazil. With 96% of acreage in the US and 99% in Brazil under herbicide-tolerant GM varieties, the average per-hectare yields of 3.4-3.5 tonnes in these two countries are way above India's 0.9 tonnes.
- India allows import of GM soyabean oil. However, imports of both whole GM soyabean and the residual de-oiled cake (DOC) after extraction of oil are prohibited. The reason: The GM protein matter is present only in the raw bean and DOC, not the oil.
- **Diary:** The US isn't as big a player as New Zealand and the European Union in dairy, when it comes to the global milk powder and butter trade.
- The duties that India currently levies — 30% on cheese, 40% on butter and 60% on milk powder — render imports from even low-cost producers such as New Zealand and Australia unviable.

Do You Know:

- In India, only the GM crop- Bt cotton- is allowed for commercial production since 2002. Cotton production increased remarkably from a mere 13.6 million bales (1 bale = 170 kg) in 2002-03 to 39.8 million bales in 2013-14, registering an increase of 192 per cent in just 12 years, ushering the famous "gene revolution"
- The success of Bt cotton holds many lessons for policymakers but it is not free from controversy and debate. Several concerns have been expressed by NGOs, civil society groups and farmers' groups from time to time to emphasise the risks associated with GM crops.
- Some of these include — enhanced sucking pest damage in Bt cotton; increase in secondary pests such as mired bugs and Spodoptera; emergence of pest resistance; environmental and health



implications in terms of toxicity and allergenicity that can cause hematotoxin reactions in the human body and, of course, farmers' exposure to a greater risk of monopoly in the seed business.

EXTERNAL RISKS TO INDIA'S GROWTH MOMENTUM REQUIRE DEFT HANDLING

In recent assessments of the world economy, agencies such as the World Bank and the International Monetary Fund have lowered their expectations of global growth this year, with trade policy shocks and geopolitical tensions affecting economic momentum. The IMF has, for instance, projected world growth at just 2.8 per cent in 2025, down 50 basis points from its assessment in January. The World Bank has pegged growth to slow down even further to 2.3 per cent this year, with most economies expected to witness a deceleration compared to last year. In the midst of this marked deterioration, the Indian economy is broadly expected to maintain its growth momentum.

The RBI had pegged growth for the year at 6.5 per cent, in line with the pace last year. In the recent State of the Economy report, economists at the RBI note that the high-frequency indicators for May point towards economic activity being "resilient". There are several points to note. For one, the agricultural sector appears to continue to fare well. According to the report, conditions have been "largely favourable" for good sowing in the ongoing kharif season. This bodes well for rural demand. The finance ministry's monthly review also says that "rural demand has strengthened further, supported by a healthy rabi harvest and a positive monsoon outlook". Alongside, capacity utilisation in the manufacturing sector remains "above its long-period average", and other high-frequency indicators such as E-way bills, toll collections and digital payments also point towards "strong growth".

But the performance of some other non-agri indicators suggests that, overall, it's a mixed trend. The index of industrial production rose by just 2.7 per cent in April, and the eight core sectors — coal, steel and cement, among others — grew by only 0.8 per cent during April-May. According to a note from ICRA, eight key indicators saw a deceleration in the same period. These include electricity generation, two-wheeler production, port cargo traffic and domestic airline passenger traffic. The RBI report notes that there are signs of moderation in urban demand. The finance ministry's report also acknowledges "signs of softening in areas like construction inputs and vehicle sales". Exports are another area of concern. Merchandise exports are up only 3 per cent in the year so far. Excluding petroleum, growth is better. But an uncertain trade environment and weak global demand hang heavy. As per the IMF, world trade is expected to grow at just 1.7 per cent this year, down 1.5 percentage points from its earlier assessment. The finance ministry's report also says the "external challenges could potentially impact India's growth trajectory". This will call for deft handling.

INDIA UNVEILS ALUMINIUM, COPPER VISION DOCUMENTS

On July 4, 2025, India unveiled its **Aluminium Vision Document** and **Copper Vision Document** at the International Conference on Sustainable and Responsible Mining in Hyderabad, marking a significant milestone in its pursuit of a Viksit Bharat (Developed India) by 2047. These strategic roadmaps, launched by Union Coal and Mines Minister G. Kishan Reddy, aim to transform India into a global hub for aluminium and copper production while prioritizing environmental responsibility and raw material security. As the country grapples with a demographic crisis, geopolitical tensions, and the global push for green technologies, these documents offer a forward-looking strategy to bolster economic growth and sustainability.



Aluminium Vision: Scaling Up for a Green Future

India, the world's second-largest aluminium producer, currently accounts for only 6% of global output, with a domestic production capacity of 4.2 million tonnes per annum (MTPA) and a secondary capacity of 2.0 MTPA, heavily reliant on imported scrap. The **Aluminium Vision Document** sets an ambitious target to increase aluminium production sixfold to 37 MTPA by 2047, driven by rising demand in clean energy, electric mobility, and infrastructure. To achieve this, the plan emphasizes:

- **Bauxite Production Expansion:** Scaling bauxite mining to 150 MTPA by 2047 (from 50 MTPA by 2030) to reduce import dependency, with Odisha, Chhattisgarh, and Andhra Pradesh as key reserve states. Less than 5% of India's vast bauxite deposits are currently mined, highlighting untapped potential.
- **Circular Economy:** Doubling the national aluminium recycling rate, with secondary production from domestic scrap projected to reach 6 MTPA by 2047, reducing reliance on imported scrap.
- **Low-Carbon Technologies:** Promoting green manufacturing through energy-efficient processes and renewable energy adoption, addressing the fact that 80% of aluminium production emissions stem from coal-fired captive power plants.
- **Investment Needs:** Requiring over ₹20 lakh crore to meet demand, alongside policy reforms to streamline environmental clearances and rationalize royalties.

This vision aligns with India's net-zero ambitions and global competitiveness goals, positioning aluminium as a critical enabler of clean energy systems and modern infrastructure. However, challenges like bureaucratic delays, environmental regulations, and underdeveloped downstream processing could hinder progress unless addressed through robust policy implementation.

Copper Vision: Building a Resilient Ecosystem

The **Copper Vision Document** anticipates a sixfold surge in copper demand by 2047, driven by India's energy transition, electric vehicles (EVs), solar power, and infrastructure growth. With domestic ore production at 3.78 MTPA in FY24 and heavy reliance on imports (worth \$3.3 billion in FY23), the document outlines a multipronged strategy:

Capacity Expansion: Adding 5 MTPA of smelting and refining capacity by 2030 to meet growing demand.

Recycling and Sustainability: Targeting 15–20% refinement of available copper scrap by 2047, supported by Extended Producer Responsibility (EPR) frameworks and reverse charge mechanisms to enhance domestic recycling.

Global Partnerships: Reducing dependence on open-market imports by securing overseas mineral assets, particularly from countries like Chile, Indonesia, Australia, and Peru.

Critical Mineral Status: Recognizing copper's inclusion in India's 2023 critical minerals list, the vision emphasizes its role in green technologies and strategic self-reliance.



The copper roadmap addresses India's limited proven reserves (only 18% of known geological resources) and aims to modernize infrastructure and boost value-added exports, moving beyond reliance on primary metal exports.

CHEMICAL EXPORTS: NITI FOR INCENTIVES & UPGRADES TO PORT INFRA, CLUSTERS

NITI Aayog, the government's apex public policy think tank, has proposed a series of measures to nearly double India's \$44 billion in annual chemical exports by 2030, noting that limited domestic demand remains a key barrier to faster growth in the sector.

- The measures outlined in a report released on Thursday include developing new and existing production clusters to enable scale, improving port infrastructure for better logistics and storage, and introducing a sales-linked incentive scheme to localise production and boost exports of critical chemicals.
- In 2023, India ran a trade deficit of \$31 billion in chemicals, and accounted for a share of 3.5 per cent in global value chains (GVCs) – against China's 23 per cent – according to the report. The domestic market was valued at \$220 billion in 2023, and the government and industry hope to increase that to \$1 trillion by 2040.
- The report said India could double its share in GVCs to 5-6 per cent by 2030, largely by shifting from bulk chemicals to high-demand specialty chemicals. Adequate policy interventions can also raise exports by 35-40 billion in 2030 from \$44 billion in 2023, it said.
- Towards that end, the report has proposed a sales-linked incentive scheme packaged as an operational expenditure (opex) subsidy to expand capacities. The subsidy will be aimed at reducing heavy reliance on specific countries for critical chemical imports and at boosting exports.
- The report also called for revamping existing cluster-based Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIRs) – namely Dahej, Paradeep, and Vizag. The Paradeep and Vizag PCPIRs are currently far from completion.
- It also recommended setting up a Chemical Committee to identify and address infrastructure gaps in port-based chemical trade, alongside developing eight high-potential clusters spanning 14 major and 12 minor ports across India.

CHINA'S FERTILISER SUPPLY SQUEEZE

China's unpredictable export restrictions aren't just limited to rare earth elements and magnets used in electric vehicles (EV), wind turbines, defence equipment and various consumer electronic devices.

- There are also affecting the supply of di-ammonium phosphate (DAP), a critical fertiliser containing phosphorous (P) nutrient that crops require during the early stages of root and shoot development. Farmers usually apply it at the time of sowing, along with the seeds.
- Opening stocks of DAP in India for the current kharif (monsoon) planting season on June 1, at 12.4 lakh tonnes (lt), were below the 21.6 lt for the same date of 2024 and 33.2 lt two years ago.



- Much of that is due to China drastically reducing exports and squeezing global supplies of phosphate fertilisers. This comes even as sowing activity has picked up, on the back of 8% above-average monsoon rainfall for the country as of June 29.
- DAP is India's second most-consumed fertiliser, with its average annual sales of 103.4 lt during the last five years next only to the 359 lt of urea. A significant chunk of that – an average of 57 lt for this period – is imported in finished form.
- China was until 2023-24 (April-March) a prominent, if not top, supplier of DAP to India. However, imports from China fell from 22.9 lt in 2023-24 to 8.4 lt in 2024-25. Not a single tonne from China has come into the country since the start of this calendar year.
- China's export curbs – to ensure that its farmers have access to the product first and also to meet the growing demand for phosphates in the production of EV batteries has led Indian importers to source more from Saudi Arabia, Morocco, Russia and Jordan. None of these countries have been able to fill the void left by China.

Do You Know:

- DAP contains 46% P and 18% nitrogen (N). There are many in the industry and agronomists who believe that Indian farmers should be discouraged from applying fertilisers with very high individual nutrient content, be it DAP or urea (46% N) and muriate of potash (60% potassium or K).
- Most crops don't need large doses of such high-analysis fertilisers. What they require is balanced fertilisation – through products having nutrients in the right quantities and proportions for effective absorption by the plant roots and leaves. These include complex fertilisers containing N, P, K and S in different combinations.
- DAP has, over the past few years, been virtually turned into a controlled fertiliser similar to urea. Capping or reducing DAP consumption would, perhaps, lead to a more efficient use of imported material and scarce foreign exchange.

BEHIND MAZAGON DOCK'S LANKA DEAL: EYE ON CHINA, COLOMBO BAILOUT PLEA

On June 27, 2025, India's state-owned Mazagon Dock Shipbuilders Limited (MDL) announced its acquisition of a 51% controlling stake in Sri Lanka's Colombo Dockyard PLC (CDPLC) for \$52.96 million, marking its first international venture. This landmark deal, driven by a mix of strategic, economic, and geopolitical imperatives, positions India to strengthen its maritime influence in the Indian Ocean Region (IOR) while addressing Sri Lanka's economic distress and countering China's expanding footprint. The move aligns with India's **Neighbourhood First** policy and reflects a calculated effort to reshape regional dynamics.

Strategic Context: Countering China's Influence

The acquisition is a direct response to China's growing maritime presence in Sri Lanka, a critical node in the IOR. China's 85% stake in Hambantota International Port Group (HIPG), secured through a 99-year lease in 2017, and its agreement with CDPLC in July 2024 to establish a workshop at Hambantota have heightened India's concerns about Beijing's strategic encirclement. Located just 76 nautical miles from major global shipping lanes, Colombo Dockyard's proximity to these routes makes it a prized asset. By acquiring CDPLC, MDL gains a strategic foothold in a



key maritime corridor, enabling India to challenge China's dominance in Sri Lanka's port sector and secure a frontline outpost in a contested region. This move complements other Indian investments, such as Adani Ports' development of the Colombo West International Terminal, signalling a broader push to counterbalance China's influence.

Economic and Operational Synergies

The deal was catalysed by Sri Lanka's economic crisis and CDPLC's financial distress, with losses of LKR 2.48 billion (₹70.7 crore) in 2024 and liabilities of LKR 38.28 billion. The exit of Japan's Onomichi Dockyard Co. Ltd., CDPLC's majority shareholder, in November 2024 prompted Sri Lanka to seek Indian investment to avert a default that would have jeopardized workers' pensions and local industries. MDL, with its \$15.12 billion market capitalization and a \$3.7 billion order book, was shortlisted for its financial strength and shipbuilding expertise, outpacing competitors from the UAE and Sri Lanka.

The acquisition promises mutual benefits. MDL plans to channel ship repair, refit, and new-build contracts to CDPLC, leveraging its strategic location and five decades of experience in building offshore support vessels, tankers, and patrol boats for clients across Asia, the Middle East, and Africa. This will create a steady revenue stream, potentially turning CDPLC debt-free within five to six years, while enhancing MDL's global reach and operational synergies. The deal aligns with India's Maritime Amrit Kaal Vision 2047, aiming to transform MDL into a global shipbuilding leader and foster regional maritime self-reliance.

BEHIND CURBS ON BANGLADESH JUTE PRODUCTS: DHAKA PROXIMITY TO BEIJING, IGNORING EXPORT MALPRACTICES

Delhi's strained ties with Dhaka and the growing proximity between its interim government and Beijing, common malpractices by Bangladesh exporters including circumvention of anti-dumping duty (ADD) through technical exemptions, and influx of cheap, subsidised imports harming Indian farmers are the reasons why India has decided to ban import of jute products and woven fabrics from Bangladesh through all land routes, officials told The Indian Express.

- This latest move comes a little over a month after India decided to place restrictions on Bangladesh products to be exported to North-East India and overseas.
- On Friday, Delhi banned import of certain jute products and woven fabrics from Bangladesh through all land routes, permitting entry only through the Nhava Sheva seaport in Maharashtra. The Directorate General of Foreign Trade (DGFT), in a notification, said that such port restrictions would not apply to Bangladeshi goods transiting through India to Nepal and Bhutan.
- The goods under these curbs include jute products, flax tow and waste, jute and other bast fibres, jute, single flax yarn, single yarn of jute, multiple folded, woven fabrics or flex, and unbleached woven fabrics of jute.
- Officials said that under the SAFTA provisions, jute from Bangladesh enjoys duty free access to India. "However, the Indian jute industry has, for long, suffered due to the adverse impact of dumped and subsidised imports of jute products, particularly yarn, fibre and bags, from Bangladesh," an official said.
- The imposition of ADD has not yielded a substantial reduction in imports. Various large exporters managed to circumvent ADD through technical exemptions, exports through exempted



firms (whose exports go beyond their production capacity), and mis-declaration to secure higher subsidies within, the official said.

- “Imports, which stood at USD 138 million in FY 2016-17 prior to the levy of ADD, marginally declined to USD 117 million in FY 2021-22 and have since risen to around USD 144 million in FY 2023-24. Consequently, prices of jute in India fell below Rs 5,000 per quintal for FY 2024-25, against the minimum support price (MSP) of Rs 5,335, creating a vicious payment/ liquidity cycle.
- Six mills remain closed with dues of Rs 1,400 crore, adding to Rs 400 crore in legacy dues from the mills. Additionally, the influx of underpriced finished jute goods from Bangladesh has resulted in significant under-utilisation of capacity in Indian mills, threatening their long-term viability,” another official said.
- While Bangladesh made nominal adjustments in response to complaints, the government, the official said, continues to incentivise exports, particularly of value-added jute products.

Do You Know:

- Raw jute is produced mainly in the states of West Bengal, Bihar, Assam, Odisha, Andhra Pradesh, Tripura and Meghalaya. It is estimated that the jute industry provides direct employment to over 4 lakh workers in organised mills and in diversified units including tertiary sector and allied activities, and supports the livelihood of around several lakh farm families.
- In a bid to safeguard the interests of the domestic jute industry and to counter the unfair trade practices employed by the Bangladesh exporters acting in collusion with the establishment, the official said that it has been decided to restrict Bangladesh imports of jute and jute products to India through only from Nhava Sheva port.

DEMAND DISTRESS

The new financial year has gotten off to a relatively poor start when it comes to industrial production. Growth in the Index of Industrial Production slumped to a nine-month low of 1.2% in May 2025. This follows an eight-month low of 2.6% in April. Taken together, this puts the average growth in the index so far in 2025-26 at just 1.9%, down from the 5.7% average in 2024-25. A major reason behind the dip in May's industrial performance was due to the electricity sector, which contracted 5.8%, its worst performance since June 2020, nearly five years ago. This poor performance in electricity generation can be put down to an unusually cool May, but it could also point towards lower offtake for industrial purposes. The fact also remains that the slowdown in the overall IIP has been broad-based — several key sectors have either contracted or slowed sharply. The manufacturing sector slowed to a growth of 2.6% in May, down from 5.1% in May last year. A deeper look shows that this slowdown was driven by contractions in the manufacture of textiles, leather products, chemicals, pharmaceuticals, electronics, and furniture. While some of these are core sectors, most are consumer-facing, implying that demand in the economy is not picking up, and may even be slackening further. This is backed by the fact that the consumer durables and nondurables sectors simultaneously contracted for the first time since November 2023.

A sub-sector analysis of this data further reinforces the takeaway that demand is weak. Within consumer durables, the IIP data showed significant contractions in the production of footwear, books, plastic furniture, shaving razors, stainless steel utensils, computers, phones, air-conditioners and coolers. These are all items of discretionary spending, not strictly essential,



which implies that people are holding off on their purchases. Even among consumer non-durables, the items that have seen contractions — such as meat, honey, fruit juice, jams, sugar and bottled water — are those that are eschewed the quickest during lean periods. The situation does not seem to have improved much in June either. The private sector manufacturing Purchasing Managers Index report, released on Tuesday, shows that while demand for intermediate goods is doing well, the same cannot be said for either capital or consumer goods. In recent interviews, Finance Minister Nirmala Sitharaman has expressed confidence that urban demand is recovering and that Budget 2025's tax breaks will boost demand by the time the festival season rolls around. The progress of the monsoon so far indicates that rural demand may indeed pick up by then, but urban demand remains a worry. With trade remaining subdued and uncertain, domestic demand weakness does not augur well for the economy in 2025-26.

CEASE THE CESS

The eighth anniversary of the Goods and Services Tax (GST) in India, on July 1, coincided with the poorest tax collections the indirect tax system has seen in some time, highlighting the need for structural changes in the system. The latest GST collections stood at ₹1.85 lakh crore in June 2025, the lowest in four months. This amount was just 6.2% higher than the collections in June 2024, the slowest growth rate in four years. Looking past the gross collections, the data show that once refunds are accounted for, the growth in the government's actual collections was just 3.3%. Further, the revenue from domestic transactions, excluding imports, was an anaemic 4.6% higher than in June last year — barely faster than the average rate of inflation since then. Being a consumption tax, a dip in GST collections reflects a dip in economic activity. But it also reflects inefficiencies in the system, which must now suitably be addressed eight years on. A common demand is for fuel to be included in GST. There is, however, strong resistance to this from State governments, since fuel and alcohol are the few sources of revenue States have with them that are independent of the Centre. However, this cannot be reason enough to perpetually keep these items excluded. It is 'one nation, one tax' after all, and it is high time that the goal was achieved in full. As for the revenue hit to States, the Centre must accede to their request for a higher share in central taxes. The Centre must also stop increasingly relying on non-shareable cesses for its revenue. For their part, States must resist the temptation to use this higher amount on election-oriented untargeted freebies. Trust goes two ways.

The other popular reform is a reduction in the number of GST rates. This, too, is overdue, and the GST Council's fitment and rate-setting committees are examining the issue. Connected to this is the question of what is to be done with the GST Compensation Cess, which is levied over and above the 28% slab. It was originally intended to compensate States for any losses arising out of GST implementation for a period of five years. It was then extended until March 2026 to repay the loan taken by the Centre to pay this compensation since the COVID-19 pandemic had disrupted revenues. The Centre should avoid the temptation to subsume this cess into the broader GST rates. Instead, with its job done, the cess must be removed. Taxation is not just a covenant between the Centre and the States. It is also one with the people. Removing a cess that is no longer needed will not only garner public praise but could also spur some sorely needed urban consumption.

RBI STUDY PROPOSES DAILY FINANCIAL CONDITIONS INDEX TO TRACK MARKET TRENDS

In a bid to enhance real-time monitoring of the country's financial health, a recent study by the Reserve Bank of India (RBI) has proposed the construction of a Financial Conditions Index (FCI) for India with daily frequency.



- The proposed FCI would serve as a composite indicator, designed to capture and reflect the prevailing conditions across key segments of the financial system — including the money market, government securities (G-sec), corporate bonds, equities, and the foreign exchange market.
- According to the RBI research study, the index aims to provide a high-frequency gauge of how tight or easy financial market conditions are, relative to their historical average since 2012.
- By aggregating signals from various market-based indicators, the FCI is expected to offer valuable insights into the broader financial environment, potentially aiding policymakers, analysts, and market participants in decision-making. The proposed construction marks a significant step towards improving the assessment of macro-financial dynamics in India's rapidly evolving financial landscape.
- Financial conditions continued to remain relatively easy since mid-2023 before firming up from November 2024. In the current financial year, however, it has remained congenial riding on a buoyant equity market and a money market suffused with liquidity, the study said. "The newly constructed FCI for India assesses the degree of relatively tight or easy financial market conditions with reference to its historical average since 2012.
- The FCI is based on twenty financial market indicators at daily frequency for a long period and closely tracks the turning points in financial conditions, as observed across major episodes in the sample period," it said.
- The study said a higher positive value of the FCI is indicative of tighter financial conditions. To present our results, we use the standardised FCI. Standardisation helps in interpreting the changes in financial condition in terms of standard deviation units.

Do You Know:

- The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934. The Central Office of the Reserve Bank was initially established in Kolkata but was permanently moved to Mumbai in 1937. Though originally privately owned, since nationalisation in 1949, the Reserve Bank is fully owned by the Government of India.
- The Preamble of the Reserve Bank of India describes the basic functions of the Reserve Bank as: "to regulate the issue of Bank notes and keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage; to have a modern monetary policy framework to meet the challenge of an increasingly complex economy, to maintain price stability while keeping in mind the objective of growth."

ACROSS PARAMETERS, THE INDIAN BANKING SYSTEM IS PASSING THE TEST

The banking system in India is in sound financial health. Banks have over the years built up sufficient capital and liquidity buffers and their asset quality has been improving further. This has been detailed in the RBI's latest Financial Stability Report. Gross NPAs (non-performing assets) have fallen to 2.3 per cent as of March 2025, down from 2.8 per cent the year before. Alongside, the capital position of banks has strengthened — the capital to risk-weighted assets ratio has risen to a high of 17.3 per cent as of March 2025 — and their provision coverage ratio also remains healthy.



In the recent past, one area of concern has been the sharp rise in household debt. Household debt was estimated to have surged from 36.6 per cent of GDP in June 2021 to 42.9 per cent as of June 2024. The latest report pegs it at 41.9 per cent in December 2024. In comparison, the ratio averaged around 33 per cent between 2015 and 2019. While the current levels of debt may well be lower when compared to other emerging market economies, it is concerning that households have been taking on more loans for consumption, and not investment purposes. In fact, non-housing retail loans have grown at a faster pace than housing, business and agricultural loans. These loans now account for 54.9 per cent of all household debt and 25.7 per cent of disposable income as of last year as per the report. Within retail credit, unsecured lending, which forms a quarter of retail loans, has seen weakness. As per the central bank, new slippages in this category account for a significant share of slippages in all retail loans, with the private banks appearing to fare worse. Public sector banks are also seeing possible signs of stress building up. Stress is also evident in the microfinance segment — loans 31-180 days past due have risen to 6.2 per cent. These areas warrant closer monitoring.

The banking system, however, remains well capitalised. The central bank routinely conducts stress tests to gauge the strength of banks. In the current uncertain global economic environment, these tests perform a critical function. The tests conducted by the RBI accounted for various adverse scenarios — from “heightened geopolitical risks and escalation of global financial market volatility” to “a synchronised sharp growth slowdown in key global economies”. They revealed that even if economic conditions take a turn for the worse, no bank would fall short of the regulatory minimum capital ratios. This is a welcome result.

SEBI BANS JANE STREET OVER ₹4,843 CRORE ‘UNLAWFUL EARNINGS’

In a landmark regulatory move, the Securities and Exchange Board of India (SEBI) has barred global proprietary trading giant **Jane Street** from Indian markets, citing “unlawful earnings” of ₹4,843 crore through unfair use of algo-based arbitrage strategies. The scale and swiftness of this action reverberate far beyond the confines of India’s financial ecosystem—it signals a clear intent to enforce compliance, regardless of the stature or nationality of the market participant.

This episode marks a critical turning point in India’s maturing capital markets. While high-frequency and algorithmic traders such as Jane Street bring liquidity and efficiency, they also challenge regulatory frameworks not designed to handle hyper-automated strategies exploiting structural inefficiencies. SEBI’s action is not just punitive—it is preventive. It draws a boundary between **legitimate arbitrage** and **systematic manipulation**, and it is a necessary step to ensure that India’s burgeoning retail investor base is not left exposed to predatory tactics hidden behind sophisticated technology.

Critics argue that such moves may spook foreign participation or reduce liquidity in derivative markets. However, this concern misses the broader picture. Market integrity is non-negotiable. Robust enforcement of fair trading practices lays the foundation for **sustainable foreign investment** and **domestic investor confidence**. As the **Economic Times** rightly puts it, “no cutting corners on compliance rules” can be allowed—especially when the stakes involve billions and systemic trust.

Furthermore, the Jane Street case has exposed **structural vulnerabilities** in India’s derivatives market. Complex expiry mechanisms and index-related loopholes need a comprehensive redesign. As **Reuters** and **Financial Times** point out, this incident should accelerate long-pending



reforms—such as tightening margin frameworks, increasing real-time oversight of algo strategies, and improving transparency in cross-market trades.

Most importantly, this case has global ramifications. It may trigger a wave of reassessments across other emerging markets and international regulators dealing with the expanding influence of proprietary trading firms. SEBI has sent a powerful message: **India will not be a soft spot for opaque financial engineering.**

This is more than a regulatory win—it is a message to every global investor and every Indian citizen who believes in clean markets: rules will be enforced, fairness will be defended, and the integrity of Indian financial markets will not be compromised.

INCOME SURVEY WILL HELP MAP CHANGES IN INDIAN ECONOMY

In the past few years, the government has taken several steps to plug gaps in data availability. Recently, after considerable delay, it announced the dates for carrying out the Census. This week, it took another step towards making information robust — a household income survey has been tentatively scheduled for 2026. An expert committee has been formed to guide the statistics office in this endeavour. This is a welcome development.

The government has attempted to collect household income data in the past as well. But these exercises have not yielded the desired results. For instance, data on household receipts and disbursements was collected as part of the Integrated Household Surveys during July 1964-June 1965 and July 1969-June 1970. But “the estimates of income were lower than the estimates of consumption and savings put together”. Such underestimation is not confined to survey estimates of household income. The household consumption expenditure surveys have also been criticised for underestimating consumption when compared to the expenditure estimates in the National Accounts. Some other surveys do collect information on income, but their scope is limited. For instance, the periodic labour force surveys collect data on wages and salaries of casual labour and regular wage/salaried employment. The Situation Assessment of Agricultural Households also provides estimates of income, though only for a segment of the population. The 2019 survey collected information on income from wages, from leasing out land, from crop production (net), farming of animals, and from non-farm business. In the absence of an official all-India survey of household incomes, expenditure data from the consumption surveys tends to be used as a proxy. This data is used to estimate both poverty and inequality. However, independent surveys such as the India Human Development Survey show that inequality based on household income is higher than that based on consumption.

There will be several issues to contend with. Households may not accurately report their incomes, with some preferring not to disclose all their avenues of income. Some jobs — and thus the incomes that accrue — are seasonal in nature. Respondent recall may not be accurate. The extent of underestimation could be greater among households at the higher end of the distribution. However, granular data on incomes in society, collected regularly over a period of time, will not only provide a wealth of information about households, but also greatly assist in understanding changes in the economy and society. For example, the University of Michigan’s Panel Study of Income Dynamics, which began in 1968 with a sample of 18,000 individuals over 5,000 families, has collected information on these individuals and their descendants across several parameters such as income, expenditure, health and education. This allows for an exploration of various facets of the US economy and society across generations. Such surveys can greatly aid policymaking.



INDIA'S TOP 5% CUT DOWN ON CALORIES IN 2023-24, GAP WITH BOTTOM 5% NARROWS

The difference in daily per capita calorie intake between India's top and bottom 5 per cent of consumers narrowed in 2023-24, with the former eating fewer calories and the latter increasing their intake.

- In 2023-24, the top 5 per cent of Indians in urban areas, as measured by their Monthly Per Capita Consumption Expenditure (MPCE), consumed 3,092 kilocalories (Kcal) per day, 82.3 per cent more than the 1,696 Kcal of the bottom 5 per cent, according to nutritional intake data based on the statistics ministry's latest Household Consumption Expenditure Survey (HCES). In 2022-23, the difference was 114.3 per cent.
- In rural India, the daily calorie intake of the top 5 per cent was 2,941 Kcal, 74.2 per cent higher than that of the bottom 5 per cent's 1,688 Kcal. In 2022-23, the difference was 93.9 per cent.
- Overall, the daily per capita calorie intake in rural India in 2023-24 was down 0.9 per cent from 2022-23 at 2,212 Kcal, while that in urban areas was 0.4 per cent lower at 2,240 Kcal. Compared to 2011-12, the daily per capita calorie consumption in urban areas was 1.5 per cent higher in 2023-24, although it was down 0.9 per cent in rural areas.
- The narrowing of the gap in daily per capita calorie intake between the top and bottom 5 per cent in both rural and urban areas was primarily a result of lower consumption by the top 5 per cent and an increase in intake by the bottom 5 per cent.
- According to the MoSPI data, the calorie intake of the top 5 per cent of Indians in urban regions fell by as much as 11.1 per cent in 2023-24 from 2022-23. The reduction in calorie intake of the top 5 per cent in rural areas was 5.6 per cent.
- Interestingly, Indians in urban areas reduced their daily consumption of fat in 2023-24 to 69.8 grams (gm) from 70.5 gm in 2022-23, while those in rural areas increased it to 60.4 gm from 59.7 gm.
- Protein intake, meanwhile, was largely steady. In rural areas, the daily per capita protein intake in 2023-24 was 61.8 gm as against 61.9 gm in 2022-23. The intake was higher in urban areas at 63.4 gm, marginally up from 63.2 gm in 2022-23.
- This marks a departure from the situation in 2011-12, when daily per capita protein intake was slightly higher in rural India than urban. In 2011-12, the average daily protein intake was 60.3 gm in urban areas and 60.7 gm in rural areas.

Do You Know:

- Officially approved poverty measurement in India has involved estimating the level of consumption expenditure sufficient to enable the minimum calorie intake necessary for living and working. As calories measure the energy ingested through food and drink, the methodology represents a physiological approach.
- The poverty line is the level of income used as a cut-off point for deciding who is poor in any economy. It represents the minimum income level necessary to meet basic needs, and varies across countries depending on their overall economic conditions. It is important to note here that the context (both time period and location) is critical to arriving at a meaningful poverty line.



WHERE DOES INDIA LAG IN GENDER METRICS?

The story so far:

India dropped two places in the World Economic Forum's Global Gender Gap Index for 2025, slipping to the 131st rank out of 148 countries. While the gender gap has narrowed or remained stable in the case of three categories — economic participation and opportunity; educational attainment; health and survival — it has worsened in the case of political empowerment. At a time when rising numbers of women are voting in elections, the number of women in the highest halls of power remain stubbornly low. This is set to change in 2029, when mandatory 33% reservation for women in State and national legislatures is set to kick in, but steps need to be taken to ensure the benefits of this law extend to the long term.

What led to the drop?

The Index uses three indicators to assess political empowerment, with India falling in two — the percentage of women in Parliament, which dropped from 14.7% (78 MPs) in 2024 to 13.79% (74 MPs) in 2025 after the general election for the 18th Lok Sabha; and the percentage of women in ministerial positions, which dropped from an already abysmal 6.45% in 2024 to just 5.56% in 2025.

What will change after women's reservation?

The legislation for 33% reservation for women in the Lok Sabha and in State legislatures was passed after a long wait in 2023, but as it is tied to a new Census and delimitation exercise, it can only be implemented from the 2029 general election at the earliest. Women's representation in the Lok Sabha has ranged from 3.4% in 1977 to 14% in 2019. At the time of the passage of the women's reservation legislation in 2023, women accounted for only 9% of MLAs in State Assemblies, with Chhattisgarh having the highest representation (18% women MLAs), while Himachal Pradesh had just one woman MLA and Mizoram had none. Jacking these figures up to at least 33% will give a significant boost to India's political empowerment scores.

The catch is that reservation is only valid for 15 years from the time the law passes, meaning that it is likely to be implemented in only two general election cycles, 2029 and 2034, raising concerns about the sustainability of gains women would make in this period. Also, while more women may become MPs, it remains to be seen if ruling parties also appoint them to ministerial roles in higher numbers, increasing their representation in actual governance. Despite the three-decade old 33% reservation for women at the panchayat and municipality level, which has been increased to 50% in most States, there is no clear pipeline to draw such local leaders into State-level politics.

Does the rise in women voters matter?

Back in 1952, 28 lakh women were excluded from voting in the general election as they were listed on the electoral rolls only as someone's mother or wife, with their own names missing. The gender gap among voters has narrowed speedily since then, from 17 percentage points in 1962 to less than two percentage points in 2014. In fact, in the last two general elections, women voters have actually overtaken men, though this can also be partially attributed to rising male migration for employment, leaving men unable to vote in their home States. The rising numbers of women voting has led to political parties wooing women as a votebank, with a slew of welfare schemes aimed at women, ranging from free bicycles for girls to a monthly allowance for poorer women.



How to increase women candidates?

The trend with respect to women voters, however, has not translated into an increase in women's representation. "Political parties continue to give lower representation to women candidates in so-called 'good seats', often citing a lack of winnability," says Rahul Verma, a political scientist at the Centre for Policy Research, noting that many parties field women in seats reserved for Scheduled Caste/Tribe candidates, in a bid to offset that quota.

"Women voters do not automatically vote for women candidates. Gender is not like caste, where voters may vote on the basis of identity. Women are much more practical, looking for actual programmatic delivery," says Tara Krishnaswamy of Political Shakti, a non-partisan group working to improve women's representation in politics. However, she dismisses parties' excuses that women candidates are not winnable. "In every general election since 1952, women candidates have had a higher winning percentage in comparison to men. The problem is that women do not make it to the candidates list... Women candidates in the lists of recognised parties average about 8% or 9%," she says.

CABINET APPROVES EMPLOYMENT-LINKED INCENTIVE SCHEME FOR FORMAL JOB CREATION

With an objective to boost employment generation in formal sectors, especially in manufacturing, the Union Cabinet approved the Employment Linked Incentive (ELI) scheme on Tuesday. The scheme, which was announced in the Union Budget for 2024-25, presented in July 2024, has an outlay of Rs 99,446 crore and aims to create 3.5 crore jobs over two years.

- The Union Cabinet, chaired by Prime Minister Narendra Modi, approved the ELI scheme to "support employment generation, enhance employability and social security across all sectors, with special focus on the manufacturing sector", an official statement said. Information & Broadcasting Minister Ashwini Vaishnaw said the ELI will be focussed on the manufacturing sector and will have two parts — part A for first timers and part B for sustained employment.
- Part A of the scheme focuses on first-time employees by providing them a wage subsidy of up to one month's wage, up to a maximum amount of Rs 15,000, while Part B of the scheme has incentives for employers to create additional employment. Out of the total 3.5 crore employees expected to benefit from the scheme, around 1.92 crore persons are seen to be first-timers entering the workforce.
- Targeting first-time employees registered with the Employees' Provident Fund Organisation (EPFO), Part A will offer one-month EPF wage up to Rs 15,000 in two instalments. "Employees with salaries up to Rs 1 lakh will be eligible. The first instalment will be payable after six months of service and the second instalment will be payable after 12 months of service and completion of a financial literacy programme by the employee.
- To encourage the habit of saving, a portion of the incentive will be kept in a savings instrument of deposit account for a fixed period and can be withdrawn by the employee at a later date," the statement said.
- Part B of the scheme is for generating additional employment in all sectors, with a special focus on the manufacturing sector. The employers will get incentives for employees with salaries up to Rs 1 lakh. "The government will incentivise employers, up to Rs 3,000 per month, for two years, for each additional employee with sustained employment for at least six months. For the

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manufacturing sector, incentives will be extended to the third and fourth years as well,” the statement said.

Do You Know:

- For EPF wage slab of additional employee up to Rs 10,000, an incentive of Rs 1,000 will be given to the employer; for wage slab of over Rs 10,000 and up to Rs 20,000, a benefit of Rs 2,000 will be given; and for wage over Rs 20,000 (up to salary of Rs 1 lakh/month), an incentive of Rs 3,000 will be provided.
- Establishments, which are registered with EPFO, will be required to hire at least two additional employees (for employers with less than 50 employees) or five additional employees (for employers with 50 or more employees), on a sustained basis for at least six months, it said.
- All payments to the first-time employees under Part A of the scheme will be made through Direct Benefit Transfer (DBT) mode. Payments to the employers under Part B will be made directly into their PAN-linked accounts. The duration of the scheme will be for two years from August 1, 2025 to July 31, 2027.
- The ELI scheme was first announced by Finance Minister Nirmala Sitharaman in Budget 2024-25 as part of the Prime Minister’s Package for Employment and Skilling that had a Budget outlay of Rs 2 lakh crore.

ARE GIG WORKERS A PART OF INDIA’S LABOUR DATA?

The 2025 Union Budget took several measures to formally ‘recognise’ gig and platform workers, and extended various social protection schemes to this growing workforce. Despite this recognition, the revised Periodic Labour Force Survey (PLFS), 2025 does not include substantive changes to account for the diverse forms of gig and platform work.

Gaps in labour classification

Gig workers were first incorporated into the legal framework through the Code on Social Security, 2020. Under Chapter I, Section 2(35), a gig worker is defined as “a person who participates in a work arrangement and earns from such activities outside of a traditional employer-employee relationship.” Platform work, as defined in the Code, is “a work arrangement outside of a traditional employer-employee relationship in which organisations or individuals use an online platform to access other organisations or individuals to solve specific problems or to provide specific services or any such other activities which may be notified by the Central Government, in exchange for payment.”

While this definition separates gig workers from both formal and informal categories, it doesn’t clearly define who a gig worker is or the nature of gig work. According to NITI Aayog’s 2022 report ‘India’s Booming Gig and Platform Economy,’ the gig workforce is expected to reach 23.5 million by 2029-30. Despite such projections and efforts to define gig work, India’s primary labour statistics source, the PLFS, continues to subsume gig work under vague categories such as ‘self-employed’, ‘own-account workers’, or ‘casual labour’. This statistical invisibility has direct consequences.

Clause 141 of the Code on Social Security, 2020, “seeks to provide that the Central Government shall establish a Social Security Fund for social security and welfare of the unorganised workers,



gig workers and platform workers.” Similarly, the National Social Security Board, constituted under Section 6 of the Code on Social Security, 2020, is tasked with framing and overseeing welfare schemes for gig and platform workers. Such welfare boards and policymakers rely on the PLFS for ‘evidence-based policy,’ but the absence of a distinct category for gig and platform workers undermines its very intent. When classification itself is unclear in primary datasets, access to schemes becomes uneven and exclusionary.

How the PLFS falls short

In response to a Rajya Sabha query on whether the government had updated PLFS methodology to capture the rise of gig work, the Ministry of Statistics and Programme Implementation stated, “No updation in the PLFS Schedule has been undertaken with the objective of specifically identifying persons engaged in the gig economy. However, all market activities i.e. activities performed for pay or profit which result in production of goods and services for exchange are included under the domain of economic activity considered in PLFS. The activity situation of a person who is found to be working or being engaged in economic activity during a specified reference period is associated with employment in PLFS. Hence, even the persons engaged in ‘gig economy’ for pay & profit are covered in PLFS.”

Though gig work is technically included under economic activity, without a specific category or classification, the survey fails to offer visibility into the unique nature of digital labour, characterised by multiple job roles, dependence on algorithms, lack of formal contract and absence of safety metrics. In the survey, while the question on the type of job contract provides an option for ‘no written job contract’, it doesn’t capture the hybrid nature of work.

Unlike traditional self-employment, gig work is shaped by platform algorithms, performed across multiple apps and are mostly task-based rather than time-bound. Workers have no stable contracts, and often rely on digital reach. Many lack access to benefits or protections available to formal workers, and don’t fully own their work processes, making the “self-employed” label misleading. Employment uncertainties, income volatility and algorithm governance remain invisible within PLFS classification. A food delivery person working across platforms like Swiggy, Zomato, for instance, will be flattened into a category that does not reflect entirely on their employment conditions or social security needs.

Recognition without representation

Recent policy efforts like the e-Shram registration, the issuance of digital ID cards, and health coverage under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana indicate the state’s recognition of the gig and platform workforce. But unless statistical systems like the PLFS evolve, the data meant to support and monitor these interventions cannot be considered inclusive.

The 2025 PLFS revision introduced some important updates: a larger sample size, monthly estimates, and better rural representation. However, it still does not address the issues of how gig work is defined and understood. For inclusive policy making, India must update PLFS classification codes or introduce survey modules that distinctly capture gig work.

HOW INDIA ENERGY STACK COULD BE A UPI MOMENT

Beyond enabling unique identification, full integration, and interoperability, the Indian Energy Stack can help unlock an entirely new ecosystem — one where energy fintech, virtual power plants, and peer-to-peer trading can thrive on a standardised, interoperable digital infrastructure.

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- The proposed India Energy Stack (IES) aims to do for the power sector what Aadhaar did for identity, and UPI for finance. By digitally integrating India’s fragmented power ecosystem — from producers and grid operators to consumers, exchanges, and regulators — the IES will enable peer-to-peer energy trading, support aggregated demand-response programmes amid rising renewable integration, and facilitate smoother compliance with carbon offsetting.
- The 17-member task force, constituted by the Ministry of Power on June 27, has Nilekani as its chief mentor and is charged with designing and charting a roadmap for the nationwide rollout of the IES — a process expected to take several years.
- Picture this: Solar panels on your rooftop generate excess power, which you store in a battery at your neighbour’s home — and draw back in the evening. In return, a payment for renting the battery is instantly transferred from your bank account to your neighbour’s, enabled by a digital public infrastructure (DPI) as seamless as UPI. Now, with the government setting up a task force led by Infosys co-founder Nandan Nilekani, a digitally integrated future for India’s power sector is beginning to take shape.

Do You Know:

- In India, electricity is a concurrent subject, meaning both the Union and state governments share responsibility for its governance, which has contributed to a highly fragmented sector, leading to “isolated digital islands rather than an integrated national platform”.
- This fragmentation, according to a concept brief by New Delhi-based FSR Global — knowledge partner for the IES initiative – “creates significant operational challenges that impede the energy sector’s ability to meet India’s growing energy demands efficiently”.
- The brief identified four key challenges facing the power sector that the IES could help address. First, there is no unique identifier for consumers, assets, or stakeholders. Second, decision-making is hampered by the lack of access to harmonised, real-time data. Third, those seeking to offer solutions in this space struggle to scale, as they depend on various proprietary digital platforms. And fourth, there is no interoperability between these digital systems, which prevents cross-regional data sharing and cross-discom transactions.
- Beyond enabling unique identification, full integration, and interoperability, the IES can help unlock an entirely new ecosystem — one where energy fintech, virtual power plants, and peer-to-peer trading can thrive on a standardised, interoperable digital infrastructure.
- The possibilities are many. Consumers – and producer-consumers, or prosumers – could instantly buy surplus energy to store in batteries or sell rooftop solar output at peak prices. The IES would deepen the decentralisation of electricity and allow prosumers to manage their assets more actively and efficiently. Grid operators could make far more precise load-balancing and dispatch decisions, while energy producers could reduce curtailment or track carbon offsets using transparent performance data.
- The utility of IES is based on its ability to maintain the integrity of data, processes, and settlements across the board. A key component of this architecture is the Utility Intelligence Platform (UIP) – a primary application layer built on the IES foundation that would enable all of these services.



THE GREENING OF OUR CHEMICAL INDUSTRIES

Deepening concerns over the warming of our planet have made “green” and “sustainable” popular words. ‘Going green’ means taking steps to lessen harm to the environment. Sustainability aims for changes that balance environmental concerns with economic realities.

Whatever term you use, the shared goal of minimising or eliminating environmental hazards points us towards green chemistry. And this field leads us away from toxicity and pollution. The 12 Principles of Green Chemistry, introduced by Paul Anastas and John Warner in 1998, focus on basics, such as the adoption of safer solvents and reagents in chemical processes; designing energy-efficient methods that lead to safer chemicals that are as nontoxic as possible and also do not linger for too long in the environment; and preventing waste (so that you don’t have anything to clean up).

An illustration of how green chemistry can be put to work comes from the production of biodiesel. The Indian Oil Corporation, as part of a green fuels mission, produces biodiesel from non-edible oil seeds such as *Jatropha* (jama ghoti in Hindi and kattukkotai in Tamil). The seeds have over 30% oil content, and the tree grows in lands with little rainfall and poor soils. Biodiesel is produced from a transesterification reaction, where the seed oil is reacted with methanol to yield biodiesel and the by-product glycerol, which is commercially useful. For reducing the carbon footprint, the methanol must be derived from biomass.

Chemical reactions are sped up by catalysts. Biodiesel production is facilitated by an alkali. Sodium hydroxide is often used, but washing it away generates wastewater, which has to be treated before it is released into the environment. Calcium oxide is a greener alternative because it is a solid, and 95% of it can be recovered after each production cycle.

Very toxic substances are used in the manufacture of pharma products as well. In the vicinity of some of these factories, the air has a strong smell that reminds you of nail-polish: the solvent toluene is widely used in the synthesis or extraction of paracetamol and many other drugs. It is a neurotoxin. Green initiatives have led to a slow replacement of such volatile organic compounds with alternatives that are less toxic, biodegradable, and can be produced from biomass sources like sugarcane.

Another tenet of green chemistry that chemists love to work towards is the atom economy. The aim is to incorporate as many atoms present in the input mixture into the desirable product. In the biodiesel production process described above, green chemistry results in an atom economy of 90%. It is not 100% because of the atoms that are ‘taken away’ in the byproduct, glycerol. But then, in a sustainable initiative, the glycerol would itself serve as an input for making polymers, cosmetics, etc.

Attention to atom economy is even more critical in industries where the by-products are very toxic. A fine example of green chemistry’s superiority has come from chemists at the Hyderabad campus of the Birla Institute of Science-Pilani. Their green method for pharmaceutical production of the anti-cancer drug Tamoxifen and related drug candidates has 100% atom economy while being cost-effective and capable of making these drugs in large quantities (Tanmay Chatterjee and colleagues, *Green Chem.*, 2023, Vol. 25, 779). Such methods hold the promise of reduced impact on our surroundings.



LIFE AND SCIENCES

WHY DID AXIOM-4 NEED 28 HOURS TO REACH THE ISS?

The story so far:

On June 25, a crew capsule containing four astronauts, including India's Group Capt. Shubhanshu Shukla on his first spaceflight, lifted off atop a Falcon 9 rocket from NASA's spaceport in Florida. The lift-off marked the start of the Axiom-4 mission. By the time the rocket's two stages had completed their work, the crew capsule — called Dragon — was travelling at several thousand kilometres per hour. The capsule's destination was the International Space Station (ISS), which orbits the earth at roughly 400 km above sea level. At the time of lift-off, Axiom Space, which was orchestrating the mission, said Dragon would dock with the ISS in 28 hours.

Why did it need 28 hours?

It helps to picture the capsule and the ISS as two race-cars on separate lanes of the same track rather than as a car trying to drive straight up to a spot 400 km ahead. Everything happens sideways around the earth, and the choreography is dictated by orbital mechanics and strict safety rules.

To share the ISS's lane, the capsule needed to match both its altitude and its velocity vector. This was achieved using raw speed as well as timing. Going straight up 400 km would leave Dragon with virtually zero sideways speed, causing it to fall back almost immediately — like a ball that has been thrown up.

The Falcon 9 rocket vaulted Dragon into a low, slightly elliptical parking orbit about 200 km high. Its speed there was around 27,000 km/hr, which the capsule maintained just to avoid spiralling back down towards the ground.

The ISS is also higher than this parking orbit, at around 400 km, and therefore circles the earth a little more slowly to avoid spiralling down. While the ISS takes around 92 minutes to go around the earth once, Dragon started by taking around 88 minutes.

Thus, by being lower than the ISS, Dragon slowly fell behind in its orbit until it had caught up with the ISS.

After its system check-outs, the Dragon capsule performed a series of small thruster burns, also known as phasing burns, to first raise its apogee (the point of its elliptical orbit farthest from the earth) and then its whole orbit.

Each of these burns was timed such that after completing several orbits, Dragon ended up being exactly where the ISS would be. This was somewhat like merging into a highway at the right exit rather than steering straight towards another car.

What preparations were taken before docking?

For the Axiom-4 mission, the mission planners designed a pre-docking profile that lasted about 28 hours, or about 18 orbits.

At the end of this profile, the Dragon crew capsule was on the correct side of the ISS, where a free docking port was located, and at a time when the ISS crew was awake.



Once Dragon came within 30 km or so of the ISS, it moved itself into a 'corridor' aligned with the ISS. From here, the rules required the capsule to move at no more than a few metres per second. Once it was within 20 m of the ISS, Dragon was to slow to a few centimetres per second.

There are holding points at 400 m, 220 m, 20 m, and 1 m from the ISS, where the Dragon crew, including Group Capt. Shukla — who is the designated mission pilot — would have had to perform go/no-go polls and LIDAR checks. Even if there had been one wrong sensor reading in this process, Dragon would have been required to retreat from the ISS along a pre-programmed path.

This deliberate pacing alone added several hours to the crew capsule's approach towards the ISS.

The fact that Axiom Space and NASA used SpaceX's Dragon crew capsule for this mission is also relevant. It allowed the mission operators to opt for a more conservative, fuel-rich profile that also allowed the crew to finish check-outs, eat, and sleep before starting the intense docking exercise.

HOW ASTRONAUTS FEAST ON ISS

Indian astronaut Shubhanshu Shukla has been in space for more than a week, and would have had several meals during this period. On Friday, Shukla said he had shared the food he carried to the International Space Station (ISS) — gajar ka halwa, moong dal ka halwa and aamras — with other astronauts onboard.

- Having a meal in space is not a piece of cake. It requires planning and organisation. But this does not mean that astronauts eat frugally or depend only on liquid diets. The food is also far from being bland or unappetising.
- In fact, on the ISS, the permanent space laboratory where Shukla is currently staying, astronauts often enjoy elaborate meals. It is just that they eat packaged food, which is stored and prepared a little differently.
- Due to zero-gravity conditions, food items, like everything else in space, tend to float around. This necessitates a level of organisation not required on Earth.
- The spacecraft's safety could be compromised if small crumbs or loose pieces get stuck in some of its critical parts. These can also enter the mouths or nostrils of astronauts, leading to choking or creating breathing problems. As a result, food items are carefully chosen and properly packaged.
- Astronauts consume packaged and processed food items, which are usually in dehydrated form. They inject hot water through a needle into the packages before eating the dishes.
- Beverages such as tea, coffee or juices, and Shukla's aamras, are usually in powder form, which can be mixed with water before consumption. There is provision for heating the food on the ISS.
- Seasonings such as salt and pepper are available, but they are typically dissolved in water which can be added to the food through droppers.
- After their meals, waste such as food packets is deposited in waste chambers, while cutlery is cleaned with wipes. Utensils cannot be washed with water.



- A variety of food choices are available, and astronauts can select their menu or favourite cuisine months ahead of their travel. Once they have made their selection, nutritionists also weigh in with their recommendations to ensure astronauts meet the dietary requirements in space.
- Despite technical advancements in packaging, storing, and preparing food items, scientists are now actively working on ideas for growing food in space. This is because, in recent years, astronauts have begun spending a lot more time in space.
- Space-grown plants, for example, can provide a sustainable food source for such missions. Scientists are currently studying different aspects of growing food in space, and exploring various methods to do so. For instance, they are examining the effects of microgravity on the growth of plants.
- ISRO is carrying out multiple experiments related to this subject during Shukla's stay at the ISS. At least six different varieties of crop seeds will be grown and studied.

Do You Know:

- Indian astronaut Shubhanshu Shukla interacted with the country's students using a ham radio from the International Space Station (ISS) on July 4.
- Amateur radio, popularly known as ham radio, is a licensed radio service that relies on radio waves for establishing communication. Ham radio service is largely deployed for educational and knowledge purposes, for emergency or SOS communication.
- The communication can be hyper-local, global, and in space. In India, any individual above the age of 12 is permitted to operate a ham radio. The Ministry of Electronics and Information Technology issues these licences.
- Amateur radio was first used on a space shuttle to establish communication between space and Earth in 1983.
- The ISS also has a ham radio, known as the Amateur Radio on the International Space Station (ARISS), which is often used to organise astronaut-student interactions. The objective of such interactions is to inspire the young generation.
- The Axiom-4 mission's astronauts from India, Poland and Hungary will contact their respective countries using the ham radio twice during their 14-day stay at the ISS.
- Whenever the ISS is cruising past the horizon for a short period, an attempt to establish ham communication will be performed. The best window for this communication can last anywhere between five and eight minutes.
- Even though the technology to establish communications has advanced, the radio remains one of the most reliable and stable modes of communication. It is effective and an alternate medium of establishing communication.

AI & COPYRIGHT LAW

In two key copyright cases last week, US courts ruled in favour of tech companies developing artificial intelligence (AI) models. While the two judgments arrived at their conclusions



differently, they are the first to address a central question around generative AI models: are these built on stolen creative work?

- At a very basic level, AI models such as ChatGPT and Gemini identify patterns from massive amounts of data. Their ability to generate passages, scenes, videos, and songs in response to prompts depends on the quality of the data they have been trained on. This training data has thus far come from a wide range of sources, from books and articles to images and sounds, and other material available on the Internet.
- There are at the moment at least 21 ongoing lawsuits in the US, filed by writers, music labels, and news agencies, among others, against tech companies for training AI models on copyrighted work. This, the petitioners have argued, amounts to “theft”.
- In their defence, tech companies say they are using the data to create “transformative” AI models, which falls within the ambit of “fair use” — a concept in law that permits use of copyrighted material in limited capacities for larger public interests (for instance, quoting a paragraph from a book for a review).
- As leading publishers in the US and UK clamp down on artificial intelligence (AI) companies scraping news content without consent, Indian digital media houses are ramping up pressure on the government to step in and protect journalistic work from being “exploited” by commercial AI models.

Do You Know:

- Under the Copyright Act, 1957, the “author” of a work has a bundle of legal rights including the right to reproduce, issue copies, perform, adapt, or translate the work in question. Upon the death of the author, the ownership of the copyright falls to her legal heirs. Under Section 18 however, the author can “assign” the copyright “wholly or partially” to anyone she pleases, in return for compensation. The Act aims to safeguard creative works considered to be a creator’s intellectual property.
- A copyrighted work will be considered “infringed” only if a substantial part is made use of without authorisation. In cases of infringement, the copyright owner can take legal action against any person who infringes on or violates their copyright and is entitled to remedies such as injunctions, damages, and accounts. An injunction is “an official order given by a law court, usually to stop someone from doing something.”
- Section 52 lists acts that don’t constitute infringement, even in cases where one has a copyright over the work. Section 52(1)(a) exempts “a fair dealing with any work” from being termed “infringement” if it’s for private or personal use, like research, criticism or review, or reporting of current events and affairs.

BREATHE, BEND, BELONG

The United Nations’ recognition of June 21 as the International Day of Yoga has brought global attention and a boost to the ancient Indian lifestyle practice that focuses on breathing, flexibility and strength. The origins of yoga can be traced back to thousands of years, and it holds an important place in modern lifestyles.



Yoga is one of the six orthodox schools of Indian philosophy and, just as the remaining five, focuses on attaining self-realisation through its unique teachings for the control of mind and body.

This year's International Day of Yoga, observed last week, advocated the theme "Yoga for One Earth, One Health", underlining that personal wellness and the health of the planet are linked. While people all over the country took to their mats in celebration of this wellness routine, the philosophy echoed around the world. The lawns of the United Nations headquarters in New York were lined with colourful mats with over 1,200 practising yoga together.

Terming yoga a 'pause button' that the world needs in times of instability and uncertainty, Prime Minister Narendra Modi put forward the idea of yoga for humanity, where inner peace becomes a global policy.

Although primarily a practice of health and well-being, the International Day of Yoga also turned a platform for social media spotlight with participants being keen to take their activities online.

The UN resolution in 2014 that adopted June 21 as the International Day of Yoga had noted the "importance of individuals and populations making healthier choices and following lifestyle patterns that foster good health". The World Health Organization has urged its member states to help their citizens get over physical inactivity, which is a key risk factor for non-communicable diseases such as cardiovascular diseases, cancer, and diabetes.

Recognising the importance of yoga as a tool to battle physical inactivity and encourage mental stimulation as well as relaxation is one of the key missions of the International Day of Yoga and the trend visible across many countries suggests that awareness is catching on.

THE DALAI LAMA, HIS SUCCESSOR, AND CHINA

A statement by the Dalai Lama on his reincarnation is expected on Tuesday when Professor Samdhong Rinpoche, a former chairman of the cabinet of the Central Tibetan Administration (CTA), and Penpa Tsering, the Sikyong or political leader of the CTA, read out a message from him.

- The Dalai Lama was born in the hamlet of Taktser in north-eastern Tibet — now Qinghai province of China — on July 6, 1935, and was identified at age 2 as the reincarnation of Thubten Gyatso, the 13th Dalai Lama.
- A year after the communists took power in China, the People's Liberation Army invaded Tibet. In 1951, Tibet was annexed by China, and in March 1959, a Tibetan national uprising was crushed by Chinese troops.
- That month, the Dalai Lama escaped from Lhasa along with a group of his followers, and crossed into India at Khenzimane in Arunachal Pradesh. In 1960, Jawaharlal Nehru's government settled him in McLeodganj, Dharamshala, where the Tibetan government-in-exile was established.
- On March 14, 2011, the Dalai Lama wrote to the Assembly of Tibetan People's Deputies, known as the Tibetan parliament-in-exile, asking to be relieved of his temporal authority. The formal transfer of political power to the democratically elected leader of Tibetans living in exile took place on May 29 that year, ending a 368-year-old tradition in which the Dalai Lama was both the spiritual and political head of Tibetans.
- The Dalai Lama, literally 'Ocean of Wisdom, is believed to be the manifestation of Avalokiteshvara or Chenrezig, the Bodhisattva of compassion, and the patron saint of Tibet.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



Bodhisattvas are persons who are on the path to becoming a Buddha, but who put the liberation of other sentient beings ahead of entering nirvana themselves.

Do You Know:

- The institution of the Dalai Lama is part of the tulku concept in Tibetan Buddhism, in which spiritual masters are reincarnated upon their death, so that their teachings can be preserved and carried forward.
- The first Dalai Lama, Gedun Drupa, was born in 1391. Beginning with Lobsang Gyatso (1617-82), the fifth of the line, the Dalai Lama became both the spiritual and political leader of Tibetan Buddhists.
- The present Dalai Lama was found by a search party in 1939, six years after the 13th Dalai Lama Thupten Gyatso passed away in 1933. The reincarnation was recognised by several signs, including a vision revealed to a senior monk. In 1940, the little boy was taken to Potala Palace in Lhasa and officially enthroned.
- Since 1969, the Dalai Lama has said that whether or not his reincarnation should be recognised was “a decision for the Tibetan people, the Mongolians, and people of the Himalayan region to make”.
- China denounces the 14th Dalai Lama as a “splittist”, “traitor”, and an exile with “no right to represent the Tibetan people”, and prohibits any public show of devotion towards him.
- In 2004, the Chinese government abolished the Religious Affairs Regulations that lay down the process for selecting the Dalai Lama, and in 2007 decreed that “No group or individual may carry out activities related to searching for and identifying the soul boy for the living Buddha without authorization.” A draw of lots, called the “Golden Urn method”, was institutionalised to select the Dalai Lama.
- In 2015, Padma Choling, a retired Chinese politician of Tibetan ethnicity and chairperson of the Standing Committee of the People’s Congress of Tibet, objected to the Dalai Lama’s insistence that no government had the right to choose the next Dalai Lama for political purposes.

GADEN PHODRANG TRUST

The 14th Dalai Lama announced on Wednesday (July 2) “that the institution of the Dalai Lama will continue” and that the Gaden Phodrang Trust shall be the “sole authority to recognize the future reincarnation”.

- The “Statement Affirming the Continuation of the Institution of Dalai Lama” came four days before the spiritual leader of Tibetan Buddhists turns 90.
- The term Gaden Phodrang refers to the residential quarters of the Dalai Lama lineage from the second Dalai Lama onward at Drepung Monastery in Lhasa.
- After the Potala Palace was built (by a decree of the fifth Dalai Lama), the Dalai Lamas moved away from these quarters, and stayed at Potala Palace in winter and Norbulingka (built by the seventh Dalai Lama about 100 years after Potala) in summer. This tradition was followed until the 14th Dalai Lama’s escape from Lhasa to India in March 1959.



- The Gaden Phodrang Trust is one of three institutions associated with the Dalai Lama. “There are three registered institutions that are related to His Holiness the Dalai Lama. There is Gaden Phodrang Trust, which is a registered body in India and operates from the office of His Holiness, there is another Dalai Lama Trust, which [too] is a non-profit organisation, and the third is Gaden Phodrang Foundation, which is registered in Zurich.”
- The Gaden Phodrang Trust was registered in 2011 in Dharamshala with the aim of recognising the reincarnation of the Dalai Lama. It is based in the office of the Dalai Lama, and is managed by the former Kalon Tripa (head of the CTA) Prof Samdhong Rinpoche, a senior monk and a close confidant of the Dalai Lama. The Dalai Lama heads the trust, whose members include some other aides of the spiritual leader.
- The foundation is a tax-exempt Swiss nonprofit with its registered office in Zurich, and is supervised by the Swiss Federal Department of Home Affairs. It is funded by charitable contributions made by the founder and the public.
- The Dalai Lama is the founder and president of the foundation, and Tseten Samdup Chhoekyapa (India), Kelsang Gyaltzen (Switzerland), and Jamphel Lhundup (India), are its co-vice presidents.
- The foundation says on its website that its aim is to maintain and support the tradition and institution of the Dalai Lama, and to promote basic human values, mutual understanding among religions, peace and non-violence, and protection of the environment.
- The Dalai Lama Trust is a non-profit charitable organisation founded by the 14th Dalai Lama in 2009. It is headquartered in New Delhi but works with a range of partners internationally, too.
- The purpose of the trust is to support the welfare of the Tibetan people and to promote human values, interfaith harmony, and world peace, which have been key elements of the Dalai Lama’s lifelong mission.

Do You Know:

- India Thursday asserted that the successor to the 14th Dalai Lama has to be decided by established practices and that no one but the present Dalai Lama “has the right to decide”.
- The statement comes after China, which describes the Dalai Lama as a separatist, stated that the spiritual leader’s reincarnation must be approved by the Chinese Central government.
- The Dalai Lama, literally ‘Ocean of Wisdom, is believed to be the manifestation of Avalokiteshvara or Chenrezig, the Bodhisattva of compassion, and the patron saint of Tibet. Bodhisattvas are persons who are on the path to becoming a Buddha, but who put the liberation of other sentient beings ahead of entering nirvana themselves.
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- China denounces the 14th Dalai Lama as a “splittist”, “traitor”, and an exile with “no right to represent the Tibetan people”, and prohibits any public show of devotion towards him.
- In his 2011 statement, the Dalai Lama had said that his reincarnation should be found in a “free country, not under Chinese control”. He also said that “no recognition should be given to a reincarnation selected for political purposes by the Chinese government”.

ANNIE WALKER’S IMAGE IS MISSING FROM CAMBRIDGE. THERE ARE SO MANY PEOPLE HISTORY DOES NOT SEE

What did Annie Walker look like? Had she been a man, her portrait would have graced the hallowed halls of Cambridge University and perhaps even the Royal Society. Yet, both during her lifetime and for decades after she died in 1940, one of the most significant figures in the history of astronomy was all but unknown. Walker, recently unearthed evidence confirms, was the first British woman paid to map the heavens. Now, the Institute of Astronomy at Cambridge has appealed to readers of The Guardian in the UK and Australia for a picture of the forgotten scientist to correct a historical injustice.

Walker is not the only woman to be ignored by history. Rosalind Franklin did pioneering work with DNA, proposing the double helix model that is the foundation of modern genetics. Her contribution was ignored when the Nobel Prize for work on DNA was given in 1962. In literature, Zelda Fitzgerald, the wife of F Scott Fitzgerald, was demonised for decades, in no small part because of how Ernest Hemingway portrayed her in A Moveable Feast. She not only helped her husband write and edit but could do little as he plagiarised and plundered her private diary. For long, it was believed that Walker was a mere human calculator, helping men chart stars. In fact, she mapped and identified thousands of heavenly bodies.

Women, workers, those marginalised across human history — there are many whose portraits are lost. People know the architect, not the mason; they remember the “gentleman” astronomer but not the miller’s daughter who actually did the astronomy. Walker left after the Cambridge Observatory came to be headed by Robert Ball, who disapproved of women working. A science that looks at the infinite was hobbled by petty prejudice.

CRAMPED MUSCLES

What are muscle cramps?

A cramp is a sudden, involuntary tightening of a muscle or a group of muscles that a person can’t immediately relax. Because the muscle locks up all at once, it often feels like a sharp knot and can hurt for a while.

Muscle cramps occur in parts of the legs or hands as a result of dehydration, exercise or low potassium or magnesium levels. Menstrual cramps in the uterus are hormone-driven contractions to expel the uterine lining. Stomach cramps occur due to gas, infections and/or in people with irritable bowel syndrome.



In all cases, a cramp occurs when muscle cells have become stressed and start to misfire. People are at greater risk of cramped muscles if they have diabetes, thyroid problems or kidney disease or if they're taking particular drugs. To relieve a cramped muscle, doctors have advised pausing the stress-causing activity and gently stretching the muscle, massaging the area, applying heat to relax the tightness, and drinking lots of water. It also helps to warm up before the activity to prepare the muscles.

SYNTHETIC GENOME: DNA FROM SCRATCH

WHAT IS IT?

Between 1990 and 2003, more than 2,800 scientists around the world sequenced almost the entire human genome. This was the Human Genome Project (HGP), which, at a cost of \$2.7 billion, aimed to identify every human gene and make the data freely accessible to accelerate biology and medicine. By 2003, the team had produced the first reference human genome, covering 92% of the 3.1 billion bases.

The effort led to better genome sequencing technologies, anticipated policy decisions on genomic discrimination and IP rights, and paved the way for genome-wide association studies.

Now, researchers in the UK have launched the Synthetic HGP (SynHG). Whereas HGP "read" the human genome, SynHG will attempt to "write" it. Over the next five years, scientists from four institutions, including the Universities of Oxford and Cambridge, will try to build large pieces of human DNA from scratch, developing the necessary knowledge and technologies along the way. For starters, they will be supported by a GBP 10 million grant from the Wellcome Trust.

Prof. Robin Lovell-Badge of the Francis Crick Institute said he was "very enthusiastic" about SynHG and added, "It is critical when developing new technology to understand not just issues of potential utility, but also those concerned with safety and risk and, very importantly, the societal values on which it may impinge."

The project has already become controversial over the risk of scientists being able to create "designer babies" — a concept unnervingly close to eugenics — and engineered microbes that might escape into the wild and damage fragile ecosystems.

RESEARCHERS SEQUENCE WHOLE GENOME OF ANCIENT EGYPTIAN FOR THE FIRST TIME

Researchers have sequenced the first whole ancient Egyptian genome from an individual who lived 4,500-4,800 years ago — the oldest DNA sample from Egypt to date. The body belongs to an adult male who died during Egypt's Old Kingdom. The ancient Egyptian is predicted to have had brown eyes, brown hair, skin pigmentation ranging from dark to black skin, with a lower probability of an intermediate skin colour, was 157.4-160.5 cm tall, and lived up to the age of 44-64 years. The body was buried in a large ceramic pot within a rock-cut tomb at a site named Nuwayrat, a village 265 km south of Cairo. The results were published on July 2 in the journal Nature.

"Direct radiocarbon dating of the remains aligns with the archaeological context corresponding to the third to fourth dynasties, marking the beginning of the Old Kingdom," Adeline Morez Jacobs from the School of Biological and Environmental Sciences, Liverpool John Moores University, Liverpool, U.K., and the first author of the paper said during a virtual press conference.



Genetic results showed that a majority of his ancestry, about 78%, hails from the ancient North African populations, specifically from Neolithic groups from present-day Morocco. About 22% of his DNA is a close match to early farmers from Mesopotamia (present-day Iraq, western Iran, southern Syria, southeast Turkey), one of the eastern Fertile Crescent.

About 22% of the genetic makeup of the individual suggests historical cultural exchanges and interactions between Egyptian and Eastern Fertile Crescent. Though this Neolithic Mesopotamian connection is evident, the authors are quick to point out that this heritage may not have been direct.

“Perhaps the genes were transferred over time through other ancient Levantine populations (modern-day Israel, Jordan, and Syria),” says Dr. Niraj Rai from Birbal Sahni Institute of Palaeosciences (BSIP), Lucknow, who is not part of the study.

DNA was successfully extracted from the individual’s teeth. The genome of the ancient Egyptian is said to be the most complete and oldest from Ancient Egypt.

“We hypothesised that a combination of pot burial together with a rock-cut tomb in which the pot burial was placed provided a stable environment. While the overall climate is hot, a key factor for long-term DNA preservation is the stability of the temperature,” Dr. Linus Girdland-Flink from Liverpool John Moores University, Liverpool, U.K. and one of the corresponding authors said during the virtual press conference. “Also, we took DNA samples from the teeth root tips. The root tips get locked into the lower jaw, which might have helped preserve the DNA. That kind of dental tissue is very good for DNA preservation.”

DIGITAL FOSSIL-MINING REVEALS ORIGIN OF SQUIDS HIDDEN INSIDE ROCKS

Squids are some of the smartest and most agile animals in today’s oceans, but their evolutionary history has been hard to figure out because their soft bodies don’t fossilise well.

A new study has changed this using a method called digital fossil-mining to uncover fossils that were hidden inside rocks.

Instead of using traditional tools, which often damage fragile rocks, scientists from Japan created a machine that slowly grinds a rock while taking detailed photographs of each layer. These images were stitched together to form a 3D model of everything inside the rock, including fossils.

The method enabled the team to detect and digitally extract small squid beaks, the hard, chitin-based mouthparts all squids have. By combining cutting-edge imaging with careful analysis of ancient rocks, the study has filled a big gap in the story of squid evolution. It was published in Science.

The team collected hard, round carbonate concretions from Cretaceous-era deposits in Japan dated 110-70 million years ago. These rocks were already known to preserve fossils well. From there, the team scanned and reconstructed 263 lower beaks from squids for further analysis.

The findings suggest squids became important players in marine ecosystems long before the mass extinction 66 million years ago that wiped out dinosaurs and many marine species. In fact, squids were already replacing shelled cephalopods like belemnites and ammonites by then.



The authors have also suggested that thanks to their rise before marine mammals, squids were early pioneers of contemporary ocean life: composed of fast, intelligent animals like modern fish, whales, and dolphins.

HOW DO UNSAFE CANCER DRUGS REACH PATIENTS?

The story so far:

A major new investigation by the Bureau of Investigative Journalism published by The Hindu has revealed that bad cancer drugs have been shipped to more than 100 countries around the world. Before a cancer drug reaches a patient, they would have already undergone a long, complicated journey. Once the raw materials have been sourced, a typical drug will be manufactured, packaged, shipped, locally distributed and finally put to use. And at every stage of this process, the drug's quality must remain unharmed. Relatively innocuous events — a change in temperature or poor handling — can have critical effects.

What are the risks in manufacturing?

One of the biggest dangers is contamination. Ensuring that cancer drugs are sterile is the ultimate responsibility of the manufacturers. Every action must be tightly controlled. Staff working without proper disinfection processes can carry contaminants. Even a technician moving too quickly in a clean room can create air movement that spreads bacteria. Everything is sanitised right down to the pens and paper.

The process is unforgiving: if raw ingredients aren't tested adequately, if equipment isn't cleaned properly, and if water isn't filtered thoroughly, these lifesaving medicines can become lethal.

How do countries ensure such safety?

About 80% of NHS prescriptions in England are generic drugs, identical copies of branded drugs that can be made once a drug's patent expires. About two-thirds of those come from abroad. To try to ensure that these drugs are safe, the following measures are in place — every batch undergoes two rounds of quality testing, at the manufacturing site, and then on entering the U.K.; during each of these rounds of tests, 20 different markers of drug quality are checked; only specific experts are qualified to verify each batch; and the Medicines and Healthcare products Regulatory Agency regularly inspects manufacturing facilities, both in the U.K. and abroad.

Such testing systems are the gold standard. Many low- and middle-income countries, however, face significant challenges. In Nepal, for example, limited resources and expertise mean that there is no effective testing and monitoring of imported medicines. Many countries also lack the ability to track drugs through supply chains and, like Nepal, do not have any verified experts or facilities to check drug quality. These shortcomings, combined with corruption issues and porous borders, all mean that bad and potentially counterfeit drugs can enter healthcare systems.

What are the consequences?

Drugs that have not been manufactured properly can be toxic or contaminated — and put a patient in immediate danger.

In 2019, five young patients from Saudi Arabia developed a high fever, and one died, after taking an Indian-made medicine given at the same time as chemotherapy drugs. In the same year, four children died and more than a 100 fell ill in Colombia when given the same type of drug. In 2022,



at least 10 children in Yemen died after receiving methotrexate, a critical chemotherapy drug used to treat leukaemia and other cancers, that had been contaminated with a deadly bacteria. In 2023, the Bureau uncovered a dozen poor-quality brands of a childhood cancer drug used in Brazil.

What's WHO doing to ensure safety?

The World Health Organization (WHO) maintains a rapid alert system for dangerous drugs. After a concern has been raised, the WHO assesses it and an alert is then sent out to all member governments. However, this system only catches problems after harm occurs.

The WHO has put several mechanisms in place to keep a check on drug safety in low and middle-income countries. One is the Global Benchmarking Tool: a tool that assesses and rates national regulatory systems on a scale of 1 (least mature) to 4 (most mature). In 2023, 70% of WHO member countries were rated level 1 or 2, meaning they have limited capacity to check drugs coming into the country. Then we have the Essential Medicines List: a list of medications that are considered to be the safest and most effective for meeting the most important health system needs. While generic versions of drugs on this list could still be fake or substandard, the existence of the list helps countries prioritise limited resources. Third, there are prequalification programs which are lists that contain laboratories, specific drugs and sources of active pharmaceutical ingredients that the WHO has inspected, evaluated, and confirmed to be acceptable for use. This helps governments and national regulators procure safe medicines. Fourth, is the Good Manufacturing Practices (GMP) certification which ensures that pharmaceutical products are consistently produced and controlled to quality standards. Most countries will only accept the import and sale of medicines that have been manufactured by internationally recognised GMPs. And finally the WHO certification scheme. A Certificate of Pharmaceutical Products (CoPP) can be requested by a country that wants to import a medicine, and it would be issued by the exporting country according to the WHO guidelines. It acts like a passport for medicines, proving the item is approved and safely made in the exporting country.

These measures certainly provide some protection against dangerous drugs, but the protections they offer simply aren't enough. Without the level of oversight seen in countries like the U.K., these measures often fail to prevent substandard drugs from reaching patients.

DreamIAS