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DREAMIAS



INTERNATIONAL

WILL THERE BE A LASTING CEASEFIRE IN GAZA?

The story so far:

More than 19 months since the Gaza war began, with only two brief ceasefires in between, Israel and Hamas are inching closer to agreeing on another truce — this time under the direct mediation of the U.S. In recent weeks, Israel has come under increasing international pressure, with even its close allies in the West, including Germany, and the U.K., intensifying their criticism of the war. Under pressure, Prime Minister Benjamin Netanyahu's government said last week that it would accept a ceasefire proposal presented by Steve Witkoff, U.S. President Donald Trump's special envoy for the Middle East (West Asia). Meanwhile, the UN has warned that all 2.3 million Palestinians of Gaza are facing a severe hunger crisis.

Where does the war stand now?

When Israel launched its war on Gaza, following Hamas's October 7, 2023 cross-border attack, killing nearly 1,200 people, it had two primary objectives — dismantle Hamas and secure the release of hostages (Hamas had taken at least 250 hostages on October 7). Since then, the war has devastated the entire Gaza strip, a tiny, densely populated enclave sandwiched between Israel and the Mediterranean Sea. According to Gaza's health authorities, more than 54,000 Palestinians have been killed by Israeli attacks since October 7, with over 1,23,000 wounded. The entire population of Gaza has been displaced. Yet, Hamas has maintained its grip on Gaza's population, and continued to resist Israeli forces. As of now, at least 58 hostages remain in Hamas's captivity (20 of them are believed to be dead). Israel's strategy of ramping up military pressure on Hamas by attacking Palestinians indiscriminately and thereby forcing the group to release hostages has not worked so far. On the two previous occasions when Hamas released hostages, it did so as part of ceasefire agreements. This leaves Israel in a difficult position. It is facing increasing global criticism over the war, and has failed to achieve its two main objectives: the elimination of Hamas and the release of the hostages.

Why are Israel's allies angry?

In January, Israel and Hamas had agreed to a three-phase ceasefire. In the first phase, which was successfully implemented, Hamas released hostages and Israel freed Palestinian prisoners. The second phase was to see an Israeli withdrawal from Gaza, leading to a permanent end to the war. But Israel wanted to extend the first phase of the ceasefire to get more hostages in return for prisoner release. When Hamas rejected the extension, Israel resumed its bombing campaign. Since then, Israel has launched a broader offensive and massive bombings in Gaza, pushing the enclave's already displaced people to the southern coastal stretches. Simultaneously, Israel has stopped aid delivery to Gaza, plunging the enclave into an acute hunger crisis. According to the UN Children's Fund, since the end of the ceasefire on March 18, "1,309 children have reportedly been killed and 3,738 injured" in Gaza. Since October 2023, more than 50,000 children have been killed or injured, said the agency.

Israel has remained defiant. Finance Minister Bezalel Smotrich said he wanted Gaza to be "completely destroyed" and its people should be moved to a "humanitarian zone" in the south from where they should flee the territory to other countries. National Security Minister Itamar Ben-Gvir has repeatedly warned the government against letting aid into Gaza. It was against this



backdrop of Israel's indiscriminate attacks, Israeli Ministers' genocidal statements and Palestinians' mounting suffering that Western countries expressed rare public criticisms against Israel. The U.K., France and Canada issued a joint statement, "strongly opposing" the expansion of Israel's offensive in Gaza, and asked the Jewish country to halt settlements in the West Bank. Friedrich Merz, Germany's new Chancellor, said Israel's attacks "are no longer justified". Even Mr. Trump raised concerns about Gaza's hunger crisis.

What is the U.S.'s stand?

The Biden administration had occasionally expressed concerns about the humanitarian crisis in Gaza, but consistently supported Israel's war, both militarily and diplomatically. The Trump administration lifted even Biden era restrictions on arms supplies to Israel, and has been careful not to attack Israel over the conflict. But signs of differences have emerged between Mr. Netanyahu and Mr. Trump over West Asia. This week, Mr. Trump confirmed reports that he had warned Mr. Netanyahu against carrying out attacks against Iran's nuclear facilities. Mr. Trump launched direct talks with Iran, seeking a deal to resolve the nuclear crisis (which in part has been worsened by his 2018 decision, during his first term, to unilaterally withdraw the U.S. from the 2015 nuclear deal). In early May, he abruptly ended the U.S. military campaign against Houthis — a sworn Israeli enemy and Iranian ally — by striking a deal with the Yemeni militants through Omani mediation. Although the Houthis continue to attack Israel, the deal with Mr. Trump remains intact. Mr. Trump's team also held direct talks with Hamas, a U.S.-designated terrorist entity, and concluded a deal for the release of an Israeli-American hostage. Mr. Witkoff, President's Trump's key mediator, has been actively parleying with multiple regional players, including Israel, Egypt, Qatar and Hamas, to push for a ceasefire.

What is the Witkoff proposal?

The Witkoff plan calls for a 60-day ceasefire. "President Trump guarantees Israel's adherence to the ceasefire during the agreed-upon period," says the draft document. As per the plan, 10 Israeli live hostages and 18 deceased hostages are to be released on days 1 and 7. In exchange for the release of the 10 Israeli live hostages, Israel will release 125 "life sentence" prisoners and 1,111 Gazan detainees who were detained after October 7, 2023. In exchange for the release of the remains of 18 hostages, Israel will release 180 deceased Gazans. Aid will be sent to Gaza immediately, and will be distributed through agreed upon channels, including the UN and Red Crescent. Israel will cease all its offensive military activities, and the Israel Defense Forces (IDF) would be redeployed in Gaza's south and north within seven days. On day one of the ceasefire, Israel and Hamas will begin negotiations for a permanent ceasefire.

Will there be lasting peace?

The Witkoff proposal leaves out the most critical issue — the question of Gaza's future. Israel demands a total surrender of Hamas, while Hamas insists on a complete IDF withdrawal from Gaza. If Israel agrees to withdraw, Hamas would retain its presence and influence in the territory — an outcome that could cost Prime Minister Netanyahu the support of his far-right coalition partners. If Israel refuses to withdraw, Hamas may decline to release the remaining hostages and the war could continue. So the prospects for peace in Gaza remain bleak.



AID AS A WEAPON

Aid finally started flowing into Gaza last week, ending a three-month blockade by Israel. In charge of aid operations was the newly created Gaza Humanitarian Foundation (GHF), a Swiss-based entity backed by the U.S and Israel.

The GHF has started distributing aid in Gaza via four centralised distribution centres, and said it will open more hubs within a month. Aid will be delivered to the centres via armoured tanks operated by private subcontractors, who will also safeguard its operations. The BBC has noted the presence of Israeli soldiers near the distribution centres.

The GHF aimed to reach one million people at the end of its first week of operations. Three of its sites are in the Rafah area in southern Gaza. A fourth camp is close to the Netzarim corridor in Central Gaza, controlled by the Israeli military. None of the sites are in the north, the region mainly targeted by Israel's strikes.

As per a New York Times report, the GHF resulted from "private meetings of like-minded officials, military officers and businesspeople with close ties to the Israeli government". Until his resignation last Sunday, it was run by Jake Wood, a U.S military veteran who also headed a relief group called Team Rubicon, and consists of a group of American security contractors, army veterans and aid workers.

It is unclear who is now in charge, and funding streams remain vague, with the U.S and Israel both denying financial backing. An AP report noted that the GHF claims that an unnamed government in the EU has committed around \$100 million.

The GHF aims to sidestep the UN as the main provider of aid to the devastated region. Earlier, Mr. Wood said parallel aid from the UN would continue till eight GHF hubs are established, and that non-humanitarian aid would also be distributed by the UN network. UN agencies had been moving food, medicine and other supplies across Gaza since the war began in October 2023, operating 400 distribution sites for aid before they were blocked by Israel.

About a week back, Israel opened up the border to allow a small inflow of supplies, indicating that the UN would be able to distribute the supplies till the GHF was up and running.

Hunger on the rise

Hunger and desperation are on the rise in Gaza. The Integrated Food Security Phase Classification, a multi-partner initiative focused on analysing nutrition and improving food security, warned in March last year that Gaza was facing a famine. UN estimates say that almost 2 million Gazans are on the brink of starvation; the WHO warned that hunger in Gaza threatened to permanently stunt the growth and cognitive development of an entire generation of children.

The GHF said in a statement it is apolitical and that it won't displace Palestinians. However, it has been condemned by the UN and other aid agencies, which say that the mechanism would allow Israel to use food as a weapon, and that it violates humanitarian principles.

Palestinians have also alleged that the aid effort by the GHF was disorganised, and was hampered by a lack of communication. Misinformation also proliferated on social media about the aid sites, claiming that looting had taken place or that centres were shut down. Further criticisms emerged after videos showed Palestinians running away from the perimeter of one of the aid centres to



escape a projectile thrown by the security contractors. The GHF said in a statement that its personnel had "encountered a tense and potentially dangerous crowd that refused to disperse" and had used "non-lethal deterrents" to "prevent escalation and ensure the safety of civilians and staff".

The UN Relief and Works Agency, the primary aid organisation working to help Palestinians, has been undermined and hobbled.

It has been targeted by misinformation and faced a withdrawal of funds and a ban imposed by Israel's Parliament. A former UNRWA representative called the GHF initiative "aid-washing", meant to mask the starvation of Palestinians.

FRANCE DAMPENS EXPECTATIONS OF SWIFT PALESTINIAN STATE RECOGNITION

France is due later this month to co-host with Saudi Arabia a UN conference in New York on a two-state solution to the conflict between Israel and the Palestinians.

There had been expectations that France could recognise a Palestinian state during that conference, with President Emmanuel Macron also growing increasingly frustrated with Israel's blocking of aid to the Palestinians in the war-torn Gaza Strip.

"France could have taken a symbolic decision. But this is not the choice we made because we have a particular responsibility," as a permanent member of the UN Security Council, Foreign Minister Jean-Noel Barrot said, while saying Paris was still "determined" to make the move.

Mr. Barrot said France would not recognise a Palestinian state alone, in a possible reference to the eagerness of Paris to see any French recognition matched by Gulf Arab allies — notably regional kingpin Saudi Arabia — recognising Israel.

France is reportedly working closely on the issue with the United Kingdom, which also, so far, has not recognised a Palestinian state, at a time when French-British diplomatic ties are becoming increasingly tight after Brexit.

Mr. Macron on Thursday said that he expected the conference in New York would take steps "towards recognising Palestine", without being more specific.

President Macron has said he hopes French recognition of a Palestinian state would encourage other governments to do the same and that countries that do not recognise Israel should do so

WHAT WOULD A FRENCH NUCLEAR UMBRELLA MEAN FOR EUROPE?

The story so far:

On May 14, French President Emmanuel Macron stated that France is "open to dialogue" on potentially stationing its nuclear weapons in other European countries. This development occurred amid security concerns in Europe due to the ongoing Russia-Ukraine war.

What lies behind France's offer?

France's consideration of a broader European role for its nuclear deterrent aligns with its "European strategic autonomy" policy, which aims to enhance the EU's capacity to act independently in security and defence matters. President Macron's Sorbonne University speech



emphasised Europe's need to bolster its defence capabilities, in order to be a more "sovereign Europe." Moreover, U.S. President Donald Trump has questioned unconditional U.S. security guarantees to NATO allies, linking support to the 2% GDP defence spending target for security guarantees, prompting European nations to seek additional security assurances. Historically, France has fiercely guarded the independence of its nuclear deterrent, viewing it as a strictly national tool. This openness, thus, signifies an evolution in its strategic thinking.

What is the nuclear sharing model?

"Nuclear sharing" involves a nuclear-weapon state stationing nuclear weapons on allied non-nuclear-weapon states' territory, with specific arrangements for potential use. Within NATO, the U.S. has maintained such arrangements for decades. Currently, U.S. B61 tactical nuclear gravity bombs are understood to be deployed in five NATO states: Belgium, Germany, Italy, the Netherlands, and Türkiye.

Under these arrangements, the U.S. retains legal ownership and custody of the warheads. The U.S. President also retains the power to make the decision to use these weapons, following NATO consultation. This Cold War-era posture aims to demonstrate alliance solidarity, and share nuclear risks.

Does France have enough weapons?

France's arsenal is around 290 nuclear warheads, deliverable by submarine-launched ballistic missiles and air-launched cruise missiles via Rafale jets. A 2023 Centre for Strategic and International Studies report analysed that extending France's nuclear deterrent by basing warheads abroad would pose logistical and doctrinal challenges with its current arsenal size, suggesting that an increase in warheads might be needed for credible extended deterrence. Such deployments would require stationing French Air Force units, including Rafales and support infrastructure, abroad. Establishing secure command and control systems in a multinational setting would be complex.

Would it strengthen deterrence?

Deploying additional nuclear weapons in Europe has varied security implications. Proponents argue it could enhance deterrence against Russia by increasing NATO's nuclear assets and demonstrating European resolve. Conversely, Russia would likely view such deployments as a significant escalation, potentially leading to "military-technical measures" in response. Russian officials have repeatedly warned against NATO's eastward military expansion. Russia's 2023 stationing of tactical nuclear weapons in Belarus is cited by some as a preceding escalatory step.

Is it legal under international law?

The 1968 Nuclear Non-Proliferation Treaty (NPT) is the primary legal instrument for regulating nuclear weapons. Article I of the treaty prohibits nuclear-weapon states (like France) from transferring nuclear weapons or control over them. Existing NATO nuclear sharing is justified by participants as being NPT-compliant because no "transfer" of legal ownership or control occurs in peacetime; the U.S. maintains custody. Non-proliferation advocates and various research institutions have consistently challenged this legality.



INSULAR, PARANOID

President Donald Trump's decision to ban citizens from 12 countries from entering the United States, citing national security concerns, is yet another attempt by his five-month-old administration to tear down legal migration. Mr. Trump's decision in 2017, during his first term, to ban citizens from seven Muslim-majority countries had triggered chaos and protests at America's airports, evoked criticism of the unstated racism and xenophobia, and led to legal challenges. This time, Mr. Trump has focused on mostly West Asia and Africa. Citizens from Afghanistan, Myanmar, Chad, the Republic of Congo, Equatorial Guinea, Eritrea, Haiti, Iran, Libya, Somalia, Sudan and Yemen would be banned, while people from Burundi, Cuba, Laos, Sierra Leone, Togo, Turkmenistan and Venezuela will face restrictions. The ban applies only to people outside the U.S. but those with active visas who leave the country could face difficulty during re-entry. Mr. Trump argued that the ban, which came days after the arrest of an Egyptian man for carrying out an attack on a group honouring the Gaza hostages, would help prevent terrorist attacks and keep out those who overstay their visas. Egypt, a close American ally, and Spain, which saw 20,000 of its citizens overstay their visas in 2023, are not on the list, but Chad, whose visa overstay number is as low as 400, is.

Since his swearing-in as the President, in January, for the second time, Mr. Trump has taken a series of measures to crack down on migration. He has suspended the asylum system at the southern border and ended temporary legal residency for Haitians, Venezuelans and Cubans. He has also removed the legal status of thousands of foreign students and instructed U.S. diplomatic missions to pause scheduling new visa interviews as his administration prepares to vet the social media handles of students and scholars. His policies targeting international students have already spread chaos and uncertainty across America's universities. Now, the outright ban on citizens from a group of countries reinforces the erosion of the self-image of the U.S. — “the shining city on a hill” as Ronald Reagan once called it — as a pluralistic, open society. Mr. Trump's claim that immigrants bring crime into the U.S. is ill-founded. Many of the people seeking entry into the U.S., from countries that had seen American military intervention, such as Haiti and Afghanistan, are fleeing war, persecution and systemic violence. They are not national security threats but victims in search of refuge. By shutting America's doors on them, and immigrants in general, Mr. Trump is not making the U.S. safer. Rather, he is turning a country, which historically welcomed immigration and has benefited from it, into an insular, paranoid, self-doubting republic.

JUDGE HALTS TRUMP'S LATEST BAN ON FOREIGN STUDENTS IN HARVARD FROM ENTERING THE U.S.

A federal judge has temporarily blocked a proclamation by President Donald Trump that banned foreign students from entering the U.S. to attend Harvard University.

Mr. Trump's proclamation was the latest attempt by his Republican administration to prevent the nation's oldest and wealthiest college from enrolling a quarter of its students.

Harvard filed a legal challenge on Thursday, asking for a judge to block Mr. Trump's order and calling it illegal retaliation for Harvard's rejection of White House demands.

Harvard said the President was attempting an end-run around a previous court order.

A few hours later, U.S. District Judge Allison Burroughs in Boston issued a temporary restraining order against Mr. Trump's proclamation.



'Irreparable injury'

Harvard, she said, had demonstrated it would sustain "immediate and irreparable injury" before she would have an opportunity to hear from the parties in the lawsuit.

Ms. Burroughs also extended the temporary hold she placed on the administration's previous attempt to end Harvard's enrollment of international students.

Last month, the Department of Homeland Security revoked Harvard's certification to host foreign students and issue paperwork to them for their visas, only to have Ms. Burroughs block the action temporarily.

Mr. Trump's order this week invoked a different legal authority.

If Trump's measure were to survive this court challenge, it would block thousands of students who are scheduled to go to Harvard's campus in Cambridge, Massachusetts, for the summer and fall terms.

CITING 'UNJUST RACIAL DISCRIMINATION', TRUMP GRANTS ASYLUM TO WHITE AFRIKANERS

On May 12, 49 White Afrikaners landed at the Washington Dulles International Airport — making them the first group resettled under a new Trump administration initiative. U.S. officials greeted them as beneficiaries of President Donald Trump's new resettlement programme.

Mr. Trump endorsed the Afrikaner community's claims of "white genocide" and endangered "Afrikaner" identity. Subsequently, he offered them asylum by fast-tracking their applications. He cited "unjust racial discrimination" to defend the urgency behind the move.

White Afrikaners have expressed growing resentment since the passage of a new land-reform law in January 2025. This law permits the government to seize privately owned land without compensation. This is only if it is "just and equitable and in the public interest" to do so.

The law aims to correct historically disproportionate land ownership. The Black African population comprises approximately 80% of South Africa's 63 million-strong population. Yet, they only own 4% of the total land.

Afrikaner community frames the reform as systemic racial persecution. Many claim threats to their life and land. However, no land has either been seized or formally taken over under the new act to date.

U.S. Refugee Act

The United States Refugee Act, 1980 limits the applicability of refugee status. They must demonstrate a well-founded fear of persecution based on race, religion, nationality, political opinion, or membership of a particular social group. Neither U.S. law nor the UN Refugee Convention, 1951, makes concessions for economic insecurity or country-wide crime.

On this count, the choice to accord refugee status does not comply with legal requirements. Further, international refugee law also disallows voluntary return to the refugee's home country. In this case, many of the refugees intend to go back home for holidays.



There are also inconsistencies in the broader narrative.

There is a fundamental issue in granting refugee status to White “Afrikaners” as a group. It is not a homogeneous unit as it exists today. Historically, Afrikaners are the primary descendants of the Boers (Dutch colonisers). But today, Afrikaners comprise people from many different colonising countries. Bereft of their home country’s identity, they formed this coalition of new races and cultures.

Even the Afrikaans language is not the sole preserve of the Boer community. It is a language formed from Dutch, Khoisan, Malay, and many of the 12 official languages of the country. With time and inter-racial blending, this distinction has blurred further.

At present, 60% or more of Afrikaans-speaking people are non-White.

Major misconceptions

Amid this, misinformation is circulating that White Afrikaners are being killed for their racial identity. South Africa does have one of the highest per capita crime rates in the world. Yet, only 0.3 % of these murders are farm-related or farm killings.

Although the South African government does not release racially-segregated crime data, the police report that victims of rural crimes are mostly Black.

The lack of data backing this step by the U.S. government is just the beginning. Seen in a larger context, the Afrikaner refugees don’t make a good case for asylum. They are not under any state-driven persecution, nor is there any fear of state excesses.

The decision to grant asylum to white Afrikaners comes on the heels of the Trump administration halting other refugee admissions. In January, the Trump administration suspended the U.S. Refugee Admissions Program (USRAP). This stops refugee processing in its tracks. Every 90 days, the Department of Homeland Security will submit reports to the U.S. President. If refugee applications are “aligned” with U.S. interests, they will move forward.

In February, Mr. Trump signed an executive order accelerating the application of White Afrikaners. Their resettlement, within three months, sits uncomfortably in the face of the broader pause in intake. Meanwhile, 1,20,000 refugees have been waiting in line for months, some of them for years.

WAR AND TALKS

The Russia-Ukraine war has entered a new phase, marked by intensified military attacks and direct negotiations. On Sunday, on the eve of the second round of talks, Ukraine carried out its most daring drone attack deep inside Russia, targeting military airfields. According to Ukrainian intelligence officials, the drones, which were transported by trucks into Russia and launched remotely, resulted in “the destruction” of dozens of strategic bombers. While these claims have not been independently verified, Russia’s Ministry of Defence confirmed that five of its airfields came under attack, and aircraft at two stations, one close to the Norwegian border and the other in Siberia, “caught fire”. That Ukraine managed to carry out such an attack is a morale booster for its troops and a tactical setback for Russian President Vladimir Putin. Prior to Kyiv’s attack, Russia had launched an avalanche of drones and missiles across Ukraine, significantly straining the country’s air defences. It included a missile strike at a military training base on Sunday, killing at



least 12 Ukrainian soldiers. But a silver lining amid the intensifying military exchanges was that Russia and Ukraine went ahead with the planned direct talks in Istanbul on Monday. In the hour-long meeting, negotiators agreed to a prisoner exchange deal, and scheduled a third round of talks later in June.

Forty months into the war, the signs of exhaustion are evident on both sides. Ukraine, faced with battlefield challenges, is trying to offset its vulnerabilities by staging innovative drone attacks to make the Kremlin feel the pain of the war. Kyiv has not had any major territorial victory in its lost territories since the Kherson offensive of late 2022. Over the past year, Ukraine has lost nearly 5,000 sq. km of its territory to the Russians. Russia has recaptured the land Ukraine had seized in Kursk. Russia's spring offensive is now gaining momentum, with territorial advances in the Sumy region, while Ukraine is grappling with weakened air defences, an acute manpower crisis and uncertainty about continued U.S. support under President Donald Trump. Russia has found it increasingly difficult to prevent Ukraine's drone attacks targeting its energy infrastructure, the Black Sea fleet and now airfields hosting strategic bombers. If Russia has battlefield momentum, Ukraine stays defiant. If the war continues to drag on, the toll on both sides will only deepen. So far, efforts by Mr. Trump to broker peace have yielded little progress. But he should not give up. Russia has long-standing grievances and future security concerns that must be addressed. Ukraine wants credible security guarantees that shield it from future attacks. The U.S. has a crucial role to play in narrowing these differences and working toward a durable ceasefire.

THE POLITICAL DEADLOCK IN TAIWAN

Taiwanese President Lai Ching-te, marking one year in office on May 20, 2025, faces significant political challenges due to a legislative deadlock. His party, the Democratic Progressive Party (DPP), lacks a majority in the 113-seat Legislative Yuan, holding 51 seats compared to the opposition Kuomintang (KMT)'s 52. The Taiwan People's Party (TPP) and independents, aligned with the KMT, control the remaining seats, enabling the KMT to obstruct key policies.

The KMT has pushed controversial amendments, including changes to the 'Act Governing the Allocation of Government Revenues and Expenditures' in December 2024, shifting budget control from the central government to local governments and limiting defense spending. In May 2024, KMT and TPP proposed a law mandating the president to face legislative questioning post-inauguration, a first in Taiwan's history, sparking physical altercations in the Yuan. The DPP accuses the KMT of bypassing legislative protocols, though the KMT denies this.

A major escalation involves recall campaigns targeting 37 KMT and 15 DPP legislators, driven by citizen groups. The KMT's recall efforts against DPP lawmakers have been marred by forged signatures, while many KMT lawmakers face potential recall votes by June-July 2025. This reflects both democratic vibrancy and political instability.

The deadlock stems from ideological divides: the KMT favors dialogue with China, while the DPP opposes reunification. Public dissatisfaction with the DPP's past economic and diplomatic performance bolstered KMT's 2024 gains, but shifting youth sentiments weaken KMT's appeal. President Lai has two paths: negotiate with the KMT to stabilize politics or back recall campaigns and push a robust DPP agenda to secure a majority in by-elections. Either choice will mark a historic moment in Taiwanese politics.



IRAN HAS RAMPED UP URANIUM ENRICHMENT, SAYS NUCLEAR WATCHDOG

Iran has further increased its stockpile of uranium enriched to near weapons-grade levels, a confidential report by the U.N. nuclear watchdog said Saturday. In a separate report, the agency called on Tehran to urgently change course and comply with its years-long probe.

- The report comes at a sensitive time, as the administration of U.S. President Donald Trump seeks to reach a deal with Tehran to limit its nuclear program. The two sides have held several rounds of talks, so far without agreement.
- The report by the Vienna-based International Atomic Energy Agency — which was seen by The Associated Press — says that as of May 17, Iran has amassed 408.6 kilograms (900.8 pounds) of uranium enriched up to 60%.
- That's an increase of 133.8 kilograms (294.9 pounds) — or almost 50% — since the IAEA's last report in February. The 60% enriched material is a short, technical step away from weapons-grade levels of 90%. A report in February put this stockpile level at 274.8 kilograms (605.8 pounds).
- Iran said the report is “politically motivated and repeats baseless accusations”, state media reported. Iran said it will “implement appropriate measures” in response to any effort to take action against Tehran at the IAEA governors' meeting.
- Approximately 42 kilograms of 60% enriched uranium is theoretically enough to produce one atomic bomb, if enriched further to 90%, according to the watchdog.
- Iran has maintained its nuclear program is for peaceful purposes only, but the IAEA chief, Rafael Mariano Grossi, has warned that Tehran has enough uranium enriched to near-weapons-grade levels to make “several” nuclear bombs if it chose to do so.

Do You Know:

- Established in 1957, the IAEA was created in response to the deep fears and expectations generated by the increased use of nuclear technology. It was the result of U.S. President Eisenhower's “Atoms for Peace” address to the General Assembly of the United Nations on 8 December 1953.
- In 2005, the IAEA and its Director General, Mohamed ElBaradei, were awarded the Nobel Peace Prize for their work for a safer and more peaceful world. The Committee honoured the IAEA and its leader “for their efforts to prevent nuclear energy from being used for military purposes and to ensure that nuclear energy for peaceful purposes is used in the safest possible way.”
- IAEA Safeguards are embedded in legally binding agreements. These safeguards are accepted by the states after the conclusion of such agreements with the agency. It plays a central role in preventing the proliferation of nuclear weapons through the independent verification of States' compliance with nuclear non-proliferation undertakings.
- In 2014, India ratified the Additional Protocol (AP), which granted the IAEA greater access to India's civil nuclear programme. India has signed an item-specific safeguards agreement under the IAEA along with Pakistan and Israel. They are nuclear-power states that are not a member of the Nuclear Suppliers Group (NSG).



THE AUTEUR OF DISSENT

There is a scene in the 2015 movie *Taxi Tehran* where a seller of counterfeited foreign movie CDs use a taxi, driven by the director of the movie playing himself, to make a sale. While mainstream directors rue counterfeits, Jafar Panahi observes the transaction with an expression of sorrow and understanding. The Iranian director, who had to shoot most of his movies in secrecy and smuggle them out of his country, in a flash drive hidden inside a birthday cake in one instance, also gives some words of advice to the young buyer who is an aspiring filmmaker. The books and movies available are already made, Panahi says to the young man, one must look beyond what is in front of him.

But Panahi, ironically in a sense, did throughout his career what he advised the young man not to do. He turned his lens to what was in front of him and showed it to the world despite the Iranian authorities branding him an “enemy of the state”. They banned him from making movies or leaving the country, and imprisoned him at the notorious Evin prison. Standing under the spotlight at the Cannes Riviera last week, holding the prestigious Palme d'Or for his “revenge thriller” *It Was Just an Accident*, Panahi expressed hope that his society could get to a place where no one is told what or what not to do and what or what not to make.

Inspired from his experiences in jail, *It Was Just an Accident* is born from the artistic resistance of authoritarianism that is present throughout his filmography, including *The Circle*, *Closed Curtain*, *Offside*, and *This Is Not a Film*. Panahi recalls how, during his imprisonment in 2022 for charges of participating in the Green Wave movement following the controversial re-election of former President Mahmoud Ahmadinejad in 2009, he was blindfolded during interrogation with questions coming from behind him. He says voices with no faces play a huge role in the minds of prisoners and his latest movie takes off with this aspect. The movie centres around the moral dilemma among a group of former prisoners after kidnapping a man whose boots made the sound one of them had heard while being tortured in prison. But they are not sure whether he was indeed the torturer or not, creating the core conflict of the movie.

Social filmmaker

Cannes 2025 was Panahi's first trip out of Iran in 15 years after the country's top court quashed his conviction. It was also the first time in that period that he was watching one of his movies at a cinema with an audience. Panahi, who describes himself as a “social filmmaker”, says the presence of audience for his movies and the ability to see their reaction in person would have made his works a lot better. But the lack of audience didn't stop him from framing the streets of Tehran. He took his camera through the changes of Iranian society. Panahi says he always portrays the truth and reality around him, and his movies before 2022 had women in headscarves and veils as seen in the streets.

He recalls hearing of the protests against the mandatory dress code sparked by the death of Mahsa Amini while being in prison, and seeing women without scarves while on a hospital visit from prison. And his movies post imprisonment showed the silent protest of women without scarves, he says, like the brave women who chose to disobey the codes.

While Panahi returned to Iran to a cheering welcome after the Cannes triumph, it is still unclear what awaits him at home. He had made his latest film, like most of his works, in secrecy without submitting its script to the authorities for scrutiny as is stipulated. Iran has already sought explanation from a French envoy over a French Minister's praise of the film while conservative



critics have disregarded Panahi's achievement. But Panahi says his return is in solidarity with the women who have opted to go against the orthodox moral system. "I just made a movie," he has said, "which is not as courageous as what the women, who will be unknown to the world, are doing. Everyone will know if I am arrested, but no one will hear of them. That is why I must go back".

AHMADI COMMUNITY IN PAK. COERCED INTO FOREGOING THE QURBANI RITUAL

Members of the Ahmadi community in Pakistan are being pressured by police to sign affidavits stating they will not perform the ritual animal sacrifice (qurbani) during Id-ul-Adha, a practice considered a constitutional violation of their religious freedom. Ahmadis, although self-identifying as Muslims, have been declared non-Muslims by Pakistan's Parliament since 1974 and face legal and societal restrictions on practising Islam. The Jamaat-e-Ahmadiyya Pakistan (JAP) alleges that this coercion, particularly in Punjab and Sindh, is inhumane and unconstitutional, driven by extremist groups like Tehreek-e-Labbaik Pakistan. The JAP demands immediate government action to halt these practices.



DreamIAS



NATIONAL

INDIA, AUSTRALIA AGREES TO WORK TOGETHER TO COMBAT TERRORISM

DEFENCE MINISTER Rajnath Singh Wednesday held a bilateral meeting with his Australian counterpart Richard Marles, in which both sides agreed to work together to combat terrorism in all forms and agreed to intensify and diversify defence industry collaboration under the Australia-India Joint Research Project.

- Marles is on a two-day official visit to India. The visit marks his first to India after his re-appointment as Australia's Deputy Prime Minister and Minister of Defence.
- In a statement, the Defence Ministry said that both Ministers strongly condemned the terror attack in Pahalgam and expressed deepest condolences to the families of the victims. It said Singh highlighted India's right to respond in self-defence against cross-border terrorism and described New Delhi's actions against Pakistan as measured, non-escalatory, proportionate and responsible.
- The defence ministry statement noted that they had deliberated on furthering defence science and technology collaboration projects when they meet in Australia later this year for the third India-Australia 2+2 ministerial meeting.
- The meeting offered an opportunity to both sides to review the status of bilateral engagements in the context of emerging regional and global scenarios.
- Both sides expressed satisfaction and recognised that defence has emerged as an important pillar of the collaboration on the fifth anniversary of the signing of the India-Australia Comprehensive Strategic Partnership. "Both countries expressed satisfaction at the growing strategic convergence between the two countries and agreed to work together towards a free and open Indian Ocean and Pacific Island region," the statement said.
- India and Australia also called for the continued strengthening of bilateral defence cooperation and their commitment for achieving their shared objective of peace, prosperity, stability and progress in the Indo-Pacific region.

Do You Know:

- The Australia-India Strategic Research Fund (AISRF) is a bilateral program that supports collaborative research projects between Australia and India. It aims to strengthen the scientific relationship between the two countries and address common challenges through joint research efforts.
- The India-Australia bilateral relationship has been underpinned by the shared values of pluralistic, Westminster-style democracies, Commonwealth traditions, expanding economic engagement, and increasing high-level interaction.
- Several common traits, including strong, vibrant, secular, and multicultural democracies, a free press, an independent judicial system, and English language, serve as the foundation for closer cooperation and multifaceted interaction between the two countries.
- The end of the Cold War and beginning of India's economic reforms in 1991 provided the impetus for the development of closer ties between the two nations. The ever-increasing numbers



of Indian students travelling to Australia for higher education, and the growing tourism and sporting links, have played a significant role in strengthening bilateral relations.

- With the passage of time, ties evolved in the direction of a strategic relationship, alongside the existing economic engagement. In recent years, the relationship has charted a new trajectory of transformational growth. With greater convergence of views on issues such as international terrorism, and a shared commitment to a rules-based order in the Indo-Pacific region, the two democracies have taken their cooperation to plurilateral formats, including the Quad (with the United States and Japan).
- The 2+2 Ministerial Dialogue was held in September 2021, and the Deputy Prime Minister and Defence Minister of Australia visited in June 2022. The Mutual Logistics Support Agreement (MLSA) was concluded during the Virtual Summit in June 2020, and the two militaries held several joint exercises in 2022. Australia will host military operations with India, Japan, and the US in the “Malabar” exercises off the coast of Perth in August, and has invited India to join the Talisman Sabre exercises later this year.

INDIA, PARAGUAY VOW TO BOOST TIES; UNITED AGAINST TERROR: PM

Hosting the first foreign head of state since Operation Sindoor, Prime Minister Narendra Modi told the visiting President of Paraguay, Santiago Peña Palacios, that the two countries are “united in the fight against terrorism” and there is immense possibility of cooperation to fight against “shared challenges” such as cybercrime, organised crime, and drug trafficking.

- Welcoming President Peña at delegation-level talks, Modi said the Paraguayan leader’s first visit to Delhi will add new strength to the pillars of trust, trade, and close cooperation in the relations and will also add new dimensions to India-Latin America relations.
- Peña, who arrived in Delhi Monday, is on a three-day visit to India to explore ways to expand overall cooperation. It is his first visit to India and only the second trip by a president of the South American country.
- “India and Paraguay stand united in the fight against terrorism. There is immense possibility of cooperation to fight against shared challenges such as cybercrime, organised crime, and drug trafficking,” Modi said, describing the two countries as integral parts of Global South with similar “hopes, aspirations, challenges.”
- Briefing reporters, P Kumaran, Secretary (East) in the Ministry of External Affairs, said: “This visit comes soon after the barbaric terrorist attack in Pahalgam, J&K. PM Modi expressed his deep appreciation to Paraguay for its strong condemnation of the terrorist attack in Pahalgam, as well as for the sincere condolences and solidarity expressed with the people and the Government of India... On behalf of the Paraguayan people, President Peña expressed his deep solidarity with the victims and families of the terrorist attack.”
- The PM also referred to New Delhi’s preferential trade arrangement with South American trading bloc MERCOSUR, comprising Argentina, Brazil, Paraguay and Uruguay. “We can work together to further expand it,” the PM said.
- On defence cooperation, Kumaran said while Paraguay’s priorities are different to those of India, the “logic driving their acquisition of defence hardware” is mainly law enforcement.



• He said one of the points discussed in the talks was “AgriStack”. “As a large agricultural country, the use of digital platforms to make agriculture more efficient... is of great interest to the Paraguayan side,” Kumaran said.

Do You Know:

• Mercosur is an economic and political bloc consisting of Argentina, Brazil, Paraguay, and Uruguay. Venezuela was suspended indefinitely in 2016, while Bolivia became a full member in 2024. Founded in 1991 to create a common market, spur development, and bolster democracy, Mercosur saw early successes, including a tenfold increase in trade within the bloc in its first decade. In 2024, Mercosur took a major step toward an agreement with the European Union, though other deals, including with the United States and China, remain elusive.

• In 2023, the four founding countries had a combined gross domestic product (GDP) of nearly \$3 trillion, according to World Bank data, making Mercosur one of the world’s largest economic blocs. In comparison, Latin America’s second-largest trade group, the Pacific Alliance, had a slightly lower combined GDP of close to \$2.8 trillion.

UNEASE IN INDIA AS PAK TO CHAIR, CO-CHAIR UNSC ANTI-TERROR PANELS

Pakistan’s appointment to key counter-terrorism bodies at the United Nations Security Council (UNSC) — chair of the sanctions committee against Taliban, vice-chair of counter-terrorism panel formed after 9/11, and a working group on the UN sanctions regime — has left many red faces in New Delhi.

• According to sources, there is a “sense of disquiet” and “unease” in South Block, since this goes contrary to India’s efforts to portray Pakistan as the epicentre of terrorism — just over a month after the Pahalgam terror attack on April 22, which was followed by Operation Sindoor that led to four days of military confrontation between India and Pakistan.

• Last month, India sent multi-party delegations to various foreign capitals, including all current and upcoming members of the UNSC, in an attempt to rally support for its war against terror emanating from Pakistan.

• Sources said Pakistan was appointed to these key panels on May 29, but the matter was made public in the last couple of days, while the Indian teams were touring these countries. An Indian delegation led by Congress MP Shashi Tharoor visited New York last month, and is again in Washington DC for engagements with the US Congress, think tanks and media.

• Appointment to these panels must have the concurrence of both permanent and non-permanent members of the UNSC. The development signals that Pakistan has been able to get its way, with the help of China and other members of the UNSC.

• Significantly, a high-level Pakistani parliamentary delegation, led by Senate Chairman and former Pakistan PM Yousuf Raza Gilani, concluded a visit to the UN headquarters in New York earlier this week. The delegation held a series of meetings with senior UN officials and diplomats from various member states.

• Pakistan has also sent a high-level multi-party political delegation to New York, Washington DC, London, Brussels and Moscow, led by its former foreign minister Bilawal Bhutto Zardari, to canvas for support in its favour.



Do You Know:

- Islamabad will now chair the UNSC committee established under Resolution 1988 (2011), which oversees the implementation of sanctions against the Taliban. It has also been named vice chair of the Counter-Terrorism Committee (CTC), which monitors implementation of Resolution 1373 (2001), a core component of the UN's global counter-terrorism architecture.
- India has friends on the Taliban sanctions committee, too, where Guyana and Russia are vice-chairs. The working group on sanctions has Greece as a co-chair. This is important since India has been trying to get a number of Pakistan-based terrorists sanctioned, while Beijing and Islamabad have been blocking such moves.
- New Delhi is hoping that these co-chairs and vice-chairs will act as a counter-balance and counter-weight to keep Pakistan's anti-India propaganda moves in check.
- Sources said the most important counter-terrorism committee, under UNSC Resolution 1267, is, however, led by Denmark as chair and Russia and Sierra Leone as co-chairs. Earlier, India chaired the UNSC 1267 ISIL and Al-Qaeda Sanctions Committee in 2022, responsible for monitoring and implementing sanctions against individuals and entities associated with the two outfits.

HOW DO MILITARY STANDOFFS AFFECT AVIATION?

The story so far:

After the Pahalgam terror attack on April 22, India initiated a series of measures against Pakistan that included the suspension of the Indus Waters Treaty. In response to India's calibrated steps, Pakistan issued a NOTAM (notice to airmen), closing its airspace to Indian aircraft from April 24 to May 23 — multiple air traffic routes were unavailable across the north and south as well as a part of the Arabian Sea. India responded with a similar NOTAM on April 30, that was effective till May 23.

What happened after the hostilities?

After India's tri-service Operation Sindoor (May 7-10), Pakistan opened its airspace resulting in some foreign airlines resuming overflights. However, both countries have again issued fresh notices, closing their airspace to Indian ("till June 24, 4.59 a.m., Pakistan Airports Authority") and Pakistan aircraft (June 23), respectively.

Is there a history of airspace closure?

Prof. Mohammad Owais Farooqui, Assistant Professor of Aerospace Law, Department of Public Law, College of Law, University of Sharjah, has told The Hindu that in the 1950s, India had objected to Pakistan's declaration of a "prohibited zone" along its frontier as discriminatory as it allowed overflights by other nations. The dispute was resolved diplomatically but set a precedent that such restrictions must have bona fide security justifications.

The Hindu's archives show that airspace closure has been a major issue corresponding with the state of bilateral ties. Following the 1965 India-Pakistan war, a report, "Overflights from Feb. 10: Indo-Pak. Accord: Air Services to be Resumed From March 1" (The Hindu, February 8, 1966), highlighted "an in principle agreement to allow overflights and a resumption of normal Pakistani and Indian services from March 1". Pakistan also wanted a direct link to Dacca (Dhaka), which was cut off in the war in September. The report said that "to reach East Pakistan from the west wing,



Pakistan aircraft at present have to fly by Ceylon, a detour of more than 2,000 miles and that international flights have been forced to operate from Karachi to Bombay — across the Arabian Sea (connections to New Delhi are picked up from Bombay)”.

In 1971, there was another ban following the hijacking of an Indian Airlines Fokker F-27 flight (Srinagar-Jammu) on January 30 to Pakistan. The passengers were released in Lahore and the plane was destroyed (burnt). A report, “Pak. Civil Overflights Also Banned” (February 4, 1971), detailed India’s banning of civilian overflights as well as continuing an existing ban on military aircraft until “Pakistan had satisfactorily settled the question of compensation for the Indian aircraft”. The report said that flights in both countries were affected (Pakistan “much more than India”). This incident also saw India filing a case in the World Court after Pakistan lodged a complaint with the International Civil Aviation Organization (ICAO) and the United Nations Security Council against the overflight ban. The World Court ruled (14-2 vote) that ICAO had jurisdiction over the issue. The issue was resolved in June 1976, with India and Pakistan signing a memorandum of understanding on resumption of overflights and flights.

Since then, there have been other closures and normalisations, with major events being the Kargil war (1999), the Indian Parliament attack (2001) and the Balakot airstrikes (2019).

Is there an estimate of the losses?

In 2025, the consolidated loss for the Indian aviation sector (including cargo) may be around ₹7,000 crore (indicative figure), according to reports that cite industry sources.

What were the airspace changes in 2025?

There was a temporary closure of 32 airports across northern and western India. There was also a temporary closure of 25 segments of Air Traffic Service (ATS) routes within the Delhi and Mumbai Flight Information Regions (FIRs), “unavailable from ground level to unlimited altitude” for aviation safety. Overflights were “funnelled” along certain air routes, with Mumbai, Ahmedabad, Nagpur, Kolkata and Chennai air traffic control managing the traffic. In 2019, as many as 500 flights were rerouted overnight. On May 7, during Operation Sindoor, there were close to 500 aircraft (20% were Indian aircraft) movements from Indian airspace to Pakistan, aviation sources have told The Hindu. Some of the air routes used included N571, P574, L301, L505 and L639, in turn linked to flight management with the Muscat FIR. There was also a 30% increase in aircraft movement per hour, with peak hour traffic put at 40 aircraft. In air navigation terms, India and Pakistan share close to 12 waypoints, through which the Mumbai and Delhi FIRs feed air traffic, while there are six waypoints between the Mumbai and Muscat FIRs. The sources said that the traffic load from the 12 waypoints was shifted to these six waypoints. Established air traffic management procedures were used such as minimum aircraft separation standards (vertical, crossing and lateral for east and west-bound traffic). Flightradar24’s director of communications has told The Hindu that there are few alternative routes via China due to the regimented nature of Chinese airspace and the presence of high mountains which can impact safe flight operations. Any routing that is less than optimal would add time and cost, he said.

Will international aviation law hold?

Prof. Farooqui says that while international aviation law provides mechanisms for redress, their effectiveness depends on political will and an understanding of the nuanced facts of this bilateral standoff.



THREE WEEKS LATER, CDS SHEDS NEW LIGHT ON OPS DURING HOSTILITIES

Chief of Defence Staff General Anil Chauhan's interviews to news agencies Reuters and Bloomberg on the sidelines of the Shangri-La Dialogue security forum in Singapore shed new light on combat operations during Operation Sindoor, going beyond the media briefings by the Indian Armed Forces during the hostilities.

- First, General Chauhan's remark about initial losses in the air, without going into details or giving a count of aircraft lost, is the first official admission of fighter jets being downed in combat operations. Asked by Bloomberg if the Pakistani claim of downing six Indian jets was correct, the CDS said: "Absolutely incorrect."
- On May 11, a day after the two militaries reached a truce, Air Marshal A K Bharti, Director of Air Operations, responding to a question at a media briefing, said he would not like to comment on whether India lost any aircraft and cited the prevailing combat situation. He said losses were part of any combat, and the Indian military had achieved all its selected objectives and all IAF pilots were back home.
- General Chauhan, while acknowledging Indian losses in the air, underlined that what was more important was why these losses (of aircraft) occurred, and what India did after that.
- He told Reuters that the IAF "flew all types of aircraft with all types of ordnances on the 10th" of May, the day India struck air bases deep inside Pakistan, including the Nur Khan air base in Rawalpindi.

Do You Know:

- Operation Sindoor: India launched 'Operation Sindoor' on May 7, hitting nine terror locations in Pakistan and Pakistan-occupied Kashmir (PoK). India's retaliatory attack is ostensibly considered a reference to only men being singled out based on their faith before being killed in Pahalgam. This marked the most expansive and widespread retaliation by India in recent years, since the Balakot airstrikes in 2019 and the surgical strikes following the Uri attack in 2016. The attacks were made at nine locations, which were terrorist infrastructure in Pakistan and Pakistan-occupied Kashmir.
- India's planned fifth-generation fighter jet—advanced medium combat aircraft (AMCA) — hit a new milestone on 27th May with Defence Minister Rajnath Singh approving the execution model. With this, the state-owned Hindustan Aeronautics Limited (HAL) will have to bid independently or in partnership with other firms to get the contract for manufacturing it. The execution model approach provides equal opportunities to both the private and public sectors on a competitive basis. The AMCA will be India's indigenous fifth-generation fighter aircraft. The indigenous Light Combat Aircraft (LCA) Tejas is a 4.5-generation single-engine multirole aircraft.

CRACKDOWN AGAINST ILLEGAL IMMIGRANTS HAS TO FOLLOW DUE PROCESS

In the wake of the brutal terrorist attack on Pahalgam, the government has done the right thing by heightening security across the country. It has intensified operations against terrorists and given greater urgency to increasing surveillance along the borders. Last month, the Union Ministry of Home Affairs issued an order asking states and Union Territories to detect and deport foreigners, especially people from Bangladesh and Myanmar, living illicitly in the country. The Centre's instructions have prompted several states to intensify their ongoing operations against

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



suspected illegal immigrants. From the West Bengal government's allegation, earlier this year, of BSF's laxity against Bangladeshi "infiltrators" to Delhi's erstwhile AAP government's drive against "illegal Bangladeshi" students to Assam Chief Minister Himanta Biswa Sarma's frequent diatribes against immigrants from India's eastern neighbour, the issue of illegal immigration has raised its head time and again in the heat and dust of Indian politics. The Centre and state governments must understand that the current moment has a far more compelling imperative than polarising politics — the two should be kept scrupulously apart. However, reports in this newspaper shine a light on the disquieting tendency among authorities to ignore court proceedings — and take the short cut bypassing due process. Among the people caught in the no man's land between India and Bangladesh is an Assam school teacher whose citizenship case is being heard by the Supreme Court. And, days ago, a 50-year-old woman was pushed into Bangladesh and then brought back after her lawyer flagged that she was legally in the clear.

In Assam and several other regions of the Northeast, the movement of people across the mostly porous border across Bangladesh is an immensely sensitive and fraught issue. On the one hand, the movement of people across regions has a long history that predates Partition. On the other hand, the anti-outsider sentiment was the major trigger for the Assam agitation and has often led to violence in the state. In recent years, the state's BJP government has stoked anxieties around identity and demography by framing the narrative in communal terms. The state government's aggressive use of the Foreigner's Tribunal — it sets March 25, 1971, as the cut-off date for citizenship in Assam — has left thousands with an uncertain future. The onus is almost always on the accused to prove their citizenship. Assam CM Himanta Biswa Sarma has cited a Supreme Court directive of February in support of the latest anti-immigration drive. However, Sarma's past pronouncements — especially his use of dog whistles, "land jihad" and "flood jihad," to refer to the migrant problem — do not inspire confidence. The Assam CM has said that the recent drive does not target people who have appealed to the courts after the revocation of their nationality by a tribunal. Last week, however, the Gauhati High Court had to intercede on behalf of two such people, whose families fear that they may have been "pushed out" to Bangladesh.

That Myanmar and Bangladesh are in political turmoil today doesn't make the task any easier. That should not, however, be the rationale for rounding off suspected illegal migrants and pushing them across borders. On immigration crackdown, the short-cut will always be more expedient — most of the victims are vulnerable and without adequate representation — but due process, even if it is a long haul, needs to be followed and seen to be followed. Only then will it engender a security that endures.

JUDGES WHO GET GOVT JOBS, JOIN POLITICS AFTER RETIRING INVITE SCRUTINY: CJI

Making clear he has decided not to accept any post-retirement role or position from the government, Chief Justice of India B R Gavai has said that judges taking up government appointments "immediately after retirement" or resigning to contest elections "raises significant ethical concerns and invites public scrutiny".

- He was speaking at a roundtable Tuesday at the UK Supreme Court, hosted by Lord Reed of Allermuir, President of the UK Supreme Court.
- Explaining how the Collegium system of appointing judges to constitutional courts came into being, CJI Gavai, while acknowledging that "there may be criticism of the Collegium system", said "any solution must not come at the cost of judicial independence". He sought to underline that "judges must be free from external control".



- Referring to the debate around judges accepting post-retirement jobs, the CJI said “if a judge takes up another appointment with the government immediately after retirement, or resigns from the bench to contest elections, it raises significant ethical concerns and invites public scrutiny”.
- He said “a judge contesting an election for a political office can lead to doubts regarding the independence and impartiality of the judiciary, as it may be seen as a conflict of interest or as an attempt to gain favour with the government”.
- He said “the timing and nature of such post-retirement engagements could undermine the public’s trust in the judiciary’s integrity, as it could create a perception that judicial decisions were influenced by the prospect of future government appointments or political involvement”.
- The CJI admitted that “there have been instances of corruption and misconduct that have surfaced even within the judiciary,” and said “such occurrences inevitably have a negative impact on public confidence, potentially eroding faith in the integrity of the system as a whole”.

Do You Know:

Abhinav Chandrachud Writes:

- Retired judges have been appointed to political office since Prime Minister Jawaharlal Nehru’s tenure. However, the time has come for us to ask a difficult question: Should judges stop accepting post-retirement jobs offered by the government, at least for a few years after retiring, because accepting such posts could undermine the independence of the judiciary?
- Unlike federal judges in the US, judges in India do not hold office for life. They remain in office until they reach the retirement age — 65 for Supreme Court judges and 62 for high court judges. These judges do not hold their offices at the “pleasure” of the President. In other words, they cannot be arbitrarily removed by the government once they are appointed, and can only be impeached by a supermajority of both houses of Parliament “on the ground of proved misbehaviour or incapacity”. The impeachment process is a very difficult one and never in the history of independent India has a judge been impeached, though attempts have sometimes been made to do so. Judges, therefore, enjoy security of tenure while holding office, which is essential for maintaining judicial independence.
- The Constitution provides that a retired Supreme Court judge cannot “plead or act in any court or before any authority within the territory of India”. In the Constituent Assembly, K T Shah, an economist and advocate, suggested that high court and Supreme Court judges should not take up an executive office with the government, “so that no temptation should be available to a judge for greater emoluments, or greater prestige which would in any way affect his independence as a judge”. However, this suggestion was rejected by B R Ambedkar because he felt that the “judiciary decides cases in which the government has, if at all, the remotest interest, in fact no interest at all”.
- In Ambedkar’s time, the judiciary was engaged in deciding private disputes and rarely did cases arise between citizens and the government. “Consequently”, said Ambedkar, “the chances of influencing the conduct of a member of the judiciary by the government are very remote”. This reasoning no longer holds today because the government is one of the largest litigants in the courts.
- In its 14th report in 1958, the Law Commission noted that retired Supreme Court judges used to engage in two kinds of work after retirement: Firstly, “chamber practice” (a term which would, today, mean giving opinions to clients and serving as arbitrators in private disputes) and secondly,



“employment in important positions under the government”. The Law Commission frowned upon chamber practice, but did not recommend its abolition. However, it strongly recommended banning post-retirement government employment for Supreme Court judges because the government was a large litigant in the courts. The Commission’s recommendations were never implemented.

‘A CONSERVATIVE SOCIETY IS NO EXCUSE TO DENY SECURITY TO LGBTQIA+ COUPLES’

Our society is still conservative, and not every parent is like Justice Leila Seth (former Chief Justice of the Himachal Pradesh High Court who openly supported her gay son), the Madras High Court has said adding that it should not be a reason for the police to deny security to LGBTQIA+ couples facing threats.

A Division Bench of Justices G.R. Swaminathan and V. Lakshminarayanan made the observation while allowing a habeas corpus petition filed by a 25-year-old woman from Tirupattur over the illegal detention of her partner by the latter’s parents at their residence in Vellore district.

The judges allowed the detainee, who is also an adult, to go with the petitioner after she confirmed that her parents had confined her at their residence.

Justice Swaminathan also gave ₹1,000 from his personal funds towards the conveyance expenses of the same-sex couple.

The Division Bench also expressed reservations over the use of the expression ‘queer’ to describe persons whose gender identity or sexual orientation were outside societal norms. It said that there was nothing strange or odd about such inclinations and, therefore, the expression was not appropriate.

Discomforting usage

“We feel certain discomfort in employing the expression ‘queer.’ Any standard dictionary defines this word as meaning ‘strange or odd.’ To a homosexual individual, his/her/their sexual orientation must be perfectly natural and normal... Why then should they be called queer?” the judges wondered.

Meanwhile, censuring the police for having forced the detainee to go with her parents when a complaint was lodged with them, the Court held that the officials, the jurisdictional police in particular, would be duty-bound to respond to complaints of threats or harassment received from members of the LGBTQIA+ community.

“We also restrain the detenu’s natal family members from interfering with her personal liberty. We issue a writ of continuing mandamus to the jurisdictional police to provide adequate protection to the detenu as well as the petitioner, as and when required,” the judges ordered.

Expressing their inability to convince the parents of the detainee to accept the relationship between their daughter and the petitioner, the Division Bench said, “But the law is very clear. All individuals possess the right to universal enjoyment of human rights.”

Authoring the verdict, Justice Swaminathan also wrote, “Marriage is not the sole mode to found a family. The concept of ‘chosen family’ is now well settled and acknowledged in LGBTQIA+ jurisprudence. The petitioner and the detenu can very well constitute a family.”



Welfare efforts

The Division Bench also referred to efforts taken by Justice N. Anand Venkatesh of the Madras High Court to improve the conditions of the LGBTQIA+ community.

It said that the judge had approved a deed of familial association to recognise the civil union entered into by LGBTQIA+ partners.

TRANSGENDER COUPLE TO BE NAMED AS 'PARENTS' IN CHILD BIRTH RECORD, SAYS HC

The Kerala High Court on Monday directed the Kozhikode Corporation to issue a new birth certificate for a child born to the State's first transgender parents, terming them "parents" instead of "father" and "mother" in the certificate.

The court passed the directive while disposing of a writ petition filed by Zahhad and Ziya of Kozhikode challenging the decision of the Corporation to mention them as mother and father in the certificate, instead of as parents.

The court ordered the Corporation to remove the column of father and mother and include the name of the petitioners in the birth certificate as parents without referring to their gender.

The petitioners said that in the birth certificate, the father's name has been recorded as Ziya Paval (transgender) and the mother's name as Zahhad (transgender).

Reason for request

Though the petitioners had approached the Kozhikode Corporation for a new birth certificate of their child without specifically mentioning the names of the father and mother and using the term "parent", the Corporation had refused to do so. They said they had made the request because the biological mother of the child had identified herself as male years ago and was living as a male member of society. They said in various other countries, couples, especially same-sex couples, could choose their title in their child's birth certificate from among "mother," "father," and "parent".

JUSTICE HEMA COMMITTEE REPORT: WHY POLICE HAVE DROPPED SEXUAL ASSAULT CASES

The Kerala police on Tuesday dropped 35 sexual assault cases which were booked after the Justice Hema Committee report was released by the Kerala government on August 19, 2024.

- The report — written by retired High Court Judge K Hema, former bureaucrat K B Valsalakumari, and actor T Sarada — was made public four-and-a-half years after it was submitted to Kerala Chief Minister Pinarayi Vijayan. It revealed discrimination and exploitation faced by women in the Malayalam film industry.
- On February 17, 2017, a leading Malayalam film actress was abducted and sexually assaulted in a moving car by a group of men. A prominent Malayalam film actor, Dileep, was accused of orchestrating the attack, and was later implicated in the case.
- The Women in Cinema Collective (WCC), comprising women actors, producers, directors and technicians, was formed in response to the 2017 incident. On May 18, 2017, the WCC submitted a



petition to Pinarayi Vijayan, demanding an inquiry into the incident, and larger gender issues plaguing the state's film industry.

- In July 2017, the Kerala government formed the Justice Hema Committee to investigate sexual harassment and gender inequality in the industry. This was the first such committee formed by any state in the country.
- After speaking to multiple women and men in the industry on various issues, the Committee submitted its report to the Chief Minister in December 2019.
- The Kerala government did not release the report for years saying that it contained “personal stories” of women who deposed before the Committee, and making the report public would amount to a violation of their privacy and right to anonymity.

Do You Know:

- The report found that a culture of sexual harassment pervaded the Malayalam film industry. The Committee reported the existence of casting couch (wherein powerful men demand sexual favours from women in return for opportunities in films), frequent suggestive and vulgar comments made by men at the workplace, and drunk male co-actors forcing themselves into rooms of women, among other things. The Committee also found that several women did not report instances of sexual assault due to a fear of retribution.
- Following the release of the report, several women actors, technicians and junior artists came forward with testimonies of being harassed by male professionals in the industry. The testimonies put the Malayalam Film Artistes Association (AMMA) in the dock as several of their stars were named in sexual assault charges.

The Kerala police then took suo-motu cases against those who were named in sexual assault charges. “At the peak of the investigation, there were at least 60 cases which were filed both by the police and the survivors,” a Kerala police official told The Indian Express.

- According to sources, the cases were dropped due to either “lack of evidence” or “non-cooperation” of assault survivors. “Several women just wanted to narrate the details of the incident and refused to proceed with formalities of police investigation. Also, as many of these instances of harassment took place a decade or more ago, it was difficult to find evidence,” a source said.
- Several women who work in the Malayalam film industry said the Kerala government needed to bring “systemic changes” in the functioning of the industry. They also said that the government needed to create forums, including an internal committee, to tackle the issues faced by women in the industry. “Police action should not be the only way forward as it has proven to be ineffective,” one of the survivors said.

SHARMISTHA PANOLI'S ARREST AND A QUESTION: WHOSE FREE SPEECH?

There is an all-too familiar and unfortunate reality to the social media age. Derogatory and offensive statements — even hate speech — are amplified by algorithms and interests that are “optimised” for outrage and attention. Sharmistha Panoli's social media post fits into all these categories — and more. It echoed, in the crudest manner, some of the most hurtful anti-minority tropes in circulation. The Kolkata Police's action against the 22-year-old law student — she was



arrested from her home in Gurugram and produced before an Alipore court on Saturday — though, is both an overreaction and a symptom of a deeper rot. At the same time, while it is heartening to see many in the BJP championing Panoli's right to free speech, the irony couldn't be more obvious.

Since Operation Sindoor, there have been several arrests across the country — often of students and young people from minority communities — for their social media posts that were deemed “anti-national”, “seditious” and the catch-all red rag, “pro-Pakistan”. Section 152 of the Bharatiya Nyaya Sanhita (endangering sovereignty, unity and integrity) has been generously invoked; BJP-ruled Assam stands out in this regard: As of last month, as many as 50 were arrested, most of them Muslim, their vulnerability compounded at a time of heightened passions. In Maharashtra last week — on the heels of the arrest of academic Ali Khan Mahmudabad in Delhi — the Bombay High Court had to step in to reverse the rustication of, and grant bail to, a 19-year-old engineering student in Pune for an Instagram post on the politics around Op Sindoor. Calling the arrest “shocking”, the Court said: “... at the most, her act of sharing the post can be termed as an act of ‘indiscretion’ by a young student who is still taking education”. That the BJP's Suvendu Adhikari, Congress's Karti Chidambaram and the Janasena Party's Pawan Kalyan, Deputy CM of Andhra Pradesh, too, called out the West Bengal government's zeal to arrest Panoli needs to be applauded, even if their touching concern over free speech is fleeting.

In Shreya Singhal, the Supreme Court expanded the ambit of free speech to the digital space; the Court has, time and again, frowned on hate speech and called for its tracking and monitoring — but to little effect. Because, in the end, it's the political class that shapes this discourse more than anything else. Questions need to be asked of the police in Assam and West Bengal, of BJP governments, and those run by parties in Opposition, of Mamata Banerjee and Himanta Biswa Sarma: What end is served by putting young people in prison for online posts or a video clip meant to provoke? Free speech has constitutional guarantees, its contours have been expanding case by case in the courts. The disquieting reality, however, is that how protected free speech is — and whose free speech gets protection — depends on which party controls the police in the thana.

KAMAL HAASAN, AND THE TAMIL VS KANNADA OVER-REACTION

The cacophony of outrage over Kamal Haasan's remark that Kannada was “born out of Tamil” has reached an unseemly but not unexpected crescendo — it follows a pattern seen whenever the politics of language and the language of hurt sentiments are invoked. It has gone all the way to the Karnataka High Court, which advised Haasan to apologise and questioned his credentials to make such a statement, asking, “Are you a historian, linguist?” But there are other pertinent questions, which the Court didn't ask: Is such escalation over a misinformed comment proportionate or justified? Does one need to be an expert, or even correct, to exercise the right to free speech? Is this an appropriate use of the state's time and resources?

The fallout of Haasan's remark saw apologies demanded, protests held, effigies burnt, a police complaint filed, a state minister calling for a ban on screening the actor-politician's film *Thug Life* in Karnataka and the Karnataka Film Chamber of Commerce promptly obliging him. There is a history and a context to this mobilisation of linguistic grievance: In the present, it is exacerbated by growing resentment over the presence of people from other states, particularly Hindi speakers. Alongside this is an older anxiety over the dominance of Tamil speakers in Bengaluru, in the backdrop of the regional rivalry between Karnataka and Tamil Nadu. Looming over it all, but sometimes unmentioned in the context of North-South and South-South tussles, is the shadow of English. All this — with parallels across multiple states, for instance in neighbouring Maharashtra

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



— creates fertile ground for a politics of relentless prickliness that makes mountains out of molehills. It can lead to violence, and often has.

Haasan is wrong about Kannada and Tamil, and appears to be ill-informed about the history of the Dravidian languages. One did not come from the other — the two are better characterised as sisters. He has refused to apologise. The question is not whether or not he's been wise. What's questionable is the clamour for an apology — it comes from a place of parochialism. What is needed, instead, is an imagination that is broad enough to accommodate the aspirations of regional and linguistic subnationalism and address people's legitimate concerns about the future of their mother tongues. Also needed is a self-confidence to engage fruitfully with an increasingly cosmopolitan reality. Political leaders could do worse than take a leaf out of Karnataka Deputy CM D K Shivakumar's book. In one of the most sensible responses to this controversy, he said, "We are not enemies; we are all friends. I don't want to comment on it because I don't know the history of that issue."

HOW IS PRESIDENT'S RULE IMPOSED?

The story so far:

A delegation of 10 MLAs from the Manipur Assembly met the Governor of the State and pressed for the formation of a viable government in Manipur that has been under President's Rule since February 2025.

What is President's Rule?

Article 356 is invoked to impose President's Rule in a State after removing the State government. While there are duties cast on federal governments in the U.S. and Australia to protect the States, their constitutions do not have any provision for removing State governments. Under Article 356, the President (Central government) may take over the governance of a State when it cannot be carried out in accordance with the provisions of the Constitution. The President can make such a proclamation based on a receipt of report from the Governor of a State or otherwise. The latter situation may arise under Article 365 due to failure of a State to comply with or give effect to any directions of the Union government.

The proclamation of President's Rule must be approved by both Houses of Parliament within two months from the date of its issue by a simple majority. Once approved by Parliament, the President's Rule continues for six months, from the date of proclamation, unless revoked earlier. It can be extended for a further period of six months at a time by an approval of both the Houses of Parliament by a simple majority. The President's Rule cannot extend beyond a period of three years in total.

What has been the history?

Dr. B.R. Ambedkar during the Constituent Assembly debates wished that Article 356 would never be called into operation and that it would remain a dead letter. However, it has been a travesty that Article 356 was misused on several occasions, removing elected governments that enjoyed majority in the States, violating constitutional principles and federalism. Reasons varied from loss in Lok Sabha elections to deterioration of law and order. When it comes to the dissolution of the Legislative Assembly after imposition of President's Rule, there has been no uniformity in the approach. More than constitutional principles, it was political expediency that drove such decisions in the past.



Various Governors have adopted different approaches in similar situations in regard to the dissolution of the Legislative Assembly. The advice of a Chief Minister, enjoying majority support in the Assembly, is normally binding on the Governor. However, where the Chief Minister had lost such support, some Governors have refused to dissolve the Legislative Assembly on his/her advice, while others in similar situations, accepted the advice, and dissolved the Assembly. The Assembly was dissolved in Kerala (1970) and in Punjab (1971) on the advice of the Chief Minister whose claim to majority support was doubtful. However, in more or less similar circumstances in Punjab (1967), Uttar Pradesh (1968), Madhya Pradesh (1969), and Orissa (1971), the Legislative Assembly was not dissolved immediately based on the outgoing Ministry's advice. Attempts were made to install alternative Ministries.

What have the courts ruled?

The Supreme Court and High Courts during the first four decades after Independence refrained from interfering in the decision of the Centre to impose President's Rule in States. It was only after a categorical judgment of the Supreme Court in the S. R. Bommai case (1994), that misuse of Article 356 has been restricted. The court in this judgment held that Article 356 should be imposed only in the event of a breakdown of constitutional machinery as distinguished from an ordinary breakdown of law and order. It also held that imposition of President's Rule is subject to judicial review and should not be misused for political reasons. It further ruled that till Parliament approves the imposition of President's Rule, the Legislative Assembly should not be dissolved, and can be only kept under suspended animation.

The higher judiciary has been a watchdog, since the S. R. Bommai case, against the arbitrary use of Article 356. Notably in the case of Bihar (2005), Uttarakhand (2016) and Arunachal Pradesh (2016), the courts have struck down the wrongful imposition of President's Rule.

When can it be revoked?

If President's Rule is imposed because of the lack of a government with majority, then usually fresh elections are held. After elections, the President's Rule is revoked and a popularly elected government takes over the governance of the State. Manipur was placed under President's Rule in February 2025 due to the deteriorating security situation and consequent political developments in the State. The assembly, whose five-year term ends in March 2027, has been kept under suspended animation. Considering that more than 18 months are left before the assembly term expires, it would be prudent to install a government that enjoys the confidence of the assembly. More importantly, it should enjoy the confidence of different sections of society of the State.

WHAT IS NEW IN LADAKH'S GOVT. JOB RESERVATION POLICY?

The story so far:

On June 3, President Droupadi Murmu notified four Regulations for the Union Territory (U.T.) of Ladakh, defining new policies on reservation, languages, domiciles, and composition of hill councils for Ladakh, which became a Union Territory in 2019. The notified regulations were The Ladakh Official Languages Regulation, 2025; The Ladakh Civil Services Decentralisation and Recruitment (Amendment) Regulation, 2025; The Ladakh Autonomous Hill Development Councils (Amendment) Regulation, 2025; and The Union Territory of Ladakh Reservation (Amendment) Regulation, 2025.



What did the policies entail?

The Regulations pave the way for 85% reservation for resident Ladakhis in government jobs. The Rules notified empowered the tehsildar to issue the domicile certificates. To be considered “domiciles” and thus eligible for the 5% quota in government jobs in the U.T., non-local residents must prove a continuous 15-year stay in the U.T. starting from October 31, 2019. Added with the 10% quota for the Economically Weaker Sections, the total government job reservation in the U.T. now stands at 95%, one of the highest in the country.

According to the 2011 Census, Ladakh’s population is 2,74,289, and nearly 80% are tribals. The U.T. has a majority Buddhist population in Leh and a sizeable Muslim population in Kargil.

Another recently notified policy said that at least one-third of the seats in the hill councils of Leh will be reserved for women, on a rotational basis across jurisdictions, and the official languages of the U.T. will be English, Hindi, Urdu, Bhoti, and Purgi.

Why were the policies notified?

After the special status of Jammu and Kashmir under Article 370 of the Constitution was read down on August 5, 2019, the former State was split into two Union Territories — J&K and Ladakh, the latter without a legislative Assembly. After initial euphoria, the Ladakhi civil society groups began protests demanding protection of land, resources, and employment. Concerns arising out of big businesses and outsiders acquiring land and jobs led people to protest and observe shutdowns. Cutting across party lines, locals and a former BJP MP demanded restoration of protection as granted under Article 35A of the Constitution, which was revoked with Article 370 in 2019. Article 35A lets the J&K legislature decide the “permanent residents” in the former State, prohibits a non-J&K resident from buying property, and ensures job reservation for its residents.

In 2020, the People’s Movement for Constitutional Safeguard or the Leh Apex Body (LAB) was formed, backed by the powerful Ladakh Buddhist Association. In 2021, the LAB and the Kargil Democratic Alliance came together to fight for constitutional safeguards for the region. Together, they came up with four key demands: inclusion under the Sixth Schedule of the Constitution (giving tribal status and autonomy over land), Statehood, separate Lok Sabha seats for Leh and Kargil districts, and filling of existing government vacancies.

What is next?

Cherring Dorjay Lakruk, the president of Ladakh Buddhist Association and co-convenor of the LAB, said that they will continue to demand Statehood and inclusion under the Sixth Schedule of the Constitution.

“Only one chapter, that of government jobs, is closed. The talks with the government will continue over issues such as the protection of land and constitutional safeguards. So far, we have not raised the issue of land with the government,” Mr. Lakruk said.

Before the policies were notified, the high-powered committee members were invited by Union Home Minister Amit Shah for a tea party at the latter’s residence. “The Home Minister assured us that all other issues will remain under discussion,” Mr. Lakruk said.



CENTRE LAUNCHES UMEED PORTAL FOR REAL-TIME MONITORING OF WAQF ASSETS

Union Minister for Minority Affairs Kiren Rijiju on Friday launched the Unified Waqf Management, Empowerment, Efficiency and Development (UMEED) portal, a centralised digital platform for real-time uploading, verification, and monitoring of Waqf properties.

The Minister said the portal will bring about a paradigm shift in administration of Waqf assets by introducing greater transparency, accountability, and public participation. “The UMEED portal will add a new chapter in the history of Waqf property management and administration in India. It will not only bring transparency but will also help common Muslims, particularly women and children,” he said.

Developed by the Ministry, the UMEED will feature a digital inventory with geotagging of all Waqf properties. Other key features include an online grievance redressal system for better responsiveness and integration with GIS mapping and other e-governance tools, the Ministry said, adding that the portal will also provide the public access to verified records and reports related to the Waqf.

Terming the portal a historic step, Mr. Rijiju emphasised that the UMEED was more than just a technological upgrade.

“It is a symbol of the government’s firm commitment to safeguarding the rights of minority communities and ensuring that community owned Waqf assets are utilised effectively and fairly, for poor Muslims, for whom it was originally meant,” the Minister added.

WRONG CALL

The decision by the Bharatiya Janata Party-led Assam government to issue arms licences to “eligible” indigenous communities in remote and vulnerable areas in the State is fraught with danger. The State government seems to suggest that indigenous communities living in the border areas abutting Bangladesh are vulnerable and that armed licences would be a deterrent and improve their personal safety and confidence. Chief Minister Himanta Biswa Sarma has also insisted that these grants would not be for people near inter-State borders in Assam. But these caveats still do not take away from the fact that arming specific civilian groups is liable to be rampantly misused for acts such as vigilantism and inter-community rivalry, as the lines between law enforcement — which carries legal authority and has a monopoly over armed instruments — and private citizens are blurred. In a State that has been beset with insurgent violence and where the threat from groups such as the ULFA (Independent) remains, introducing more arms into civilian hands risks propagating further violence and arms proliferation rather than ensuring enhanced security. Instead of arming civilians, ostensibly for self-defence — a move akin to abdicating its core responsibility — the State government has the clear alternative of enhancing its own law enforcement and security presence in these “vulnerable areas”.

It is well understood that in modern states, the monopoly over instruments of violence will remain with the government and its law enforcement agencies. In India, arms licences are issued in a restricted manner as a delegated and a limited right to self-preservation to select individuals through a stringent licensing process under the Arms Act, 1959 and the Arms Rules, 2016. These rules under the law preclude the provision of such licences to larger, identified groups — where identification itself could be fraught with the risk of conflicts — as they not only present administrative challenges but also make it difficult for the government to license, monitor and



recover firearms as the law requires it to. Arming civilian groups, even with an intention to do so with some stringent implementation, runs the risks of having these weapons entering grey markets and falling into the wrong hands, besides designating those groups with an authority that could backfire on the state. This was evident when security forces in Chhattisgarh arming civilian groups for protection against the Maoist threat — in the Salwa Judum campaign in the late 2000s — led to severe human rights violations and lawlessness, before the Supreme Court of India intervened to deem the policy to be illegal. Considering these problems, Assam must reverse its decision.

TRAMPLED OVER

In less than 24 hours, ecstasy turned into despair. Royal Challengers Bengaluru's (RCB) maiden Indian Premier League (IPL) title, secured on Tuesday night in Ahmedabad, triggered unabated joy and raucous celebrations in Bengaluru and the rest of Karnataka. However, by Wednesday evening, a thick shroud of grief hung over the southern metropolis as a ghastly stampede in and around RCB's home ground, the M. Chinnaswamy Stadium, left 11 dead and more than 50 injured. The hallowed venue was hosting a felicitation event in honour of the victorious team while fans outside, desperate to get in, ended up as a heaving chaotic mass with many gasping for breath. Asphyxia was the primary cause of death besides injuries suffered in the stifling rush. Sport is often a tight pact between the performing athlete and the adoring fan; it triggers emotions, and in the case of the IPL, forges a connection between the franchise and a vast audience. RCB has always had a loyal fan base, and the IPL triumph was bound to attract followers running into lakhs, towards the Central Business District of M.G. Road, Brigade Road, Cubbon Road, Queens Road and KSCA Clubhouse Link Road. Karnataka Chief Minister Siddaramaiah admitted that the crowd was beyond expectations.

However, to use a massive gathering as an explanation for an avoidable accident, is unacceptable. The multitude of fans near the Vidhana Soudha, the State legislature, from Wednesday morning should have compelled the authorities to tighten crowd control protocols. RCB had proclaimed that there would be an open-bus parade, but the police clarified that it would not happen. With no access to the Vidhana Soudha where the Chief Minister felicitated the players, the frenzied gathering rushed towards the stadium for a glimpse of stars such as Virat Kohli. The rumours about the gates being open to the public, and the contradictory messages about entry by invitation only, exacerbated the crisis. As the venue was packed, gates were closed but fans tried to force their way in. Be it the Karnataka State Cricket Association's (KSCA) security or police personnel, staffing was inadequate and a fatal climax was inevitable. The State Government, the RCB management, the KSCA and the BCCI have expressed their condolences while some have indulged in finger-pointing. The Chief Minister has announced that the Bengaluru Police Commissioner and all officials responsible for the jurisdiction where the stadium is have been suspended, pending an inquiry. There will also be a judicial inquiry. However, the grim truth is that the fan, who drives the commerce of every sport, is the last priority for administrators. Clear communication, effective policing and proper advance notice for an event of this scale are all essential or else, such tragedies might recur periodically.

THE CENSUS OF 1931

The Centre on Wednesday announced that the much delayed Census 2021 will be held in two phases beginning October 1, 2026 and March 1, 2027.



- This will be the first Census since 1931 to capture granular caste data, beyond the broader classifications of Scheduled Castes (SCs) and Scheduled Tribes (STs) that have been enumerated in every post-Independence Census.
- Some of the debates that took place around the exercise in 1931 continue to be relevant even today. As are questions of methodology, which were discussed in detail in the 518-page report compiled by Census Commissioner John Henry Hutton.
- In 1931, British-ruled India stretched from Baluchistan (Balochistan) in the west to Burma (Myanmar) in the east. Hutton, an ICS officer and an anthropologist by training, wrote about the logistical challenges in his report.
- The Raj also faced political challenges. The 1931 Census and preparations for it took place as civil disobedience swept across much of the country. "... [This] census like that of 1921 had the misfortune to coincide with a wave of non-cooperation, and the march of Mr Gandhi and his contrabandistas to invest the salt-pans of Dharasana synchronized with the opening of census operations," Hutton complained.

The Gandhi-Irwin Pact of March 5, 1931, which effectively ended the Civil Disobedience Movement, was signed a week after the date of enumeration on February 27.

- The 1931 Census cost the exchequer Rs 48.76 lakh compared to roughly Rs 40 lakh spent on the Census a decade previously. Even in absolute terms — not taking inflation into account — the 1931 Census was cheaper per capita than a decade earlier, costing Rs 12.8 per thousand population compared to Rs 14 per thousand population in 1921.
- The 1931 Census captured crucial demographic data about (undivided) India and its people.

Do You Know:

- The Government recently said the process of data collection for the Census, along with caste enumeration, would commence early next year and give the snapshot of the country's population as on March 1, 2027. The last Census provided population data as on March 1, 2011. The next Census was due in 2020-2021, but was delayed due to Covid pandemic.
- The exercise this year will officially begin with a notification announcing the government's intent of conducting the Population Census to be published in an official gazette tentatively on June 16 this year.
- The Census would be conducted in two phases — house listing and population count. House listing, the first phase, is expected to take about 5-6 months and the population count, which is the second phase, sources said, is expected to start in February 2027 and will be completed in a month.
- The reference date for hilly areas, including the Union Territory of Ladakh, and snow-bound areas of Jammu and Kashmir, Himachal Pradesh and Uttarakhand, is October 1, 2026. For the rest of India, it is March 1, 2027. The reference date is the specific point of time for which the data on population is collected.

A critical aspect of the upcoming Census is its link to the next delimitation of Lok Sabha and Assembly constituencies, which will redraw India's electoral map. The Constitution mandates that the next inter-State delimitation be based on population figures from the first Census after 2026.



The current distribution of Lok Sabha seats is based on the 1971 population spread. With the reference date for the Census set as March 1, 2027, for most of the country, this can pave the way for the next delimitation exercise. States that have experienced lower population growth in recent decades, particularly in the peninsular region, have expressed concern that their parliamentary representation will diminish if population becomes the sole criterion for redistribution. The Centre has yet to clarify its stance on this matter. With the Census now in motion, it is imperative for the Centre to engage with all stakeholders and build consensus on the sensitive issue of delimitation. Otherwise, the delay in the announcement of the Census will be taken to mean as an attempt to ensure that the ruling BJP benefits from the increased representation for the Hindi-speaking States.

DOES THE CIVIL SERVICES EXAMINATION NEED REFORM?

The foundations of the present format of the civil services examination can be traced to the Macaulay Report of 1854 which introduced selection by merit and designed an examination on the principle of 'transferability of academic talent to administration'. After Independence, the Kothari Committee (1975) recommended a three-tier examination comprising a preliminary exam, a descriptive main examination and an interview.

The initial format

The preliminary exam comprised of an optional subject and a common general studies paper with a weightage of 2:1 respectively. After the preliminary exam, only the names of the shortlisted aspirants for the main examination were released by the UPSC. The question paper, the marks scored by the aspirants, and the minimum qualifying mark were kept classified and not made public. For many years this 'black box' nature of the preliminary exams ensured its smooth conduct as there was no 'locus standi' for an aspirant to question the result.

In 2005, with the passing of the Right to Information Act, aspirants flooded the UPSC with queries regarding the rationale of the exams and the UPSC had to disclose its methods which were raised for judicial scrutiny. To resolve this issue, the government appointed the S. K. Khanna Committee in 2010. In 2011, based on its recommendations, the optional paper was replaced with a common paper and the preliminary examination was reconstituted to comprise two papers — Paper-I, covering all conventional areas in General Studies, and Paper-II comprising questions on quantitative aptitude, reasoning and English comprehension. However, this format favoured students from urban centres with a good foundation in English. As only the combined score of Paper- I and Paper-II were taken, they could qualify at the prelims even though they scored relatively less in Paper-I. This led to more protests and consequently the government made Paper-II a qualifying paper and the marks were not added to determine merit. The preliminary exam continues in the same format.

Further reform

In 2012, the Government appointed the Arun Nigverkar Committee to suggest a new model. The Committee made many recommendations with the aim of making the exams a less cumbersome process. The accepted changes were incorporated from 2013. The new scheme comprised restructured papers in General Studies covering diverse areas like Indian Polity, Governance, Economy, Science and Technology etc. The scheme continues to date. However, there are still distortions that must be addressed. First, the preliminary examination, which was designed to select the most deserving, has now become a 'jealous gatekeeper' with the sole objective of



reducing over five lakh aspirants to around 10,000. Paper-II, which is a qualifying paper, favours students with a background in Sciences and Engineering and is a challenge for Humanities students. Paper-I, which comprises questions that test knowledge in areas that are needed for a career in the administrative services has become increasingly unpredictable. Due to this an aspirant who appears for the exam with a genuine desire to serve the country and is devoting his prime time to prepare for the same, incurs a huge opportunity cost.

The main examination also needs a few changes. The General studies papers have 20 short answer questions and feedback from aspirants indicates that marks are being awarded for factual points than analyses. There are no 'long form questions' which test the much required analytical skills of the future civil servant. Also, the Annual reports of the UPSC indicate that majority of the aspirants select optionals that are more scoring than their own domain. This aberration needs to be corrected and the optional may be replaced by two papers which cover governance and policy. It is high time that the exam scheme is revisited.

THE UNIVERSITY UNDER ATTACK, UNIVERSITIES UNDERMINED

Universities are facing an unprecedented challenge. While in India the challenge has been growing over the last three decades, in the United States, it has erupted since President Donald Trump took office in January 2025. The challenge has been growing elsewhere too as society's expectations from universities are changing.

The Trump administration is freezing \$3.2 billion of Harvard University's grants and contracts. There is a move to revoke Harvard's tax-exempt status which will cost it a few hundred million dollars. Harvard's President Alan M. Garber has said that political disagreements could pose an existential threat to educational institutions. Because a cut in funds is being used to coerce universities to change their policies regarding student admissions, protests on campus, faculty recruitment, and diversity, equity, and inclusion (DEI) programmes.

In India, the control of institutions of higher learning has increasingly slipped out of the hands of academics to the bureaucracies in the Ministries of Education and the University Grants Commission over the last 40 years. Academics in India are facing growing challenges related to teaching and research. The institutions they work in do not come to their defence, as seen in a recent case of a prestigious private university. All this represents a shift in the fine balance in the societal role of institutions of higher learning. The U.S. system was a model to emulate and even that is being dismantled.

The inherent tension

There is an inherent tension in the social role of universities. On one side they are required to generate socially relevant knowledge to meet the evolving challenges society faces while on the other, they are expected to reproduce the existing societal structures.

To fulfil their creative role, academia requires autonomy. The heart and soul of creativity is what makes societies dynamic. Unfortunately, rulers while paying lip service to this are hollowing it out in practice.

Autonomy enables academics to take a long-term view of emerging social challenges, even anticipating them. Given the accelerating pace of change, by the time society becomes aware of the change, it becomes too late to tackle it. For instance, developments in Artificial Intelligence



and social media are leading to challenges for employment, the issue of fake news and the nature of war.

Autonomy enables current orthodoxy to be challenged and facilitates the generation of new knowledge. Without Galileo challenging the Church our understanding of the universe would not have advanced. Further, dynamism comes when academics who are aware of their own assumptions question them.

Academics are a product of a time-consuming process. We do not know how to produce a Mahalanobis. He emerged out of an environment of freedom of thought that a university provides. In a shotgun approach, the system produces original thinkers who change the course of their discipline and give society new leads. The wider the catchment area, the higher the chance of producing excellence.

Autonomy is needed all the way down the line. Universities need autonomy from vested interests to shield individual academics who generate new knowledge. Autonomy is not just for a vice chancellor or a director of an institute but it must be embedded in the structure of the institutions to enable the autonomy of functioning to individual academics.

Autonomy enables academics to develop their own view of their discipline which guides their research and teaching and which helps them resist orthodoxy and imposition so that originality flowers. Challenging orthodoxy ought to be the second nature of academics which includes their own institutions. While that slows down decision making in institutions, it results in more robust decisions. Authorities running these institutions have to accept this and function democratically. Dissent is essential and not a malaise to be eliminated. A bureaucrat or a bureaucratized academic would not understand this and that is why such people are most often not suited to head a university.

Challenging orthodoxy produces the tension between 'what universities ought to be' and 'what rulers expect' of them. Heads of institutions of higher learning have to negotiate this tension and academics are better suited for it than those with bureaucratized mindset.

Cultivating dissent makes universities anti-establishment while the rulers expect them to promote their agenda and reproduce the existing social relations. A feudal system would not like the birthright of the rulers to be challenged and a capitalist system would want docile labour rather than aware workers who challenge the notion of 'dollar vote' that undermines democracy.

Autonomy as impediment?

The anti-establishment character is anathema to regimes with a narrow agenda and lacking in confidence. They limit autonomy to help push their agenda. They neither need new ideas nor value them, thereby downgrading the role of universities and their social status. This forces academics to become status quoist.

Both rapid technical change and marketisation create a mist of the future resulting in short termism and a stultified view of society's future and the past. Complex ideas are neither understood nor valued and are turned into a caricature. An ahistorical view of society is propagated to fit the agenda of the rulers. Existing divides among people are exploited to further a narrow agenda and propagate conservatism by caricaturing an increasingly complex society. 'Democratization' via the Internet is helping the process by propagating instant ideas and opinions so that the imaginary is perceived to be the reality. This helps the rulers push their agenda.



The U.S. and China have operated with a long-term agenda which has enabled them to dominate the fast globalising world which is witnessing a rapid evolution of technology and ideas. For this, the U.S. created a huge system of independent universities and research institutes and attracted talent from all over the world. This is now being undermined by the attack on U.S. universities and their faculty.

Funding and autonomy

Columbia buckled under pressure but Harvard has stood firm and challenged the government in court. It has received support from academics and over 150 universities. But why are private universities with big endowments dependent on government funding?

Education and research are expensive. The faculty of universities need funds for projects across the board — in science and technology, social science and art and culture. Science and technology is crucial for development. But so is the social environment in which it flourishes. Creativity is multi-dimensional and requires a holistic view of research.

Funds for higher education ought to be free of strings to preserve autonomy. Private sector funding tends to be largely linked to the profit motive and affords limited autonomy. The burden then falls on public funding. This has been the case not only in India but also in the U.S. Only a liberal ruling regime can consider providing untied funds.

In India, since the private sector spends little on research, public funding is crucial. Post 1991, public funding in India declined in per capita terms and starved institutions of higher education. This has enabled the state to not only curb autonomy but also push its agenda by appointing people of its own proclivity as the heads of these institutions and also allowing them limited autonomy.

The key role of institutions of higher learning is to generate socially relevant knowledge. This requires autonomy to challenge orthodoxy, which makes them appear to be anti-establishment. This is the social tension in their role as reproducers of societal structures and generators of new knowledge. Creeping short termism has led to a simplistic understanding of society and growing conservatism. Often the imaginary masquerades as new knowledge. All this undermines the value of universities in society and they get hollowed out while retaining the façade and none is left to defend their autonomy. This is what Harvard's Dr. Garber pointed to.

THE UNIVERSITY VERSUS CONSTITUTIONALLY PROTECTED SPEECH

“Give me the liberty to know, to utter, and to argue freely according to conscience, above all liberties,” said John Milton in his famous pamphlet, *Areopagitica* (1644), opposing the licensing system (called *imprimatur*). Originally introduced in response to the introduction of the printing press in England in 1538 and reinstated by the British Parliament in 1643, authors had to obtain permission or licence from the government prior to their publications. In India, several High Courts and even the Supreme Court of India are hearing petitions on the limits of freedom of expression. Should we really go back to that dated system where prior permission of the government or university is required to express one's views? Are university teachers mere robots who should write only research papers and not express their opinions on contemporary issues? Do we no longer consider free speech to be an integral part of human dignity and an individual's self-fulfilment? Is truth no more autonomous and the highest public good? Are not excessive restrictions on free speech based on the assumption of infallibility of the state or its stated



positions? These are some of the pertinent issues that India must resolve because its position on these fundamental issues is bound to strengthen or weaken its ethical claim of being a true Vishwaguru. India's low rank of 151 out of 180 in the World Press Freedom Index does not enhance its stature in the comity of nations.

No doubt, 'nation first' should be the rule of thumb for all of us because no debate can survive if the nation itself perishes. We must be united in our fight against an enemy that has time and again been sponsoring and exporting terror to our country. A prompt and befitting response during Operation Sindoor has been given to the enemy nation.

The labelling of opinion as activism

We must now return to the realm of constitutional vision as we need to win the battle of ideas as well. Of course, every writer has the duty to make a disclaimer that his views are personal and do not represent the views of the institution he serves. But then a mere expression of views cannot be termed by the corporate owners of the universities or vice-chancellors as 'activism'. An expression of opinion may be dissent but not necessarily activism. Public academic institutions do not mind even activism and active politics. A professor became the national president of the Bharatiya Janata Party (1991-93).

Certainly, no writer should expect any institutional support for his personal views. No court should ideally shy away from its duty of safeguarding constitutionally 'protected speech'. It must remain consistent with its own past pro-freedom of speech judgments. The U.S. Supreme Court, in *Texas vs Johnson*, 491 U.S. 397 (1989), had even considered burning of the national flag as a protected expression. India need not go that far. John Stuart Mill, in his celebrated essay on liberty, said that "If all mankind minus one, were of one opinion, and only one person were of the contrary opinion, mankind would be no more justified in silencing that one person, than he, if he had the power, would be justified in silencing mankind". British jurist William Blackstone in 1769 considered a free press was essential for a free state. Though the 1787 U.S. Constitution did not include freedom of the press as a right (because Roger Sherman had said in the Constitution Convention that adopted the U.S. Constitution, that there was no need to mention freedom of press as the powers of the Congress would not extend to press yet within four years), the First Amendment in 1791 on freedom of press made a categorical and explicit declaration that the "Congress shall make no law... abridging the freedom of speech, or of the press...."

Democracy is government by choice and people cannot exercise their choices if they are not told about all the available alternatives. Let alternative views be expressed and protected. Moreover, freedom of speech assures individual self-fulfilment. If a citizen is not allowed to express his emotions, his opinions, his frustration, and his happiness he will not feel self-fulfilled. University owners must understand that such suffocated individuals cannot produce scholarly research as knowledge cannot be created in a controlled environment. We produced greats such as Aryabhata, Chanakya, Gargi Vachaknavi and Charaka because the education in our ancient gurukuls was not controlled by the state. Within the portals of universities, all kinds of ideas, which include repulsive ones, must be expressed. Today, our universities are over regulated and grossly underfunded.

Expression and the truth

Freedom of expression helps us in attaining the truth. It was Milton who said, "Though all winds of doctrine were let loose to play upon the earth, so truth be in the field, we do injuriously by licensing and prohibiting to misdoubt her strength. Let her and falsehood grapple, who ever knew



truth put to the worse, in a free and open encounter". In an age of fake news, let everyone speak so that people can decide for themselves who is speaking the truth. Justice Oliver Wendell Holmes Jr. of the United States rightly observed that in a capitalist market place, the "best test of truth is the power of thought to get itself accepted in the competition of market". Thus, an expression of all views would basically serve the government's cause in fencing off people from what is false.

This is nobody's case that freedom of speech is an absolute right. Indeed, no one should indulge in unnecessary talk. The exercise of right must be aimed to serve the constitutional objects of free speech, i.e., the search for truth and helping people in forming opinions about governmental actions and thereby ensuring sovereign people's participation in the governance.

The extent of restrictions

The Constitution permits only 'reasonable restrictions' on the freedom of speech and expression. The all-important word 'reasonable' was inserted by the first constitutional Amendment in 1951. These restrictions can be in the interests of sovereignty and the integrity of India, security of state, public order, decency, morality, friendly relations with foreign countries, and defamation or incitement of an offence. 'Public order and friendly relations with foreign states' too were inserted in 1951. Interestingly, restrictions in the interests of 'sovereignty and integrity' were inserted by the Constitution (Sixteenth Amendment) Act, 1963.

No restriction on freedom of speech can be imposed even by the government through an executive order. Restriction on free speech requires legislation. To satisfy the test of 'reasonableness', courts invoke the 'doctrine of proportionality'. In *Anuradha Bhasin vs Union Of India (2020)*, the Supreme Court not only held the right to Internet as a part of free speech but also reiterated that the restrictions on free speech can be imposed after considering alternative measures. It added that such restrictions must be legitimate, necessary and least intrusive. It is the state which has the burden of proof in establishing that the restriction is proportionate, and thus reasonable.

No institution has any right to restrict anybody's freedom of speech on any ground other than the ones mentioned in Article 19(2). Thus, restrictions cannot be imposed by any institution just because it is a private educational institution or because it is bound by the regulatory control of regulatory bodies. These are lame excuses that do not have a leg to stand on.

The Supreme Court, in *Dr. Janet Jeyapaul vs S.R.M. University and Anr. (2015)*, had held private universities as 'state' because they too discharge 'public functions' and thus, any arbitrary dictate by them would be hit by Article 14, i.e., the right to equality which includes the right against arbitrariness.

Returning to the issue of an author/writer facing the consequences, the law is crystal clear — if his speech is not protected by the Constitution, no one can or should defend him. But when the speech is well within constitutional limits, ideally, the institution should not disown him as it would not only demotivate the faculty but also result in a situation where such an institution would not be able to attract outstanding scholars. A student is the real conscience keeper of a university. Private educational entrepreneurs must know that the Supreme Court has had the consistent view that education is an occupation and not a business. Let us celebrate a diversity of opinions as in a vibrant democracy, every opinion counts and the university truly signifies a universe of knowledge.



COUNTDOWN TO SPACE MISSION: SEAT FOR SHUKLA IS BIG MOMENT FOR INDIA

- Four decades after Rakesh Sharma became the first Indian to travel to space, Shubhanshu Shukla, a 39-year-old Indian Air Force officer who is in the final leg of his pre-launch quarantine at the Kennedy Space Centre in Florida, will on Sunday, June 8, pilot a Dragon spacecraft that will take him, and three others, to the International Space Station (ISS), about 400 km from the Earth.
- Shukla, who is set to be the first Indian to step on to the ISS, will spend two weeks carrying out various experiments and studies in space.
- Though India or the Indian Space Research Organisation (ISRO) has had little role to play in the planning and execution of the mission — apart from securing a seat for an Indian on the spacecraft — Shukla's journey couldn't have come at a better time for the country's space programme as it prepares for Gaganyaan, India's own human spaceflight.

Do You Know:

- The Dragon spacecraft, as well as the Falcon 9 rocket that will launch it into space, are built by Elon Musk-owned SpaceX, one of the biggest private space companies in the world. The mission is being operated and managed by Axiom Space, a nine-year-old private entity focused on commercial spaceflight services. The US space agency NASA is facilitating this mission as part of its broader initiative to encourage private operators to participate in commercial space transportation activities in Lower Earth Orbits.
- The four-member crew also has astronauts from Poland and Hungary – countries that, like India, are sending their nationals to space after 40 years — underlining the very diverse nature of participation in this mission.
- Shukla's space journey was not planned like this. He was selected and trained for Gaganyaan, India's maiden human spaceflight mission that was originally scheduled for 2022 but is now expected to happen in early 2027. In the meanwhile, in 2023, NASA and ISRO agreed to develop a "strategic framework for human spaceflight cooperation", its immediate result being the inclusion of Indian astronauts in the Axiom-4 mission.
- ISRO has designed about 10 experiments for this mission. These include investigations into the effects of microgravity on muscle dysfunctions, and the physical and cognitive impacts of utilising computer screens in space. Another experiment would study the impact of spaceflight on the growth of six varieties of crop seeds. ISRO is also sending a few tardigrades to the ISS. These microscopic, water-dwelling organisms, also called water bears or moss piglets, are known to survive in extremely harsh environments. They are often studied in space to gain a better understanding of how life can survive in extra-terrestrial conditions.
- Along with his two Soviet colleagues on the mission, Sharma carried out several space experiments during his flight. These resulted in ISRO getting access to important and novel data, though the space agency had little utility for them at that time. In 1984, India did not even have a decent rocket of its own. The only one it had, SLV-3, could barely carry 30-40 kg to Lower Earth Orbits. India's important satellites, like those of the INSAT series, were being launched from the United States.



A WOMAN ARMY CHIEF? WHY PATH IS EASIER NOW

There were 17 women cadets in the 148th batch of the National Defence Academy (NDA) which graduated from the prestigious tri-services institute in Khadakwasla on Friday. This is a watershed moment for the armed forces, one which opens a realistic path for women to reach the highest echelons of the Indian military in the coming decades.

- In 1888, the British established the Military Nursing Service, officially opening up the military for women in India. In 1958, the Indian Army Medical Corps began granting regular commissions to women doctors.
- But non-medical roles remained off limits till 1992, when the Women Special Entry Scheme (WSES) was introduced to induct women in select non-combat streams — such as the Army Education Corps (AEC), Corps of Signals, Intelligence Corps, and Corps of Engineers — as Short Service Commission (SSC) officers.
- Permanent Commission (PC) remained out of reach for women until 2008, when women SSC officers in the Judge Advocate General department and the AEC became eligible. The government allowed women PC officers into eight other non-combat streams in 2019, but precluded them from being offered command appointments.
- The fight for PC and just terms of service had reached the courts in the 2000s. The Supreme Court delivered a landmark verdict on the matter in 2020, ruling that women officers were eligible for PC and command roles across ten streams, and could not be denied “based on sex stereotypes... which discriminate against women”.
- In 2021, the apex court ordered the NDA to admit its first batch of women cadets. The court was hearing a plea seeking directions to allow eligible women to appear in the NDA and Naval Academy entrance examinations conducted by the Union Public Service Commission.
- The 17 women who graduated on Friday were admitted to the premier defence academy a year later.

Do You Know:

- Most training activities are conducted jointly — along with male cadets — keeping the cadets’ employability in mind, specifically the fact that women officers would be required to take up command roles in the future, the NDA says. The academy has a dedicated support staff for training women cadets.
- Women cadets were initially provided separate accommodation on the NDA campus. But they have since been integrated into the existing 18 squadrons of the academy. This milestone was achieved earlier this year, during the sixth and final term of the first batch to include women.
- The NDA’s 18 squadrons are the foundational units of the academy’s organisation, effectively acting as cadets’ families during their time in the academy. The integration of women cadets into the squadrons means that they live and train like any of their male counterparts, going through the entire daily routine together.
- In 2019, the Army changed its rules allowing SSC women officers to opt for permanent commission who would have otherwise retired after 14 years of service. However, this was not retrospective, and applied only to the batches of women officers starting their career in the Army

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



in 2020. With the landmark Supreme Court judgment of February 2020, permanent commission was granted to women officers with retrospective effect. This opened the doors for their further growth and promotions in the Army, which has been of late opening leadership and higher management courses for women.

- Once promoted to a Colonel, an officer is eligible to command troops directly in the Army, which is an acknowledgment of the leadership qualities of the officer. It is considered a coveted appointment because in no other rank — including higher ranks like Brigadier or Major General — does an officer interact directly with troops on the ground.

NAVY TO COMMISSION UP TO 10 WARSHIPS BY DEC, LED BY FIRST ASW-SWC ARNALA

The Indian Navy will induct nine to 10 warships between June and December 2025, significantly expanding its fleet. The first of these—the Anti-Submarine Warfare Shallow-Water Craft (ASW-SWC) Arnala—is scheduled for commissioning on 18 June at the Naval Dockyard in Visakhapatnam.

- This would significantly bolster India's naval fleet and most of the ships to be commissioned have been made indigenously, officials said.
- The Navy said that Arnala's commissioning will mark the formal induction of the first of sixteen ASW-SWC ships into the Indian Navy. These vessels have been designed and constructed by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata, under a Public-Private Partnership with L&T Shipbuilders.
- Named after the historic Arnala Fort in Vasai, Maharashtra, Arnala is equipped for a range of anti-submarine warfare operations, including subsurface surveillance, search-and-rescue missions, and low-intensity maritime tasks.
- At 77.6 m in length and over 1,490 gross tonnes, Arnala is the largest Indian naval warship to be propelled by a diesel-engine-waterjet combination, the Navy said.
- INS Tamal, the second Talwar-class stealth frigate under a 2016 Indo-Russian agreement, is set to be commissioned by the end of this month. Tamal is one of four frigates acquired in a \$2.5 billion deal with Russia: two were constructed in Russia, and two at Goa Shipyard Limited (GSL) with Russian technology transfer. Its sister ship, INS Tushil, was commissioned in December 2024 at Russia's Yantar Shipyard and reached India in February 2025.
- The Indian Navy aims to become a 175-ship by 2035. An official said that the Navy is close to achieving full self-reliance in warship building and this is showing in the way ships are getting commissioned faster than before.
- INS Vagsheer, the sixth Kalvari-class submarine under Project 75, was commissioned in January 2025. This diesel-electric submarine operates underwater on battery power and on the surface using diesel engines, offering silent patrol capability close to the coast.
- Staff evaluation and cost negotiations for Project 75I—which will build six advanced conventional attack submarines—are currently under way.



GARDEN REACH INKS PACT WITH NORWAY FIRM, INDIA TO BUILD ITS FIRST POLAR RESEARCH VEHICLE

Kolkata-based Garden Reach Shipbuilders and Engineers Limited (GRSE), a Government of India undertaking, signed an MoU with Norwegian firm Kongsberg on Tuesday to co-design and build India's first-ever polar research vehicle (PRV) indigenously.

- The MoU was signed in Oslo in the presence of Union Minister of Ports, Shipping and Waterways Sarbananda Sonowal, who termed it “a commitment to fostering scientific discovery, advancing India's capabilities in polar and ocean research, and contributing to global efforts to address pressing challenges like climate change.”

- “Let this MoU signing be a beacon of hope and progress, signalling India's unwavering commitment to scientific advancement and sustainable development. Together, we are building not just a vessel but a legacy — a legacy of innovation, exploration and international cooperation that will inspire generations to come,” Sonowal said.

- A PRV is a ship which serves a platform for research in the polar regions (areas surrounding the North and South Poles). It can also help scientists undertake research in the ocean realm.

Do You Know:

- India currently operates three research base stations in the polar regions — Bharati and Maitri in Antarctica, and Himadri in the Arctic region — and had been planning to have its own PRV for a while now. In 2023, Union Minister Kiren Rijiju informed the Rajya Sabha that the country would have its first PRV within five years at an estimated cost of Rs. 2,600 crore.

- The PRV will be equipped with the latest scientific equipment, enabling researchers to explore the oceans' depths and study marine ecosystems, Sonowal said. It will be a testament to India's critical shipbuilding capabilities, boosting the Government's 'Make In India' initiative, he added.

- Underlining PM Narendra Modi's vision of SAGAR – Security and Growth for All in the Region – Sonowal said it “leverages India's vast coastline, strategic location, and maritime heritage to drive economic prosperity, enhance regional security, and ensure sustainable development for all stakeholders”.

MADE-IN-INDIA RAFALE FUSELAGE FROM 2027-28: TATA, DASSAULT INK PACT FOR HYDERABAD FACILITY

In a boost to defence and aerospace manufacturing in India, the country is set to become the first nation other than France where the fuselage of the Rafale fighter aircraft will be manufactured.

- Under a partnership between France's Dassault Aviation and Tata Advanced Systems (TASL), the latter will set up a “cutting-edge” production facility in Hyderabad for the manufacture of key structural sections of the Rafale, including the lateral shells of the rear fuselage, the complete rear section, the central fuselage, and the front section.

- The first fuselage sections are expected to roll off the Hyderabad assembly line in the financial year 2027-28, with the facility expected to deliver up to two complete fuselages per month. The facility will cater to India as well as other global markets of the medium multi-role combat aircraft. Fuselage is the outer body or shell of the aircraft and holds all the pieces of the aircraft together.



- The Indian Air Force already operates 36 Rafales. The Indian Navy will induct 26 Rafale Marine jets by 2030 as part of the Rs 63,000-crore deal between India and France inked in April this year.
- The deal included provisions for technology transfer and the establishment of maintenance and production facilities in India. Apart from France and India, the Rafale—a 4.5th generation fighter aircraft—is deployed in or on order from various countries, including Egypt, Qatar, the UAE, Greece, Indonesia, Croatia, and Serbia.

Do You Know:

- Dassault Aviation and TASL have signed four production transfer agreements to manufacture the Rafale fighter aircraft fuselage in India, marking a significant step forward in strengthening the country's aerospace manufacturing capabilities and supporting global supply chains. This facility represents a significant investment in India's aerospace infrastructure and will serve as a critical hub for high-precision manufacturing, Dassault and TASL said in a joint release. The companies did not provide information on the financials and other specifics of the proposed project.
- India has been pushing for local defence and aerospace manufacturing and TASL is a key private sector player in the sector, with presence in segments including aerostructures and aero-engines, airborne platforms and systems, defence and security, and land mobility.
- The company has a strong portfolio of partnerships and joint ventures with leading global aerospace and defence firms. Among its key projects is the final assembly line for made-in-India Airbus C295 tactical airlift aircraft for the Indian Air Force.

REGIONAL RAPID TRANSIT SYSTEM

As India's urban centres expand rapidly, innovative and sustainable transportation solutions become paramount. The regional rapid transit system (RRTS) promises to bridge the gap between conventional rail and high-speed networks. By seamlessly complementing intra-city metro networks, RRTS significantly reduces travel time, especially for residents of satellite cities, thereby enhancing quality of life. The system holds the potential to redefine urban mobility, unlock economic growth opportunities, and reshape the way people live and work in India's burgeoning megacities.

The Delhi-Ghaziabad-Meerut RRTS, also known as NaMo Bharat, is currently operational in its first phase — connecting Meerut and Ghaziabad to Delhi — and poised for significant expansion. With additional phases like Delhi-Alwar and Delhi-Panipat in the pipeline, the high-speed RRTS will cover over 8,000 sq km square on completion — more than double the current reach of Delhi Metro.

Beyond convenience

Beyond just commuter convenience, the RRTS is set to make a multifaceted impact on India's urban landscape. By connecting urban centres and peripheries, it unlocks new employment opportunities and promotes balanced regional development, extending the benefits beyond major cities. As a reliable and attractive alternative to private vehicles, the RRTS plays a crucial role in mitigating traffic congestion and the associated environmental impact, paving the way for cleaner air and a greener future.



High-speed innovation

Reaching 180 kmph through aerodynamic stainless-steel design, RRTS trains combine speed with premium comfort. Spacious air-conditioned coaches feature ergonomic cushioned seating, dedicated luggage space, charging facilities, and real-time information displays. Complimentary high-speed Internet keeps passengers connected throughout, while onboard vending machines offer refreshments and travel essentials — transforming commuting time into a productive, comfortable experience.

Tech-driven safety

RRTS relies on cutting-edge technology to enhance safety, reliability, and efficiency in operations. Advanced signalling systems, such as the 'ETCS L3 hybrid technology over LTE', enhance safety, facilitate interoperability between different rail networks, and reduce wait times for passengers. There are plans to integrate 'automated train operation (ATO) over LTE' in future phases to further step up network performance and capacity. The use of smart technologies enables real-time monitoring and predictive maintenance, minimising disruptions and optimising operational performance to provide a seamless and dependable travel experience for passengers.

A key strength of the RRTS is its seamless integration with existing transportation networks like metro and bus systems, such as the NaMo Bharat's integration with the Meerut Metro. This ensures a hassle-free journey.

PM INAUGURATES RAIL PROJECTS IN J&K, REMINDS PAKISTAN OF 'MASSIVE DEFEAT'

Describing the Pahalgam terror attack as "an attack on Kashmiriyat and insaniyat (humanity)", Prime Minister Narendra Modi on Friday said that India's response, Operation Sindoor, had served a humiliating defeat to Pakistan.

He made these remarks after inaugurating three major rail projects in J&K: the Chenab bridge, the world's highest railway arch bridge; the Anji bridge, India's first cable-stayed rail bridge; and the Vande Bharat train service between Katra and Srinagar. This is the first time a passenger train will travel from the Jammu region into the Kashmir region, connecting the valley with the country's mainland.

Referring to the Pahalgam attack and India's response, Mr. Modi said, "Pakistan's military and terror networks never anticipated India's bold move, and within minutes, the terror infrastructure they had built over decades was reduced to ruins."

Targeting tourism

He accused Pakistan of targeting tourism in Kashmir, which is "emerging as a significant driver of economic growth and connectivity". He pledged that his government would protect the people of J&K, ensuring that terrorism would never succeed in halting the region's progress.

On completing the Srinagar-Jammu rail line, Prime Minister Modi said, "We have always invoked Maa Bharati with deep reverence, saying 'from Kashmir to Kanyakumari'. Today, this has become a reality even in our railway network."

Terming it "a symbol of a new, empowered J&K", Mr. Modi said these landmark projects would not only boost tourism but also benefit various sectors of the economy, creating new opportunities for businesses and industries.



MONSOON WOES

This year, May was not about sweltering heat and extreme temperatures but rain and floods. India experienced the wettest May in 124 years as the country recorded 126.7 mm of rainfall last month, said the India Meteorological Department (IMD).

- India experienced wettest May since 1901: IMD

The southwest monsoon has made a torrential entry and, expectedly, has wreaked considerable havoc. While the monsoon's advent from Kerala, and its subsequent journey northwards, is a cause for celebration, given its association with the economy, this is only one branch of the monsoon — the Arabian Sea branch. A day or two after its onset over Kerala, and sometimes simultaneously, the Bay of Bengal branch of the monsoon makes its way from the Andaman and Nicobar Islands and enters the northeastern States first before bringing in rains to the eastern States. Frequently, however, this eastern onset is accompanied by destruction from floods and landslides. This year has been one such instance.

In Assam, 10 major rivers were flowing above their danger-level mark and in all, more than three lakh people across 19 districts of Assam have been affected in a wave of floods that has disrupted everyday lives. Tripura also witnessed heavy to very heavy rainfall across many districts over the weekend and is expected to receive an extremely heavy downpour for most of the week. The death toll in rain-induced landslides, floods, flash floods, and lightning across the northeastern region was 30 until May 29 and on a single day, May 31, 22 people had lost their lives according to official estimates. In North Sikkim, landslides have marooned about 1,500 tourists with arterial roads getting blocked from incessant rains. A bus plunged into the swollen Teesta river, killing at least two people, with the rest of the passengers missing. This is only June and history has it that with the monsoon expected to be 'above normal', it would not be a stretch to expect a spate of disasters. To be sure, the India Meteorological Department expects that the northeastern States will likely get less than their normal quota of rain, but the base level of monsoon rains in these States is higher than many States in India. This is a reason why extremely heavy rain and associated damage are a hard-wired feature of the monsoon in the northeastern States, even in a year of relative scarcity. The northeastern States also experience a smaller monsoon, between October to December, and thus it becomes all the more essential to craft a plan that accounts for the region's year-long vulnerability. Historically, infrastructure development in these States has not kept pace with the rest of the country. While challenging geographical conditions are a major reason for this, there needs to be a systematic review involving all the affected States and the Centre to evaluate a sustainable long-term plan to reduce fatalities and the widespread destruction annually.

HYDROLOGY OF THE BRAHMAPUTRA

In recent days, discussions around water sharing and regional water security have taken a new turn in South Asia, especially following India's decision to suspend the Indus Waters Treaty with Pakistan after the Pahalgam terror attack on April 22.

- India has been monitoring Chinese infrastructure interventions on the river. Most are hydropower projects with minimal storage, and are located far upstream of Arunachal Pradesh, with no significant impact in Arunachal or Assam.



- A major concern is the planned Medog (or Motuo) Hydropower Project, a massive dam in Medog County near the 'Great Bend' where the river makes a U-turn and plunges into a canyon before entering Arunachal Pradesh.
- According to reports, the planned 60,000-MW Medog project will be the world's largest hydropower facility, with a generation capacity three times that of the Three Gorges Dam on the Yangtze, currently the world's largest hydropower station.
- Concerns have also been raised over China's massive, multi-decade South-North Water Diversion (SNWD) project, the Western Route of which apparently involves diverting water from the Yarlung Tsangpo (and other rivers) to the country's dry northern regions. However, no official sources or studies are available on these reported plans.

Do You Know:

- The Brahmaputra is known as the Yarlung Tsangpo in Tibet. Pakistan, historically reliant on the Indus waters, is now attempting to stoke fears about India's water security through the Brahmaputra, asserting that China's actions could threaten Indian stability and sovereignty.
- There is an inherent myth in this as there is misrepresentation of a comprehensive hydro-geographical data. The Brahmaputra is primarily a rain-fed river system, with only approximately 30-35 per cent of its flow coming from China, mostly through glacial melt and rainfall that happens in the Tibetan region which is scanty. This covers the base flow of the river but the majority of the river's water — about 65-70 per cent — arises within India itself, thanks to the monsoon rains that pour over the Northeast's hilly terrains and the numerous tributaries feeding the river.
- India's flood mitigation strategies should be aligned with this reality, focusing on improving infrastructure and resilience rather than worrying about threats that are largely hypothetical. In fact, if China were to modify its water flow, it could potentially alleviate some of these flood risks, as excess water often results from uncontrolled monsoon runoff and not upstream flow restrictions.

HAS THE ENVIRONMENTAL CRISIS IN INDIA EXACERBATED?

The story so far:

As we observe June 5 as World Environment Day, one takes stock of how the previous decade has exacerbated/mitigated existing environmental crises.

What are main environmental crises?

The world is grappling with three deeply intertwined planetary crises: carbon emissions, biodiversity loss, and pollution. Over the last 10 years, these crises have deepened, despite growing awareness and international efforts.

Between 2015 and 2024, global CO₂ emissions rose from around 34.1 billion metric tonnes to 37.4 billion metric tonnes, a nearly 10% increase. In the same period, India's emissions surged from 2.33 billion to 3.12 billion metric tonnes, persistent dependence on coal and oil. On the biodiversity front, mass extinctions and ecological disruptions are becoming the norm. India, with its mega-diverse ecosystems, faces growing threats from deforestation, wetland degradation, and monoculture agriculture. Meanwhile, pollution, particularly air pollution, has remained



stubbornly high. India consistently ranks among the world's most polluted countries, with Delhi topping global lists.

What are the root causes?

There are myriad causative factors. First is fossil fuel dependency. Most global carbon emissions are driven by coal, oil, and gas consumption in power generation, transportation, and heavy industry. In India, coal still accounts for nearly 70% of electricity generation. Second, we have deforestation and land-use change. In India, forest clearances for roads, mining, and dams have increased, especially in biodiversity-rich regions like the Western Ghats and the northeast. Third, agricultural intensification. High-input monocultures, especially driven by agribusinesses, destroy habitats and pollute water bodies with nitrates, pesticides, and plastics. Waste mismanagement and unchecked urbanisation is also a major factor causing environmental degradation. Unregulated landfills, untreated sewage, and industrial effluents have polluted rivers like the Ganga and Yamuna. India generates 62 million tonnes of waste annually, of which barely 20% is scientifically processed. And finally, overconsumption and industrialisation. The Global North's high consumption and global supply chains externalise pollution and ecological damage to the Global South.

How is India positioned?

As a developing economy, India has a smaller per capita carbon footprint (~1.9 tonnes/year vs. the U.S.'s 14.7 tonnes), yet its aggregate emissions are rising due to rapid industrialisation and urbanisation. The poor bear the brunt of pollution and climate shocks — whether in Delhi's smog-choked slums or drought-stricken villages in Maharashtra. Yet India is also a victim of the environmental damage caused by global forces. Climate change, largely driven by the historical emissions of richer nations, has intensified India's monsoons, floods, and heatwaves, while biodiversity loss has weakened India's food systems and health infrastructure.

What needs to be done?

A meaningful response must include accountability from nations of the Global North. Wealthy nations must drastically cut emissions, provide climate finance, and stop outsourcing dirty industries. Large polluting corporations must also be held accountable through strict laws and carbon taxation. Moreover, the future of development must be based on ecological concerns. For example, corporations that do not adhere to the 'green policy' should not be allowed to trade in the market. Creating such protocols will pave way for systemic changes. Sustainable development should be encouraged with a shift toward low-carbon livelihoods, ecological agriculture, and community-led conservation.

PM MODI TO LAUNCH ARAVALLI GREEN PROJECT TOMORROW

Prime Minister Narendra Modi will launch the Centre's Aravalli Green Wall project, on June 5 to mark World Environment Day, to combat desertification and restore degraded land across four states, Environment Ministry sources said Tuesday.

- Delhi Chief Minister Rekha Gupta will join the PM for planting a tree in Delhi's ridge area, the sources said. The Chief Ministers of Haryana, Rajasthan and Gujarat will also plant trees in their respective states, sources said.



- While the land restoration project was initially launched in 2023, a detailed action plan for the project was launched recently. The project, pegged at Rs 16,053 crore, aims to create a buffer zone of 5 km around the mountain range, covering 6.45 million hectares.
- Ministry sources said the project would also contribute in meeting India's key climate goals of creating an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent through improving tree and forest cover. India has also committed to restoring 26 million hectares of degraded land by 2030.

Do You Know:

- Extending from southwest Gujarat in Champaner to northeast Delhi and Haryana, the 700-km long Aravalli mountain range acts as a natural barrier against incursion of sand and dust from the Thar desert. It supports rivers such as Luni, Banas, Sabarmati among others, as well as keystone wildlife such as tiger, bears, wolves and leopards. However, the range is facing widespread degradation due to deforestation, mining, urbanisation, agriculture practices and development.
- The Aravalli Green Wall Project seeks to revive the Aravalli range through various initiatives such as banning single-use plastics, promoting water conservation, and protecting natural resources. It also aims to combat land degradation and desertification by creating green corridors across 29 districts in four states: Haryana, Rajasthan, Gujarat, and Delhi. The Aravalli hills landscape spans over 6 million hectares.
- At the 16th Conference of Parties (COP16) of the United Nations Convention to Combat Desertification (UNCCD) held in Riyadh, India introduced the Aravalli Green Wall Project, which was launched in 2019. In March, the Environment Ministry released the project's action plan.

BACTERIA FOUND AT RAJGIR HOT SPRING LAKE SHOWS ANTIMICROBIAL ACTIVITY

To live a cozy life on the earth, a temperature of around 25 to 30 degrees Celsius is ideal. But during a heat wave, where temperatures can cross 40 degrees Celsius, the consequences can be deadly. Humans and most complex multicellular organisms are not built to tolerate such heat.

That doesn't mean no living thing can, however.

Bacteria called thermophiles (meaning "heat lovers") have been known to tolerate 45 to 70 degrees Celsius of heat. Such a high temperature can give human skin third-degree burns.

While such an environment may seem hellish to people, thermophilic bacteria see an opportunity. Places on the earth with temperatures like this — including hot springs, deep-sea thermal vents, and compost piles — offer a mineral-rich neighbourhood with relatively few competing life forms. To gain an edge, some thermophilic bacteria produce potent antibiotics as weapons to neutralise their competitors.

This is exactly why scientists have deemed hot springs around the world to be unexplored mines of antibiotic-producing bacteria. For example, thermophiles isolated from hot springs in the Asir and Jizan regions of Saudi Arabia have been found to produce a variety of potent antibiotics effective against gram-positive pathogenic bacteria.

The hot springs of India are not very well studied, however.



But driven by their putative value, researchers at the Vellore Institute of Technology (VIT) in Tamil Nadu examined the Rajgir hot spring lake in Nalanda district of Bihar. Their findings were published last month in the Indian Journal of Microbiology.

Exploring microbial diversity

“People take holy baths in these hot spring lakes, thinking diseases can be relieved,” K.V. Bhaskarrao, professor at VIT and corresponding author of the study paper, said. “As a microbiologist, I know that along with the elements that are present in the water, some of the microorganisms can also be responsible for this so-called curative activity.”

Studying which microbes are present in these hot spring lakes is challenging because researchers have to collect water and soil samples from a hot environment. At Rajgir, the temperature of the water can go up to 45 degrees Celsius, and the soil nearby can range between 43 and 45 degrees Celsius.

After collecting the samples, the researchers identified the microorganisms present in them, for which they used 16S rRNA metagenomics. This technique relies on identifying the 16S rRNA gene, which is found in all microbes but has slight variations across species, thus helping scientists to identify bacteria accurately.

Researchers found many species of bacteria but one group that particularly caught their attention was the Actinobacteria, which made up 40-43% of the microbial diversity at the lake. Bacteria belonging to this group are known producers of antimicrobial compounds. Well-known drugs like streptomycin and tetracycline were first discovered as the products of Actinobacteria.

“Hot springs studied till now showed very little diversity of Actinobacteria: — sometimes it is like 20% — but in our study I saw them to be abundant at Rajgir,” Aparana Kumari, a PhD scholar and first author of the study, said.

Discovering antibiotic-producing bacteria has become more pressing in the era of antimicrobial resistance — a silent epidemic fuelled by the unwarranted use of antibiotics. Bacteria have responded by developing ways to resist the drugs, reducing the latter’s potency. One outcome is the rising cost of healthcare, since multiple antibiotics may be required to treat a single infection. The World Health Organisation has projected antimicrobial resistance will add up to \$1 trillion in healthcare costs worldwide by 2050.

Additionally, on average, pharmaceutical industries have been known to require a decade to bring novel antibiotics to the market, whereas bacteria develop resistance in much less time.

Thus, the discovery of any bacterium that can produce a potent antibiotic against pathogens is considered good news. Not all thermophiles produce antibiotics, however, and to find out which ones do, the VIT researchers conducted an antibacterial efficiency experiment.

They cultured the prospective bacteria with different pathogenic strains: Escherichia coli, Salmonella typhimurium, Klebsiella pneumoniae, Pseudomonas aeruginosa, and Staphylococcus aureus. If the test bacteria could inhibit the growth of the pathogenic bacteria on a culture plate, it was confirmation that an antimicrobial compound was being produced. In this way, the team was able to identify seven strains of Actinobacteria that produced potent antimicrobials against several pathogens.



Going a step further, researchers aimed to isolate the specific antibacterial compounds produced by these bacteria. In another paper published in Chemical Papers, an antibacterial compound was successfully extracted from a bacterium identified as Actinomycetales bacterium spp., obtained from the Rajgir hot spring. (While the Chemical Papers study was published before the Indian Journal Microbiology one, the work it describes came after.)

This bacterium produced a range of compounds. To isolate the one with antibacterial activity, the researchers used gas chromatography mass spectrometry, a sophisticated technique to separate compounds based on their chemical properties.

The compound was found to be diethyl phthalate, and it inhibited the growth of *Listeria monocytogenes*, a pathogenic bacterium that causes listeriosis, a fatal foodborne infection. This finding suggests that diethyl phthalate could potentially be developed as a drug against *L. monocytogenes* infections.

Industrial, agricultural potential

The potential of thermophiles goes beyond antibiotics: they have many applications across industries. For example, the PCR test — widely in use during the COVID-19 pandemic to check for the virus's presence — requires an enzyme that was first found in a thermophile called *Thermus aquaticus*. A 2018 study in *Frontiers in Microbiology* by Banaras Hindu University researchers reported that a cocktail of bacteria from a hot spring in the Chumathang area of Leh district has the ability to promote plant growth. Associate professor and the study's lead author Jay Prakash Verma said hot-spring strains are effective for industrial and agricultural applications thanks to their heat-tolerant properties.

CENTRE CALLS FOR PROPOSALS TO SET UP DE-ADDICTION CENTRES IN 'GAP' DISTRICTS

The Union government has invited proposals to set up District De-Addiction Centres (DDACs) in 291 "gap" districts identified by the Ministry of Social Justice and Empowerment across 30 States and Union Territories in the country as part of its National Action Plan for Drug Demand Reduction.

"Gap" districts have been identified as those that currently have no centrally supported infrastructure to treat or rehabilitate people who are dealing with substance abuse or dependence, officials told *The Hindu*.

The Social Justice Ministry is also preparing to launch a fresh round of a nationwide survey to establish the extent and pattern of substance use across India, which is expected to gather data at the district level.

The government's national action plan provides for the Ministry to support Integrated Rehabilitation Centres for Addicts (IRCA), Community-based Peer Led Initiatives (CPLIs), Outreach and Drop-in Centres (ODICs), and DDACs.

"These [291] districts are ones where currently no IRCA, CPLI, or ODIC, supported by the Department of Social Justice and Empowerment, are running. So, as a start, the government is calling for DDAC proposals for these gap districts, which will also serve the functions of these interventions," a government official said.



In addition to administrative and office space for the staff, each DDAC is supposed to house a treatment cum rehabilitation centre, an area for drop-in centre facilities, and an area for CPLI facilities. The DDACs can have the capacity to house 15 or 30 patients at a time, with specific norms of minimum requirements prescribed for them.

The highest number of “gap” districts has been identified in Chhattisgarh, where 31 of the State’s 33 districts have figured in this list. The most “gap” districts have also been identified in other States, including Madhya Pradesh (23), Gujarat (22), Arunachal Pradesh (21), Bihar (25), Jharkhand (16), Uttar Pradesh (18), Punjab (16), and Assam (10).

The invitation for expression of interest-cum-proposal issued last week asked eligible NGOs and start-ups with at least two years of experience in drug de-addiction treatment to apply by June 30. The government said these DDACs would “conduct primary prevention activities through awareness programmes among the vulnerable and affected community”, and “engage in risk mitigation of substance use”.

AIIMS STUDY HIGHLIGHTS URGENT NEED FOR COORDINATED ACTION ON CHILDHOOD OBESITY

A study by the All India Institute of Medical Sciences (AIIMS) has sounded a warning on an escalating health emergency among school children in the national capital. Of nearly 4,000 students in the six-19 years age group surveyed across Delhi’s public and private schools, 13.4 per cent were found to be obese, and 7.4 per cent suffering from hypertension. The data draws an even more sobering contrast when viewed through the lens of socioeconomic status — 24 per cent private-school students were classified as obese, compared to 4.5 per cent in government schools. Students in private-school were also found to be twice as likely to have elevated blood sugar and three times more likely to exhibit metabolic syndrome — a dangerous cluster of conditions that includes hypertension, abnormal cholesterol, and insulin resistance. Left unchecked, these significantly increase the risk of early-onset cardiovascular diseases, musculoskeletal disorders, psychological stress, and Type 2 diabetes.

The Comprehensive National Nutrition Survey (2016-18) had already shown that 15.35 per cent of school-age children and 16.18 per cent of adolescents in India are pre-diabetic. Together with the AIIMS study, the implications are troubling. Once grappling with malnutrition, India now faces a dual burden: For urban and affluent children, prosperity has paradoxically become a vector of poor health. Lancet’s 2024 Global Burden of Disease Study reported that the number of obese children in India has ballooned from 0.4 million in 1990 to 12.5 million in 2022. This staggering increase is a fallout of rapid urbanisation, the ubiquity of high-calorie, nutrient-poor diet — often involving ultra-processed foods and sugary drinks masquerading as child friendly and healthy — surging screen time, and diminishing physical activity.

The AIIMS report signals that student health needs equal and immediate attention alongside academics. The CBSE’s recent directive to set up sugar boards in affiliated schools to reinforce the dangers of excessive sugar consumption is a welcome move in that direction. Physical education must be made non-negotiable and junk food driven out of school canteens with the same urgency that was once reserved for tobacco. Parents must re-evaluate lifestyle choices at home. Policy, too, has a vital role. National guidelines on childhood obesity must move from paper to practice. A concerted public-health push that combines regulation, education, and community action to steer children toward healthier futures is vital to stem the crisis. Otherwise, India’s demographic dividend stands to carry with it a long and costly health burden.



IN KERALA ANGANWADIS, BIRYANI, WITH A SIDE OF DIGNITY

It began with a bowl of upma — plain, filling, but nutritious — and ended in what few grown-ups would ask of a welfare meal: Biryani and chicken fry. The request of three-year-old Trijal “Shanku” from Alappuzha district, captured by his mother in a video that went viral in January, has led to the revision of anganwadi menus in Kerala to include egg biryani, pulao, and a promise of variety, nutrition, and dignity.

In a society where everyone but the child herself is involved in the decision of what she can, and should, eat, Shanku’s request has cut through the bureaucratic noise and touched something essential: The idea that joy and nourishment shouldn’t be luxuries but rights even in the most modest state-run centres. There is, indeed, a lesson in how the Kerala government has managed to honour the wishes of a child while balancing it with nutritional recommendations at a time when the question of what food should be allowed in government schemes remains fraught, not least because of its connection to questions of caste, religion and privilege. In February, Maharashtra decided to stop serving eggs or sweets in midday meals. Madhya Pradesh and Goa, too, have dropped them from the menu. This, when malnutrition remains a challenge, especially among marginalised communities.

Eggs are one of the most accessible sources of nutrition. But the real nourishment in Shanku’s story lies in what this moment has fed — hope and a model of governance that is grounded not merely in data, but in empathy. When his mother informed him about his wish being fulfilled, the boy responded with a delighted “Thank you, Minister aunty” to state health, women and child welfare minister Veena George, who took heed of his request. In that note of gratitude was an acknowledgement of what it means to be counted in a system that so often glides over the needs of its youngest and most vulnerable.

IN JHARKHAND, WHERE PM LAUNCHED AYUSHMAN BHARAT IN 2018, THE SCHEME HAS STALLED: HERE’S WHY

The promise of Ayushman Bharat seems to be unravelling in Jharkhand. The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), meant to provide affordable and accessible healthcare to low-income families, was launched by Prime Minister Narendra Modi in Ranchi in 2018. More than 23 lakh people in Jharkhand have availed treatment under the scheme since then.

- But pending payments to the tune of Rs 190 crore and mounting are jeopardising the future of Ayushman Bharat in Jharkhand. Some 212 hospitals have not received payments since last June, and the rest 538 hospitals empanelled under the scheme await reimbursement since February this year.
- Hospitals in the districts of Hazaribagh, Koderma, Palamu, and Deoghar have already pulled out of the scheme citing the hold up in payments. And this may just be the beginning.
- AB PM-JAY is the largest health insurance scheme in the world.
- It provides a cover of Rs 5 lakhs per family per year to eligible beneficiaries for hospitalisation expenses in both government and empanelled private hospitals. At the moment, some 750 hospitals in Jharkhand are registered under the scheme, according to the Association of Healthcare Providers of India (AHPI) and the Indian Medical Association (IMA).



- Current eligibility extends to the bottom 40% households, which is calculated based on deprivation and occupational data from the Socio-Economic Caste Census of 2011. The Prime Minister last year announced that coverage will soon be extended to all citizens aged 70 years and above.
- The cost of implementation of AB PM-JAY is shared between the Central and State Governments in a 60:40 ratio.

Do You Know:

- According to Jharkhand officials, around 28 lakh families (some 1.5 crore people) are enrolled under AB PM-JAY in Jharkhand, with another 38 lakh families (roughly 2 crore people) covered through the state-run Mukhyamantri Swasthya Bima Yojana, for which the state bears the full cost.
- The way these schemes work is that beneficiaries are issued insurance cards, using which they can avail healthcare services in empanelled hospitals. These hospitals are then reimbursed on actuals by the government from the funds allocated under the scheme.
- Officials have confirmed to The Indian Express that there is no shortage of funds under the AB PM-JAY scheme, with Rs 2,284 crore allocated to the hospitals over the last 7 years. The problem is that beginning last year, the disbursement of these funds to hospitals has stalled.
- Dr Sinha said that non-payment of Ayushman Bharat dues has meant that he has been unable to pay his staff since March. He added that if the payments did not come in, he would stop taking Ayushman Bharat card holders as patients. “The real loss is to the government and the public,” Sinha warned. AHPI and IMA have claimed that 60 of the 212 NAFU-flagged hospitals have shut down under financial duress. More closures may be on the way if the situation is not sorted out soon.

EXPRESS VIEW ON DIP IN TIGER NUMBERS IN TELANGANA, CHHATTISGARH, JHARKHAND AND ODISHA: A NEW CONSERVATION CHALLENGE

Conservationists were jolted in 2006 when the country’s tiger population plummeted to an all-time low of about 1,400. Course corrections in wildlife management have led to the majestic animal staging a remarkable recovery since that crisis. The country’s protected areas have more than 3,600 tigers according to the latest enumeration of the animal in 2023. That Tiger Census also underlined areas of concern. The data revealed a dip in tiger numbers in Telangana, Chhattisgarh, Jharkhand and Odisha. Now, another national assessment by the Wildlife Institute of India (WII) and the National Tiger Conservation Authority (NTCA) has flagged an emerging conservation challenge in the protected areas of these states. It has revealed that the prey that sustains these big cats — chital, sambal and the Indian bison — are declining. A sufficient prey base is not just elemental for the nutritional needs of the big cat, it’s also necessary to obviate human-wildlife conflict. With enough herbivores within the protected areas, the tigers are less likely to stray out in search of alternative sources of food.

A study published in the journal Science earlier this year also joined the dots between tiger population and the animal’s declining prey base. The reserves where tiger populations have come down — Guru Ghasidas, Indravati, and Udanti-Sitanadi in Chhattisgarh, Simlipal and Satkosia in Odisha, and Palamau in Jharkhand — are situated in some of the poorest districts in the country. The study linked poverty with the poaching of ungulates. “These reserves are known to have high incidences of bush meat consumption, often with the use of traps and snares that are usually



indiscriminate in killing prey and predators,” the study found and made a strong case for linking “biodiversity recovery” with socioeconomic improvements. It drew a contrast with tiger habitats in proximity to relatively prosperous areas, where people have received the benefits of conservation-related tourism.

To revive the prey base, the WII and NTCA study recommends on-site breeding of ungulates in enclosures designed to keep predators away. This should, at best, be seen as a short-term measure. Herbivores raised in a protected environment are known to have a weak anti-predatory response. They cannot provide a sustainable prey base for the tiger in the long-run. More critical for the tiger’s recovery is improving the quality of the animal’s habitat. The good news is that some of the areas where the tiger and its prey are on the wane — in Chhattisgarh, for example — still have good-quality forests. Left-wing extremism is also on the decline in these areas. More needs to be done to make people partners in sustainable conservation.

TAMIL NADU GOVERNMENT NOTIFIES GREATER FLAMINGO SANCTUARY AT DHANUSHKODI

The Tamil Nadu government has officially declared a greater flamingo sanctuary at Dhanushkodi in Ramanathapuram district.

Chief Minister M.K. Stalin inaugurated the sanctuary via video conferencing at an event organised by the Departments of Environment, Climate Change and Forests in Chennai on Thursday to celebrate World Environment Day.

Rich biodiversity

The move aims to preserve a critical stopover point along the Central Asian Flyway for thousands of migratory wetland birds.

The sanctuary spans 524.7 hectares and encompasses both revenue the and forest lands within Rameshwaram taluk.

The designated area, part of the ecologically sensitive Gulf of Mannar Biosphere Reserve, is home to a variety of ecosystems, including mangroves, sand dunes, mudflats, and marshes.

These unique features support a rich biodiversity, from migratory birds and marine life to nesting sea turtles.

A Government Order (G.O.) issued on June 4, by Ms. Sahu, noted that according to the recent 2023-2024 Wetland Bird Survey, the Dhanushkodi region recorded over 10,700 wetland birds, representing 128 species, including herons, egrets, sandpipers, and both greater and lesser flamingos.

Ecologically crucial

Mangrove species such as *Avicennia* and *Rhizophora* dominate the Dhanushkodi lagoon, providing essential breeding grounds and natural defenses against coastal erosion. The sanctuary status is expected to encourage responsible ecotourism, generate local employment, and raise public awareness about wetland conservation, the G.O. said.



KUTCH HOUSED HUNTER-GATHERERS 5,000 YRS. BEFORE HARAPPANS ARRIVED: STUDY

Shell scatters, deposits, middens, stone tools. Researchers have found rare evidence of human settlement in Kutch. As they dug deeper, they found that Kutch was home to prehistoric hunter-gatherer communities way before the Harappan era. A recent study by researchers at the Indian Institute of Technology Gandhinagar (IITGN) has offered new insights into Kutch's cultural evolution.

- The study by IITGN researchers, in collaboration with experts from IIT Kanpur (IITK), Inter University Accelerator Centre (IUAC) Delhi, and Physical Research Laboratory (PRL) Ahmedabad, has uncovered archaeological evidence that pushes back the human presence in this region by at least 5,000 years prior to the arrival of Harappans.
- These communities inhabited a mangrove-dominated landscape, relied on shell species (both bivalves like oysters and gastropods), and naturally adapted to such environments.
- These newly identified sites are the first of their kind to be documented in the Kutch region, with a defined cultural and chronological context. According to the researchers, the findings also show similarities with coastal archaeological sites in the Las Bela and Makran regions of Pakistan and the Oman Peninsula, suggesting that early coastal communities across this broader region may have developed comparable strategies for food collection and survival.
- To determine the age of these sites, the researchers used Accelerator Mass Spectrometry (AMS), a precise method for measuring the radioactive isotope values of Carbon-14 (C-14) from the shell remains, which is absorbed by all living organisms.
- After death, C-14 begins to decay and is reduced by half every 5,730 years. Measuring the remaining amount in the shell samples allows scientists to estimate how long ago the organism died. As atmospheric C-14 levels have varied over time, the results were calibrated using tree ring data. Trees form one ring per year, and these tree ring sequences can be matched and extended back over thousands of years, allowing scientists to construct an accurate reference timeline of atmospheric C-14.
- The researchers also believe that the shell middens and scatters will be important in palaeoclimate studies. Since climate change unfolds gradually over millennia and cannot be directly observed in the short term, natural materials like shells preserve signals that help reconstruct past environments.
- The findings from this study were presented at the 17th Annual Workshop on South Asian Archaeology (Hartwick College and University of Chicago), the Seminar Series on the Archaeology of the Indo-Iranian Borderlands (Sorbonne University, Paris), and the 50th Annual Conference of the Indian Society for Prehistoric and Quaternary Studies (ISPQS), Raipur — all in 2025.

Do You Know:

- Radiocarbon dating, or carbon-14 dating, is a scientific method that can accurately determine the age of organic materials as old as approximately 60,000 years. First developed in the late 1940s at the University of Chicago by Willard Libby, the technique is based on the decay of the carbon-14 isotope. Radiocarbon dating has been used for historical studies and atmospheric science, and triggered archaeology's "radiocarbon revolution."



- Carbon dating is a widely-used method to establish the age of organic materials, things that were once living. Living things have carbon in them in various forms. The dating method is based on the fact that Carbon-14 (C-14), an isotope of carbon with an atomic mass of 14, is radioactive, and decays at a well-known rate. This is how it works: The most abundant isotope of carbon in the atmosphere is C-12. A very small amount of C-14 is also present. The ratio of C-12 to C-14 in the atmosphere is almost static, and is known.
- Plants get their carbon through photosynthesis; animals get it mainly through food. Because plants and animals get their carbon from the atmosphere, they too acquire C-12 and C-14 in roughly the same proportion as is available in the atmosphere.

RISE OF THE BRAHMI SCRIPT

When we communicate using sounds we call it speech. When we communicate using writing we call it script. There are different kinds of scripts in the world. Are they emojis? Are they letters? Are they consonants and vowels? What is the direction of writing?

The ancient Sumerians of Mesopotamia invented writing around 3300 BC, using the cuneiform script – it was written by pressing wedge-shaped marks known as cuneiform into clay tablets. This was originally logographic (picture-based or emoji). Then came the Egyptian hieroglyphs (sacred writing) which were also logographic. Then came Chinese writing, which was logographic as well. These were all originally written from top to bottom. Later, Egyptian could be written in both directions. Cuneiform writing was left to right.

Cuneiform became syllabary (using sound units) around 2800 BC to expand the number of words written, because logographic script was limited in scope. This cuneiform script was used for many languages and was used by kings of Assyria, Babylon, and Persia.

The Harappans traded with Sumerians but did not adopt cuneiform script. The Harappan script is probably a set of emojis – maybe logographic – though some scholars challenge this. On seals, it was written right to left, as indicated by crowded symbols on the left. However, sealings (the seal impressions) were read left to right. Sometimes, the script was carved first right to left, and then left to right – like the way a cow ploughs a field. This kind of writing is called Boustrophedon.

Who invented alphabets and vowels

Alphabets were invented by the Phoenicians (from present-day Lebanon and Israel) roughly around 1200 BC. But they invented only consonants. A script with consonants is abjad. This gave rise to Hebrew and Aramaic, and later Arabic and Persian scripts. These are written from right to left probably because it was first carved on stone using a chisel and hammer.

Around 800 BC, the Greeks invented vowels. Like the cuneiform script, they wrote from left to right. This came to India around the time of Alexander's invasion in 326 BC. Vowels are sounds that are usually produced with an open mouth and open vocal cords, while consonants are sounds produced by closing the lips and closing the vocal cords. Syllables are combinations of consonants and vowels.

The English script, for example, has 21 consonants and 5 vowels – A, E, I, O, and U. The Nagari script has 34 consonants and 14 vowels. However, the number is not fixed, it varies from language to language. This means language is culturally influenced, even though all humans have it, and it may have some genetic roots.



What makes Brahmi script unique

The ancient Indian writing system or the Brahmi is unique in that it is an abugida – which falls between an alphabet (vowels and consonants are separate) and a syllabary (vowels and consonants are merged). In Brahmi, vowels are arranged in a circular, i.e. above, below, before, or after their connected initial consonant. This makes it unique.

When this script was discovered in Ashokan edicts (250 BC), 19th century scholars called it the “pin-man” script. Then, in the Buddhist text Lalitavistara Sutra (300 AD), composed five centuries later, it was said that the Buddha was taught many scripts (lipi) as a student. Brahmi was the first name on the list.

Since Brahmi was linked to Brahma, the creator god of Hinduism, scholars decided to name the Mauryan script as Brahmi script. Interestingly, as per Digambar Jain mythology, the first Tirthankara Rishabhadeva taught writing to his daughter, who was called Brahmi. This information comes from Adi Purana dated to 900 AD.

800-YEAR-OLD SHIVA TEMPLE UNEARTHED IN MADURAI

An 800-year-old Shiva temple of the later Pandya period has been unearthed at Udampatti, a village in Melur taluk, Madurai district, Tamil Nadu.

P. Devi Arivu Selvam, temple architect and sculpture researcher, says that though only the foundation of the temple remains, the inscriptions on the culvert are significant as they reveal how the temple had been financially independent.

While documents published by the Tamil Nadu State Department of Archaeology in 1974-75 had described the existence of ancient temples in this belt, most of them are in ruins and some have almost disappeared.

So, it came as a surprise to historians when recently boys playing in an open ground at Udampatti in the Malampatti panchayat stumbled upon a broken stone structure covered in mud.

The villagers alerted the Village Administrative Officer (VAO) and Ms. Devi. With the VAO's permission, the area was cleared. What emerged was the foundation of a temple with the stone base on the northern and southern sides intact.

With the help of the engravings on the foundation stone and Silpa Sastram as reference, the temple was found to have been dedicated to Lord Shiva.

'Dated to 1217-1218 CE'

C. Santhalingam, archaeologist and secretary of the Pandya Nadu Centre for Historical Research, who deciphered the two Tamil inscriptions found on the stone base, says they can be dated to 1217-1218 CE, during the reign of Maravarman Sundara Pandya.

The inscriptions say the name of the village was Attur and the temple was called Thennavanisvaram.

“It is pertinent to note that Thennavan is actually a title used by the Pandyas,” Ms. Devi says.



The inscriptions are a sale deed of a waterbody by one Alagaperumal, chieftain of Kalavalinadu, to one Nambi Perambala Kuthan alias Kangeyan. The waterbody, called Nagankudi, along with wet and dry land, was sold for 64 kasu (coins).

The four boundaries of the land and the waterbody that had been sold have been defined in the inscriptions.

It has also been mentioned that the tax due to the land should be given to the God of Thennavaniswaram of Attur for its day-to-day expenses.

For historians, these inscriptions reveal the ancient name of Udampatti, which was then called Attur, and also the socio-economic dynamics that were at play during the later Pandya period.

PRATIMA BARWA, THE COACH WHO GAVE WINGS TO ADIVASI HOCKEY PLAYERS

Chances are that most outside the modest Indian hockey universe would not have heard of Pratima Barwa. Perhaps she preferred it that way. Barwa, who passed away on Sunday aged 44 due to a brain haemorrhage, dedicated her life to hockey. She did what few could — identify and nurture young talents in one of the sport's biggest catchment areas, Jharkhand's Simdega. Because of her efforts, Indian hockey is in a better place — three players, including captain Salima Tete, are currently part of the national team that is in Europe for the FIH Pro League.

Grassroots coaching is one of the most unglamorous parts of sport because of the lack of incentive. Yet, without such coaches, the sporting ecosystem would be a non-starter. Selfless coaches like Barwa, who was from Khunti, have kept Indian hockey running. Her academy was rudimentary, and some of the coaching methods were, possibly, archaic. But Barwa, described as a "mother figure" by her wards, did something far more impactful — she got children hooked to hockey and gave wings to their dreams.

Barwa's own aspirations to play for India were unfulfilled. She played for Bihar in the early 1990s. However, a left knee ligament injury in 1995 cut short her playing career. She then promised herself that she would help young players from the region. Barwa's journey as a coach began in 2008 after she completed a diploma from the National Institute of Sport in Patiala. A job with the Jharkhand government as a coach took her to Simdega, and the hard yards began. From sunrise to sunset, she would travel to schools and villages where there was the slightest promise of talent, convince the families to let their child play hockey and then groom them into world-class talents. Barwa never got the recognition she deserved. Her legacy will, however, be there for all to see each time the Indian team steps onto the hockey field.

SHORT NEWS

CERTIFICATION OF FILMS: GOVT NOTIFIES AGE-BASED CATEGORIES

The government Saturday notified age-based categories certification of films to promote age-appropriate viewing, particularly for the parental guidance group. In a gazette notification, the Ministry of Information and Broadcasting amended the rules notified in December 1991 laying down principles for sanctioning films for public exhibition. "Content suitable for a child aged seven years and above and under the age of seven years with parental guidance shall be classified as 'U/A 7+' rating... child aged thirteen years and above and under the age of thirteen years with



parental guidance classified as 'U/A 13+'... child aged sixteen years and above and under the age of sixteen years... as 'U/A 16+' rating," the notification read.

SHIFT TO NEW CENTRAL SECRETARIAT BUILDINGS LIKELY TO START BY AUGUST

Ending a nearly-100-year stay in the case of North Block and some 60 years for Nirman Bhawan, the Union ministries and departments located in these two complexes are likely to start shifting to the new Common Central Secretariat (CCS) 1,2 and 3 buildings by August, The Indian Express has learnt. Built as a part of the central government's larger plan to redevelop the Central Vista area — which stretches from India Gate to Rashtrapati Bhavan — the CCS 1,2 and 3 buildings are nearing completion. The Ministry of Housing and Urban Affairs, whose Central Public Works Department is carrying out the Central Vista project, is among the ministries set to move from Nirman Bhawan to the CCS complex. North Block, which houses the Ministry of Home Affairs, Finance Ministry and Department of Personnel and Training, is also set to be emptied to make way for restoration and conversion as a national museum. Larsen & Toubro Limited had in October 2021 won the bid for constructing the CCS 1,2 and 3 project with a bid of Rs. 3,141.99 crore — the CPWD's single largest tender.



DreamIAS



BUSINESS AND ECONOMY

STAYING THE COURSE ON TRADE PACTS WITH THE UK AND US

The uncertainty unleashed by Donald Trump's tariffs has only been aggravated by a spate of recent court rulings. On May 28, the US Court of International Trade struck down Trump's "Liberation Day" tariffs, saying that the emergency law (International Emergency Economic Powers Act) does not give the President the power to impose broad tariffs. However, a day later, a federal appeals court temporarily reinstated the tariffs. The case is now likely to work its way through the US legal system. The uncertainty is likely to linger on as the 90-day pause on the Liberation Day tariffs ends in the second week of July.

The Trump administration may have hoped that some trade deals would be quickly negotiated. And while the US and the UK have reached an agreement — the deal was announced on May 8th — progress with other major trading nations/blocks remains a protracted process. Take the case of China. A few days ago, US Treasury Secretary Scott Bessent is reported to have said that trade talks between the US and China "are a bit stalled". Last Friday, Trump said that China has "totally violated" its agreement with the US, a charge that China has rejected. The US President is expected to speak to Chinese President Xi Jinping this week to iron out their differences. In the case of Japan, several rounds of talks have taken place, and another is expected before the G7 summit. But last Friday, the legal challenges to his tariffs notwithstanding, Trump also raised the tariffs on steel and aluminium to 50 per cent, potentially impacting countries such as Canada, Mexico and South Korea, which account for a sizeable share of US steel imports. A day later, the European Union, which had agreed to "accelerate talks" on a US trade deal, has also responded firmly, saying it is prepared to impose "countermeasures" against the US. It noted that such moves to increase tariffs "undermine ongoing efforts to reach a negotiated solution". The new tariffs are effective from June 4.

These latest tariff moves come at a time when India and the US are negotiating a bilateral trade deal. A US team is expected to visit India over the coming few days. On Monday, US Commerce Secretary Howard Lutnick, speaking in Washington at the US-India Strategic Partnership Forum's leadership summit, said that a deal between the US and India could happen in the "not too distant future". The India-EU trade deal also appears to be on course. As per a report, the two sides have agreed on several chapters, and the pact could be concluded before the end of the year. Coming after the finalisation of the India-UK agreement, the successful culmination of these deals would increase the country's attractiveness as an investment destination.

AUTO MAKERS WARN CHINA'S CURBS ON RARE-EARTHS MAY IMPACT CAR PRODUCTION

Global auto executives are sounding the alarm on an impending shortage of rare-earth magnets from China – used in everything from windshield-wiper motors to anti-lock braking sensors – that could force the closure of car factories within weeks.

- In a previously unreported May 9 letter to Trump administration officials, the head of the trade group representing General Motors (GM.N), Toyota (7203.T), Volkswagen (VOWG.DE), Hyundai (011760.KS), and other major automakers raised urgent concerns.
- "Without reliable access to these elements and magnets, automotive suppliers will be unable to produce critical automotive components, including automatic transmissions, throttle bodies,



alternators, various motors, sensors, seat belts, speakers, lights, motors, power steering, and cameras,” the Alliance for Automotive Innovation wrote the Trump administration.

- The letter, which also was signed by MEMA, The Vehicle Suppliers Association, added that, without those essential automotive components, it would only be a matter of time before U.S. vehicle factories are disrupted.
- China – which controls over 90% of global processing capacity for the magnets used in everything from automobiles and fighter jets to home appliances – imposed restrictions in early April requiring exporters to obtain licenses from Beijing.

Do You Know:

- Rare Earth Elements (REEs) or Rare Earth Metals are a set of 17 chemical elements in the periodic table — the 15 lanthanides, plus scandium and yttrium, which tend to occur in the same ore deposits as the lanthanides, and have similar chemical properties. REEs are classified as light RE elements (LREE) and heavy RE elements (HREE).
- The 17 Rare Earths are cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).
- Some REEs are available in India — such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium, etc. Others such as Dysprosium, Terbium, and Europium, which are classified as HREEs, are not available in Indian deposits in extractable quantities. Hence, there is a dependence on countries such as China for HREEs, which is one of the leading producers of REEs, with an estimated 70 per cent share of the global production.

ADB'S \$800-MN LOAN TO PAK: INDIA 'SHARED DEEP CONCERNS'

India had raised “deep concerns” about the possibility of misuse of funds by Pakistan to Asian Development Bank (ADB) as it extended a \$800 million tranche to the neighbouring country. Government sources said India had “vehemently opposed” the ADB extending “any form of financing support” to Pakistan, particularly in light of Pakistan’s increasing defence expenditure, its declining tax-to-GDP ratio, and the lack of demonstrable progress on key macroeconomic reforms.

- ADB on Tuesday approved a \$800 million programme to strengthen fiscal sustainability and improve public financial management in Pakistan. Earlier in the day, the Congress in a post on X stated that Prime Minister Narendra Modi met ADB President Masato Kanda on June 1 and three days later ADB cleared the \$800-million loan to Pakistan.
- “Asian Development Bank (ADB) has given Rs 6,861 crore to Pakistan. Just 3 days ago, Narendra Modi met Asian Development Bank President Masato Kanda and just 3 days later, a huge amount was given to Pakistan. Earlier, the Modi government’s influence did not work on the IMF and Pakistan got the loan. That too when the conflict between India and Pakistan was going on,” the pose by Congress said.
- Government sources said India expects the ADB management to adequately ring-fence the ADB financing, to prevent any such misuse. “Pakistan’s poor track record of implementation stems



from the military's deeply entrenched interference in economic affairs, posing risks of policy slippages and reversal of reforms as has been witnessed in the past," the source said.

- Even when a civilian government is in power, the army continues to play an outsized role in domestic politics and extends its tentacles deep into the economy, sources said. "Pakistan's policy of cross-border terrorism has led to a worsening of the security situation in the region and has significantly escalated macroeconomic risks for the country, which also heightens the enterprise risks for the ADB," the source said.

Do You Know:

- The Asian Development Bank's primary mission is to "foster economic growth and cooperation" among countries in the Asia-Pacific Region. Founded in 1966 and based in Manila, Philippines, the ADB assists members and partners by providing loans, technical assistance, grants, and equity investments to promote social and economic development.
- The ADB has been responsible for major projects in the region and raises capital regularly through the international bond markets. The ADB also relies on member contributions, retained earnings from lending, and the repayment of loans for the funding of the organization.
- The Asian Development Bank provides assistance to its developing member countries, the private sector, and public-private partnerships through grants, loans, technical assistance, and equity investments to promote development. The ADB regularly facilitates policy dialogues and provides advisory services. They also use co-financing operations that tap official, commercial, and export credit sources while providing assistance.

US REJECTS INDIA'S STEEL TARIFF CHALLENGE AT WTO ON LEGAL, PROCEDURAL GROUNDS

The United States has rejected India's notice at the World Trade Organization (WTO), which proposed retaliatory action against the 25 per cent US tariffs on steel and aluminium, arguing that the tariffs were imposed on national security grounds. The US also pointed out procedural errors in India's case.

- In its note dated May 23, the US stated that India is wrongly treating the tariffs on steel and aluminium as safeguard measures. It clarified that these duties were imposed under US law (Section 232), which allows such action if imports are considered a threat to national security.
- This development is significant as US President Donald Trump on Friday announced a move to double import tariffs on steel to 50 per cent — a step Indian exporters have called "unfortunate", warning that they have already lost \$5 billion in exports due to earlier tariffs, and further hikes could deepen losses.
- "The United States will not discuss the Section 232 tariffs under the Agreement on Safeguards as we do not view the tariffs as a safeguard measure," the US told the WTO Council for Trade in Goods in response to India's challenge.
- In FY2025, India exported \$4.56 billion worth of iron, steel, and aluminium products to the US, including \$587.5 million in iron and steel, \$3.1 billion in articles of iron or steel, and \$860 million in aluminium and related goods. These exports now face sharply higher US tariffs, threatening the profitability of Indian producers and exporters.



- The US also claimed that India had committed procedural errors. “India never acknowledged the United States’ offer to discuss these tariffs in our response dated 16 April 2025. Accordingly, India has not complied with the obligations under the Agreement on Safeguards, the agreement that it mistakenly contends applies to the tariffs in question,” the US note said.
- Ajay Srivastava, former trade officer and head of the Global Trade Research Initiative (GTRI), said India now has several options. One is to launch a formal WTO dispute, not under the Safeguards Agreement, but under broader GATT rules, challenging the Section 232 tariffs as disguised protectionist measures.

Do You Know:

- On May 9, India submitted a document to the WTO, identifying the American metals tariffs, effective from March 12, as “safeguard measures”. The WTO’s Agreement on Safeguards (AOS) identifies safeguards as protectionist measures that a member country may invoke if it determines that certain product imports are significantly large and may “cause or threaten to cause serious injury” to the corresponding domestic competitor.
- According to India’s note, the tariffs impact \$7.6 billion worth of Indian exports into the US, on which \$1.91 billion would be collected as duties. India’s proposed retaliatory measure would result in an equivalent amount of duty collected from products originating in the United States,” it said. The specific US products were not specified.
- India currently faces 26% “reciprocal tariffs” under the International Emergency Economic Powers Act (1977). The US subsequently paused all reciprocal tariffs on April 9, while a legal battle over the validity of these tariffs (as well as the 10% baseline tariff charged on all countries) is currently underway. The White House justified this rate, saying India charges a 70% tariff on passenger vehicle imports, 10-20% on networking switches and routers and 50% on rice in the husk.
- India also faces the Section 232 duties of 25% on steel, aluminium and automobiles, which will be doubled to 50% from Wednesday (June 4). We previously noted that the US is the largest market for Indian aluminium, with exports valued at \$946 million in FY2024. These exports had exceeded \$1 billion in the previous two financial years, and were up from just \$350 million in 2016-17 when Trump first became President. Similarly, the US was also the largest market for Indian iron and steel articles, with Indian exports valued at \$2.8 billion in FY2024.

DEFENCE EQUIPMENT, OIL, CARS: WHERE INDIA COULD LOWER TARIFFS TO REACH DEAL WITH US

With US trade negotiators set to reach India Thursday for a two-day visit, the India-US trade deal negotiations are entering their final stage and could soon see Delhi opening its market and lowering tariffs on a range of American products – from select agricultural goods to defence equipment.

- This is in exchange for concessions on reciprocal tariffs and improved access to the US market for India’s labour-intensive sectors such as textile and leather products. The White House said Tuesday that the US had asked countries to make their best offers on trade negotiations by Wednesday, as the July 8 deadline for reciprocal tariffs is just five weeks away.



- Improving market access for US exports such as oil, armaments, soybeans, corn, whisky and automobiles could help address Washington's concerns over its goods trade deficit with India and high tariff barriers.
- US Secretary of Commerce Howard Lutnick said Tuesday that the US aimed to bring back advanced manufacturing and bridge the trade deficit by increasing exports to India, adding that both sides had "found a place that really works" for them.
- Indian officials have indicated that diversifying oil and defence procurement is in the country's strategic interest and sourcing more from the US could also significantly help bridge the goods trade gap, as India's refining capacity has been increasing alongside oil import dependency, which surged to 90 per cent in April 2025.
- India's oil import mix has already undergone a significant shift since the Ukraine war, with Russia emerging as the top supplier, replacing Iraq and Saudi Arabia. Official trade data showed that India had already stepped up oil purchases from the US. India's import of crude oil from the US jumped 11.49 per cent to \$63 billion in March 2025 compared to the previous year.

Do You Know:

- India has had long standing defence ties with Russia, owing to its reliability during times when Western countries imposed sanctions. However, the US now appears to be leveraging its position as the world's largest market to boost defence equipment exports to India and reduce Delhi's dependence on Russia.
- According to the Stockholm International Peace Research Institute (SIPRI), the largest share of India's arms imports between 2020 and 2024 still came from Russia at about 36 per cent. However, this was significantly lower than the 55 per cent recorded in 2015-19 and 72 per cent in 2010-14.
- SIPRI's report released in March suggested that India has increased domestic manufacturing and is shifting its arms supply relations towards Western suppliers – most notably France, Israel and the US – at a time when Russia is prioritising domestic production amid the ongoing Ukraine war. US arms exports grew by 21 per cent between 2015-19 and 2020-24. The US share of global arms exports rose from 35 per cent to 43 per cent – nearly equal to the combined total of the next eight largest exporters, according to SIPRI.
- From high tariffs on agricultural imports to restrictions on genetically modified (GM) seeds and products, the US has criticised several Indian trade policies that have limited US exports. Under the new trade agreements, the US is seeking increased market access for its agricultural products, especially soya and corn – two of its top export items to China.
- Under the UK deal, India cut tariffs on automotive imports from over 100 per cent to 10 per cent – although the reduction is phased over 10 to 15 years. A similar, if not more favourable, deal could be offered to the US. President Donald Trump had previously stated that high tariffs in India made it difficult for companies like Harley-Davidson to operate in the country.

IS INDIA THE WORLD'S FOURTH LARGEST ECONOMY?

Over the past week, much media space was devoted to discussions around the size of India's economy relative to other economies of the world. These discussions were based on the new



estimates of the Gross Domestic Product (GDP) of various countries for 2024 by the International Monetary Fund (IMF), and its annual projections from 2025 till 2030. As per these projections, India's GDP in 2025 was likely to be \$4,187.03 billion, which will be marginally higher than the GDP of Japan at \$4,186.43 billion. Thus, in all probability, India will be the fourth largest economy of the world in 2025 after the U.S., China and Germany.

These discussions have stirred the political pot as well. Government sources attributed the improved rank to the leadership capabilities of the Prime Minister. It was also argued that India could grow to be the third largest economy of the world in 2028, and a high-income, developed country (viksit bharat) by 2047.

The many GDPs

The GDP of a country tells us very little about how its people live and work, how healthy or educated its people are, and how unequally its aggregate income is distributed. GDP estimates also miss out on measuring several crucial aspects of economic activity that are not covered by markets, such as the unpaid work of women. Hence, there have been repeated calls to revise national account systems, end the predominant use of GDP to assess everything, and use other indicators that allow us to study socio-economic achievements better. Yet, the dominant use of GDP has continued in global and domestic discourse.

In recent years, the politicisation of statistical systems has clouded any objective assessment of India's economic status. The discussions around India's rank in GDP size are just an example. Comparison of GDP sizes across countries is a complex effort. International organisations and economists have spent decades trying to perfect a robust methodology for these comparisons. Consequently, there is no single GDP estimate for countries. There are several GDP estimates based on different methodologies and units.

The methodology of estimating GDP in different countries is largely standardised even as there are variations in the quality of data collection. But these estimates are available only in the national currencies of each country. So, how does one compare the GDP size of India and, say, the U.S.? To compare, one needs the GDP estimates of all countries to be in one common unit. This common unit is the U.S. dollar.

On determining the GDP

But problems remain. There are two ways of converting a GDP estimate in a national currency to a GDP estimate in U.S. dollars. First, one may use market exchange rates from the foreign exchange markets. At the time of writing this article, one dollar was valued at ₹85.69. One may simply divide India's nominal GDP by ₹85.69 to get a GDP estimate in U.S. dollars, and then repeat that for all other countries and rank them.

According to the GDP estimates based on market exchange rates, India was ranked the fifth largest economy from 2021. Taken forward, the IMF projects that India will be the fourth largest economy in 2025 and the third largest economy in 2028. The U.S. is ranked first, and China is ranked second.

But is this the only method to compare GDP sizes? It is globally accepted that conversions based on market exchange rates are robust only when the outcomes are closely linked to the prevailing exchange rates. Transactions in the "current account" of an economy are a case in point, which involves the flow of financial resources across countries. For example, how much did each country



export in value terms? How much remittances did international migrants from each country send back home?

The PPP comparison

When we try to compare GDP sizes across countries and time, market exchange rates deliver poorly. This is primarily because first, market exchange rates are highly volatile, which creates problems for stable temporal comparisons. Secondly, market exchange rates do not work well when “purchasing powers” of people are different between countries. For example, the price of a beer in New York may be \$5 but only about ₹150 in Mumbai (or \$1.80). The price of a Big Mac meal in McDonald’s may be \$12 in New York but only about ₹385 (or \$4.50) in Mumbai. Thirdly, the prices of non-traded goods tend to be far cheaper than traded goods in developing countries than in developed countries. For example, the monthly rent for a one-bedroom apartment may be about \$4,000 in New York but only about ₹70,000 (or \$824) in Mumbai. The price of a haircut in New York may be \$30, but only about ₹200 (or \$2.40) in Mumbai.

These differences across countries arise primarily because wages (and hence prices) are lower, and many non-traded sectors are labour-intensive, in developing countries than in the developed countries. If analysts ignore these differences, they will be underestimating the purchasing power of people in developing countries, and, hence, depressing their GDP estimates. This is why a second method is used to convert national currencies into dollars — ‘PPP exchange rates’, where PPP stands for Purchasing Power Parity. Here, the exchange rates used equate the cost of a “typical” basket of goods across countries. When converted to international dollars based on PPP exchange rates, the estimates of GDP for developing countries, where prices are relatively low, would rise. In 2024, the GDP of the U.S. was 7.5 times higher than India’s GDP if the market exchange rates method was used. But it was only 1.8 times higher than India’s GDP if the PPP exchange rates method was used.

If PPP-based GDP estimates are used to compare GDP sizes, an interesting finding emerges. India had already become the world’s third largest economy in 2009 and has retained that rank for the past 16 years. Also, IMF’s PPP-based projections do not show any improvement in India’s rank between 2024 and 2030. It turns out that the government has chosen to project and celebrate India’s rank in GDP size based on market exchange rates — and not PPP exchange rates — only because the outcome suits its favoured political narrative.

Improving the comparisons

There is no doubt that the PPP method allows for a better comparison of GDP sizes than the market exchange rates method. However, the PPP method needs to be employed carefully so as to avoid misleading inferences. PPPs are used precisely because developing countries have lower wages, and hence lower prices and incomes, than in the developed countries. To cite an instance, about 76% of India’s casual workers in agriculture and about 70% of India’s casual workers in construction do not obtain even the prescribed minimum wages (as per ILO’s India Employment Report 2024). In addition, countries like India have a large informal sector, which is marked by severe underemployment, and large numbers of unpaid female workers.

In other words, the poorer and the more underdeveloped a country is, the larger will be its “inflation” of GDP via the PPP route. Consequently, the fact that India was the world’s third largest economy from 2009 itself must not delude anyone into believing that its GDP differentials with, say, the U.S. are rapidly narrowing, or that its GDP size is larger than that of Japan or Germany. An excellent example of such a misconception is the claim by Suman Berry, the Vice-Chairperson of



the Niti Aayog, that India's GDP has already reached \$15,000 billion (or \$15 trillion) in PPP terms, which is more than thrice its GDP size at market exchange rates and constitutes half the size of the U.S. GDP.

India has a large GDP size, but it is also host to the world's largest population. One can boast about its GDP size only until someone sits down and divides the GDP by the population. The per capita GDP in India was \$2,711 in 2024 in current dollar terms, which placed it at the lower end of the list of "lower middle-income countries". In the same year, the per capita GDP in Sri Lanka was \$4,325, and in Bhutan was \$3,913. In 1991, India had a higher per capita GDP at \$304 than in Vietnam at \$141. But by 2024, Vietnam's per capita GDP had grown to \$4,536 while India's per capita GDP languished at \$2,711. In terms of market exchange rates, India's rank in per capita GDP in 2024 was 144th among 196 countries. Even in terms of PPP international dollars, India's rank in per capita GDP in 2024 was 127th among 196 countries. Either way, we are faced with a "big economy illusion": India's large GDP size has very little to do with the well-being of its people.

A much better way of knowing if India is more developed or less developed than the U.S., China, Japan or Germany might be to compare a set of indicators across them that help us meaningfully measure economic performance and social progress — indicators that signify fundamental elements of life and work that citizens care about.

INDIA'S RISE TO 4TH LARGEST ECONOMY BELIES PER CAPITA REALITY

The International Monetary Fund (IMF) recently projected that India will edge past Japan to become the world's fourth largest economy in 2025. While this marks a notable milestone, comparisons based solely on absolute Gross Domestic Product (GDP) offer limited insight into the lived realities of people.

Absolute GDP figures are useful for understanding the size of an economy, but they do not capture how wealth is distributed, how developed a country is, or how its citizens are faring. They mask disparities in population size, cost of living, and income inequality. A country may have a large economy overall, but that doesn't necessarily translate into prosperity or improved living standards for its people.

For instance, as Chart 1A shows, India's absolute GDP (in \$ billion) is estimated to have risen from \$468.4 billion in 2000 to \$4,187 billion in 2025, narrowly surpassing Japan's figures in the process. However, as Chart 1B shows, India's GDP per capita is 12 times lower than Japan's in 2025.

To drive home the point, let us add Poland to the comparison — a country often cited for its quick transition from a lower middle-income to a high-income economy. Poland's total GDP is around four times smaller than India's, but, its GDP per capita is nearly nine times higher.

While economic growth is an important marker of a country's progress, it is equally vital to assess the strides made in social, educational, health, and democratic indicators, as advancements in these areas offer a more meaningful measure of true prosperity. The following paragraphs present indicators related to these dimensions, comparing India, Poland, and Japan across two time periods — the latest available data and figures from roughly two decades ago.

First, consider the nature of employment. As of 2023, nearly 45% of India's workforce was still employed in agriculture. In contrast, the share in both Poland and Japan had fallen below 10%, with a corresponding rise in employment in the industrial and services sectors.



On the regular employment front, the share of wage and salaried workers — those with formal employment contracts — was just 23.9% in India in 2023, compared to 91% in Japan and 80.1% in Poland.

The gross enrolment rate in college-level education, after completion of secondary school, was 32.7% in India in 2022, compared to close to 65% and 75% in Japan and Poland, respectively.

On the health front, the life expectancy of a person was 72 years for an average Indian in 2023, compared to 84 years in Japan and 78.5 years in Poland.

Access to adequate healthcare is also reflected in a country's Infant Mortality Rate (IMR), or the number of deaths per 1,000 live births of children under one year of age. While the IMR of all the mentioned countries halved between 2000 and 2023, India's IMR remains at 24.5, while Japan and Poland both record less than five such deaths per 1,000 births.

Put together, these reflect in the measure of the Human Development Index in these countries. The HDI is a composite measure that assesses a country's overall achievement in health, education, and standard of living. The HDI is expressed as a number between 0 and 1, with 1 indicating high human development. India's HDI of 0.685 in 2023 shows 'medium development', while the HDIs of Japan and Poland crossed the 0.9 mark, pointing to very high human development (Chart 6).

WHY HAS NET FDI INFLOW PLUMMETED?

The RBI Bulletin (May 2025) provides foreign direct investment (FDI) figures for the fiscal year 2024-25. Two contrasting narratives have emerged from it. Focusing on the headline number, government sources and many media outlets have reported that India received an unprecedented \$81 billion of gross inflows. Looking closer at the same data, others have highlighted the plummeting of net FDI at \$353 million. The government and economists monitor these flows as a barometer of the investment climate.

In principle, FDI inflows enhance fixed investments to expand production capacity and bring in newer technologies and global best practices. The reality, however, could be different. So, what do the contrasting numbers reveal?

To interpret the economic significance of the figures, it is necessary to relate them to the country's GDP. The gross foreign inflow-to-GDP ratio steadily declined from 3.1% in 2020-21 to 2.1% in 2024-25. However, the decline was slightly steeper in net FDI, from 1.6% of GDP to zero in the same period, highlighting the divergence between the two flows. The graph also shows a steadily rising outward FDI (OFDI) and 'repatriation and disinvestment' (disinvestment, for short) to account for the difference between the two figures (Chart 1).

Outward FDI refers to Indian companies investing abroad to expand their market and acquire technologies to enhance their domestic capabilities. However, OFDI also includes financial flows to many known tax havens, such as Singapore and Mauritius, which are also the top sources of India's inward FDI. Many have questioned whether such a symmetric inflow and outflow of foreign capital to tax havens represents correlated movements of "hot money" entering and exiting the country at will. Such flows may hardly expand domestic investment but may allow for global capital tax arbitrage.



In a research paper titled 'What Does Measured FDI Actually Measure?' (October 2016), Olivier Blanchard and Julien Acalin showed that inward and outward FDI flows across emerging market economies are highly correlated, responding to the U.S. policy rate. Large financial conglomerates move liquid capital across the world to take advantage of variations in tax laws, a practice known as 'treaty shopping'.

The study found that India ranked sixth in descending order among 25 emerging market economies in terms of this correlation while China ranked 25th. The study's sharp conclusions seem instructive: "... 'measured' FDI gross flows are quite different from true flows and may reflect flows through, rather than to, the country, with stops due in part to (legal) tax optimisation. This must be a warning to both researchers and policymakers." In other words, such flows represent the movement of global capital through India to take advantage of tax concessions, and there is a need to assess the value of these flows.

The rising disinvestment is due to the type of FDI India is attracting. The share of private equity (PE) and venture capital (VC) in FDI inflows, commonly referred to as 'alternative investment funds', has increased steadily. By definition, these funds acquire existing firms, factories, and brands, known as brownfield FDI. PE/VC investments have a 3-5-year horizon, and they are made primarily in services such as fintech, retail, healthcare, real estate, banking, and insurance. For instance, Blackstone is investing in Care Hospitals, and ChrysCapital is investing in Lenskart. Such funds are loosely regulated entities that, almost by definition, sell (or liquidate) their holdings ('positions') during the stock market booms – to deliver the best returns for their global investors. It is quite plausible that PE/VC funds selling their holdings during the stock boom boosted disinvestment in FY25.

An estimate of the share of PE/VC funds in FDI inflow shows a steady rise during the last decade, from 12.2% in 2009-10 to over 75.9% in 2020-21 (Chart 2) ('Reversing India's Industrial Decline,' EPW, March 15, 2025). In contrast, a declining share of FDI is invested in greenfield projects, contributing modestly to capital formation.

Despite much hand-wringing, it is essential to appreciate that FDI inflows are a modest and declining share of gross fixed capital formation (GFCF). The gross inflows peaked at 7.5% of GFCF in FY21 in the past decade at current prices, declining precipitously thereafter (Chart 3). The same applies to the net FDI-to-GDP ratio.

Net FDI (and gross FDI), relative to GDP, has declined steadily since FY21. This, in contrast to many policymakers' optimistic claims, is a matter of concern. Declining interest in India among foreign investors is in line with tepid domestic corporate investment. However, it is worth noting that FDI inflow has been modest, ranging between 1% and 3% of GDP and 1% and 7% of GFCF since FY14.

There are, however, more serious concerns about the composition and utilisation of FDI. The majority of it consists of alternative investment funds, which hardly contribute to enhancing long-term capital formation, technology acquisition, and augmenting India's potential output. The rising share of outward FDI suggests that India may be used as a conduit for tax arbitrage by international capital. If these concerns are valid, there may be a need to reform foreign capital regulations to serve domestic interests and improve domestic capabilities to overcome industrial and technological challenges.



GROWING PAINS

The data on India's economic performance in 2024-25, released on Friday, have something for everybody. Those with an optimistic outlook can rejoice at the seemingly robust growth in the fourth quarter. Pessimists can despair over the four-year low annual growth figure. The realist's assessment, however, is that there is cause for some restrained celebration, and more than a healthy dose of disappointment. The Q4 growth of 7.4% was considerably higher than what was expected for the quarter, and the fastest seen in an otherwise dismal financial year. The main drivers were the construction sector returning to double-digit growth, and the agriculture sector posting a strong showing. These are also two major employment drivers. Services, too, continued their steady and strong growth. The manufacturing sector, on the other hand, grew at just 4.8%, down from 11.3% in Q4 of the previous year. There is a reality check hiding in the aggregate numbers, as well. The GDP growth rate of 7.4% was achieved in large part due to a 12.7% growth in net taxes. This bump in tax collections provided a statistical boost without which growth in actual economic activity would have come in at around 6.8%. The much-hyped 'Maha Kumbh effect' on consumption expenditure also does not seem to have materialised. Growth in Private Final Consumption Expenditure in Q4 — the Kumbh quarter — came in at 6%, the slowest in five quarters. Capital formation, however, grew a robust 9.4% as the government finally sped up its sluggish capital investments.

Government officials and Union Ministers have expressed their satisfaction at the 6.5% growth in 2024-25, the slowest since the pandemic, saying it is still the fastest among major economies, and not bad in the context of a "growth-scarce" global environment. All of this is true. Yet, 'not bad' is not nearly good enough for India. The race is not with the rest of the world, but is an effort to keep pace with the country's growing requirements. The Modi government, with its sights set on a 'Viksit Bharat' by 2047, must be held to a higher standard in line with its aspirations. If, as the Economic Survey points out, Viksit Bharat by 2047 requires "sustained economic growth of close to 8% every year for at least a decade", then India is decidedly moving very slowly, even if in the right direction. In his press conference, Chief Economic Adviser V. Anantha Nageswaran said India was entering a phase of low inflation and stable growth. Stability can be good, since it implies lower chances of growth slowing. Yet, it also implies growth is unlikely to accelerate significantly either. The government needs to consider whether this is truly a satisfactory situation for a transitioning economy.

SAME PAGE

The Reserve Bank of India (RBI) Monetary Policy Committee's decisions, on Friday, show that the central bank is now unequivocally choosing growth in the perennial growth-inflation trade-off. This is the correct approach at this time. The first major decision was to cut the repo rate by 50 basis points to 5.5%. It comes on the back of two cuts of 25 basis points each, in February and April. With the latest retail inflation coming in at a 69-month low, and generally exhibiting a subdued trend, price stability has now been relegated as a secondary concern. These rate cuts will, once the banks transmit them to borrowers, make it cheaper for companies and consumers to borrow to invest and purchase. The second major decision, of slashing the cash reserve ratio by 100 basis points, will help with the transmission of the rate cuts. The less that banks have to keep with themselves, as stipulated by the cash reserve ratio, the more they can lend out — and now at lower rates. It is worth noting, however, that the central bank has again changed its stance. In April, it had moved from being neutral to being accommodative, indicating that it was inclined to cut rates further. It has now moved back to neutral, meaning more rate cuts in the short term are



unlikely, unless growth falls well short of expectations. This is a sensible stance to take, given the vast uncertainties that the Indian and global economies are facing. The neutral stance also means that the RBI is equally predisposed to raise rates again in the event of an unforeseen and sustained spike in prices. The monsoon is yet to fully play out, after all.

The timing of these decisions is sound. Inflation is low and not likely to jump any time soon if current factors remain unchanged. Further, there are no major elections now that would otherwise have necessitated a pre-emptive strong grip on price levels. On the other hand, growth is lower than it could be. The RBI has projected growth in the current financial year 2025-26 to be 6.5%, which is no faster than what the government provisionally estimated for the previous year. Fiscal policy in terms of government spending has reached the limit of the stimulus it can provide. After a decade of increasing outlays, government capital expenditure can at best be maintained at the level it is at, but cannot reasonably be expected to grow much further. Finance Minister Nirmala Sitharaman and officials in the Ministry of Finance have indicated as much. Apart from developmental and social priorities, the government now has additional defence spending to account for. Monetary policy has to step up and boost growth, and it is good to see the RBI and the government on the same page.

WHY IS THE RBI CHANGING GOLD LOAN RULES?

The story so far:

On April 9, the Reserve Bank of India (RBI) released draft directions on loans against gold collateral with the objective to harmonise the regulatory framework across regulated entities (banks and Non-Banking Financial Companies (NBFC)) and address differences in lending practices.

What was the response to the proposals?

Tamil Nadu Chief Minister M.K. Stalin wrote to Finance Minister Nirmala Sitharaman, seeking her intervention, pointing out that the proposal was likely to result in “serious disruptions to the rural credit delivery system in Tamil Nadu and across many parts of south India”. The Ministry of Finance clarified that it has asked the RBI to ensure that the regulations on gold loans do not adversely impact small gold loan borrowers. It also noted that the new rules would be implemented only by January 1, 2026. Mr. Stalin had said that gold-backed loans serve as a primary source of short-term agricultural credit, especially for small farmers, and those engaged in allied sectors such as dairy and poultry.

Why did the RBI want to step in?

The draft directions come in the backdrop of the RBI highlighting irregular practices amid a significant increase in the loan-against-gold jewellery portfolio of some lenders in September 2024. In the last fiscal, the combined loans against gold jewellery portfolio of banks and NBFCs was estimated to have grown by over 50%; for banks alone, the business more than doubled, growing at 104%, which set alarm bells ringing.

The draft directions on loans against gold collateral aim to harmonise the regulatory framework across regulated entities and address the differences in lending practices. The directions aim at protecting the interest of borrowers; to provide clarity on certain credit and operational processes followed by lenders; and to enhance transparency and disclosure. C.V. Rajendran, Adviser, Arvog, said, “The draft circular comes at a critical juncture when rising gold prices and widening credit



gaps are prompting more individuals, especially from the informal economy, to pledge household gold for short-term liquidity.”

What are the key changes?

The maximum Loan-To-Value (LTV) ratio remains capped at 75%. For consumption-based bullet loans, accrued interest must also be included in the LTV calculation, which effectively reduces the disbursed loan amount. “With LTV at disbursement likely to reduce to ensure compliance, this could impact growth in this portfolio,” said Subha Sri Narayanan, director, Crisil Ratings.

The draft proposes that borrowers furnish proof of ownership for the gold that will be used as collateral. Lenders are required to implement uniform procedures for assessing the purity and weight of gold. As per the RBI draft, gold accepted as collateral shall be valued based on the price of 22 carat gold. Concurrent loans for both consumption and income-generating purposes are to be prohibited. Loan renewals or top-ups are to be permitted only if the existing facility is classified as standard and complies with the prescribed LTV ratio. Borrowers must pay the entire outstanding amount, including both principal and interest, on the loan’s maturity date to avail a fresh loan. If the lending institution delays returning the collateral to the borrower beyond seven working days after loan repayment, then the lender is liable to pay the borrower a compensation of ₹5,000 per day for each additional day of delay.

How will changes impact regulated entities?

The changes are expected to reduce the flexibility of borrowers and curtail the ability of NBFCs to renew/top-up loans seamlessly. It will lead to increased compliance burden due to documentation, DSCR (debt service coverage ratio) norms, and monitoring. Smaller NBFCs that rely on re-pledging for liquidity will face funding constraints, leading to potential market consolidation. The higher operational costs could be passed on to borrowers through increased interest rates or charges. “Banks and NBFCs may need to reduce their current gold loan LTVs at disbursement to comply with these revised norms, potentially slowing down growth,” said Sankar Chakraborti, MD & CEO, Acuité Ratings & Research Limited.

Will a one-size-fits-all policy work?

Gold loans serve as a lifeline for many rural and semi-urban households, often being the only accessible source of formal credit. The RBI may consider creating differentiated regulatory norms for micro gold loans versus structured high-value gold loans.

IS IBC AN EFFECTIVE RESOLUTION TOOL?

The story so far:

More than eight years have passed since the enactment of India’s Insolvency and Bankruptcy Code (IBC). According to data from the Insolvency and Bankruptcy Board of India (IBBI), creditors have realised ₹3.89 lakh crore under the framework, with a recovery rate of over 32.8% against admitted claims.

Why was the IBC enacted?

India enacted the IBC, its first comprehensive bankruptcy law, in 2016 to improve the overall corporate insolvency resolution process. Shifting control from debtors to creditors, the IBC introduced a time-bound resolution mechanism to streamline bankruptcy proceedings, reduce



judicial delays, and improve creditor recoveries. According to current provisions, a maximum timeline of 330 days is allowed to find a resolution for a company admitted into the insolvency resolution process. Otherwise, the company goes into liquidation.

Is IBC a preferred route for debt recovery?

As per the Reserve Bank of India report on Trend and Progress of Banking in India released in December 2024, the IBC emerged as the dominant recovery route, accounting for 48% of all recoveries made by banks in the Financial Year 2023-24. The realisation under IBC is more than 170.1% as against the liquidation value. Resolution plans, on average, are yielding 93.41% of the fair value of the Corporate Debtors (CDs), IBBI said.

Further, 1,276 cases have been settled through appeal, review, or settlement, and 1,154 cases have been withdrawn under section 12A. The Code has referred 2,758 companies for liquidation, as per IBBI data. Nearly 10 companies are being resolved against five going into liquidation.

Has IBC been an effective recovery mechanism?

Akshat Khetan, Founder, AU Corporate Advisory and Legal Services, pointed out that IBC has changed the underlying credit culture. As the Supreme Court once observed, “the defaulter’s paradise is lost” and the Code has created a credible threat that ensures timely repayment.

On the recovery rate of 32.8%, Mr. Khetan pointed out that it must be interpreted in light of the distressed nature of the assets that come into the IBC process, often after years of erosion.

As the National Company Law Appellate Tribunal has rightly remarked in one of its rulings, “IBC is not a recovery mechanism; it is a resolution framework.” Compared to legacy systems, where recovery rates were often below 20% with timelines extending into decades, a 32.8% realisation is a leap forward, he said.

The provisions of the IBC have prompted debtors to take early action in distress situations, marking a shift in their behaviour. National Company Law Tribunal (NCLT) data show that 30,310 cases were settled prior to admission, covering underlying defaults worth ₹13.78 lakh crore till December 2024.

A study by the Indian Institute of Management, Bangalore, said IBC has injected discipline in the credit allocation process and has prompted borrowers to adhere to stipulated payment schedules. The gross non-performing assets of the scheduled commercial banks have declined from a peak of 11.2% in March 2018 to 2.8% in March 2024. A part of that reduction is attributable to resolution processes enabled under IBC, it said.

The study also indicated a 3% reduction in the cost of debt for distressed firms post-IBC, compared to non-distressed firms, indicating an improved credit environment for distressed firms. The IBC has had a positive impact on corporate governance, reflected in the increased proportion of independent directors on the boards of companies resolved under the Code.

What are the major challenges?

In a recent report, India Ratings and Research said that judicial delays and post-resolution uncertainties continue to affect confidence in the IBC framework.



Even when resolution applicants are ready and the Committee of Creditors has granted approval, delays at the NCLT continue to push recovery timelines. In several cases, such delays result in extended litigation or failed implementation, increasing the risk of liquidation for a viable asset that requires timely execution, it said.

The future insolvencies also raise questions about the Code's readiness to handle non-traditional enterprise defaults. While the IBC is legally broad enough to accommodate various resolution strategies, key commercial elements such as intellectual property valuation, treatment of employee dues, and tech continuity require a clearer treatment under the framework to make it future-ready, India Ratings said.

To enhance its effectiveness, India must invest in strengthening tribunal infrastructure, allow for pre-packaged insolvency, and establish jurisprudential guardrails to protect bona fide commercial decisions from post-resolution uncertainty, Mr. Khetan said.

Does the SC verdict on Bhushan Steel pose a challenge to IBC?

The recent developments in the Bhushan Power and Steel Ltd. case have reignited concerns around the finality of resolution outcomes and the predictability of the framework.

While the decision upholds compliance standards, its timing and implications highlight the need for judicial clarity and faster adjudication to sustain investor confidence in the process in the long term, India Ratings said.

By questioning a transaction that had been closed and operational for years, it risks unsettling the core principle of commercial certainty. If resolution applicants fear judicial reversals even after significant investment, they may hesitate to bid, undermining the IBC's very purpose. The Bhushan verdict thus underscores the need for legal sanctity once a resolution plan is approved and implemented, Mr. Khetan said.

The IBC is not merely a piece of economic legislation, it is the backbone of India's credit ecosystem. Its future lies in striking a fine balance between judicial oversight and economic pragmatism. As India aspires to become a \$5 trillion economy, robust and predictable insolvency mechanisms are indispensable. The Code must remain nimble, continually evolving to meet emerging realities while ensuring that commercial wisdom is not second-guessed endlessly, he said.

RURAL BENEFICIARIES IN NREGS DIP, MINISTRY SEEKS 12% HIGHER OUTLAY OVER NEXT 5 YRS

The Ministry of Rural Development (MoRD) has proposed an allocation of Rs 5.23 lakh crore for the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) for five years until 2029-30.

- It was revealed that the outlay is 12% higher than the release sanctioned by the Central Government at Rs 4.68 lakh crore for MGNREGS in the previous financial years from 2020-21 to 2024-25.
- A record high was noted in 2020-21 which followed a year into the COVID-19 pandemic where more than 7 crore rural families availed the scheme. The released peaked to Rs 1,09,810 crore in that year.



- MGNREGS became a fallback for families who left the urban areas and returned to their villages after loss of employment. As per the MoRD proposal from May 15, it was sent to the Expenditure Finance Committee panel, who approves outlays for all government schemes.
- On the other hand, the lowest release was reported in 24-25 at Rs 85,680 crore as families working under the MGNREGS reduced the gradual but effective recovery of the economy in the post-pandemic era. The least number of families was observed in 2024-25 at 5.79 crore. It must be noted that the MGNREGS scheme was suspended in West Bengal since the last three years.
- The EFC appraisal cycle evaluates the goals and achievements of the scheme, thus deciding for the following Finance Commission cycle. However, the approval issued by the EFC is another tick-in-the-box considering MGNREGS is a government-backed scheme. Thus, no change is proposed in the current funding pattern across all components, as per reports.

Do You Know:

- The MGNREGS is implemented by states and UTs under Section 4 of the MGNREG Act, 2005, which mandates each state to create a scheme providing at least 100 days of guaranteed unskilled work per year to willing rural households.
- Section 22 outlines the funding structure: the Centre covers 100% of wages, administrative costs, and Social Audit Units, and up to 75% of material costs, including wages for skilled and semi-skilled workers. States are responsible for paying unemployment allowances, 25% of material costs, and expenses of the State Council.

HOW DO HEATWAVES GRIPPING INDIA IMPACT COUNTRY'S LABOUR PRODUCTIVITY?

In a report in 2024, the International Labour Organization warned that more than 70% of all workers worldwide are at risk of exposure to excessive heat; It said India lost an estimated \$100 billion from heat-induced productivity losses; small businesses and informal workers bore the brunt.

The monsoon has arrived more than a week in advance, giving a respite from the intense heat in India. A heatwave gripped India in early April, though heatwave conditions were observed as early as February 27–28 as large parts of the country witnessed temperatures soar.

Heatwaves could have a drastic impact on the economy. In a report in 2024, the International Labour Organization (ILO) warned that more than 70% of all workers worldwide are at risk of exposure to excessive heat. It added that India lost an estimated \$100 billion from heat-induced productivity losses. Small businesses and informal workers like construction workers, farmers, street vendors and food delivery partners bore the brunt.

Excessive heat can have a devastating impact on agriculture. Studies show just 1 degree of warming reduces wheat yields by about 5.2% in India. Heatwaves, late in rice growing season, can cut yields.

Indians at risk

Heatwaves, a period of unusually high temperatures compared to normal, occur mainly from March to June and hit a peak in May. Most States are prone to heat waves in varying degrees with Central, Northwest, East and north Peninsular India bearing the brunt.



Very high risk

A recent report by CEEW states that about 57% of Indian districts, which account for 76% of the country's population, face a high to very high heat risk. Delhi, Maharashtra, Kerala, Gujarat, Rajasthan, Tamil Nadu, Andhra Pradesh, Madhya Pradesh, and Uttar Pradesh face the highest heat risk. It notes over the last 40 years (1981–2022), heat extremes in India rose linearly.

This led to landmark heatwaves in 2013, 2016, 2019, 2022, and 2024.

“Nearly 23 States are heatwave-prone in India. There has been a linear increase in the number of very hot days and the number of very warm nights,” said Vishwas Chitale, senior programme lead, CEEW, who noted the rate of increase in warm nights exceeds that of hot days.

Rapid urbanisation has only exacerbated the issue as cities tend to retain heat during the day, which delays cooling after sunset, making nights warmer. This contributes to the “urban heat island effect”, where cities get hotter than neighbouring rural areas.

The CEEW report noted between 2005 and 2023, built-up areas have expanded rapidly in almost every Indian district, especially in Tier-II and Tier-III cities like Pune, Thoothukudi, Kolhapur, and Guwahati. “You’re not getting any relief from the daytime hot temperature even when you sleep at night. If there are no cooling mechanisms available to you, then your productivity is going to go down,” he said.

A 2022 World Bank report points out that up to 75% of India's workforce, or 380 million people, depend on heat-exposed labour, potentially working in life-threatening temperatures. It also noted 34 million of the projected 80 million global job losses from heat stress-related productivity decline would be in India.

“The income losses for workers in the informal sector are likely to be greater as they are more likely to work outdoors and have less protection from heat,” Somanathan, Professor, Economics and Planning Unit, Indian Statistical Institute, said.

Lower earnings

“Net earnings of informal sector workers in Delhi were 40% lower during heatwaves compared to other days in May and June. They were also less likely to be able to go to work due to heat, slept less and less well, and were more likely to have a family member who was sick on hotter days,” he said.

Blue-collar workers in factories also suffer. Dr. Somanathan's 2021 study disclosed a slowdown in productivity and increased absenteeism in hot days. “A 1 degree warming is estimated to cut manufacturing output by about 2%.”

In rural India, heatwaves hit differently. “Typically, there is little agricultural activity in the peak of summer. But the summer season is also the season for a lot of non-farm activity. A large number of agricultural workers, and even farmers, go to work part-time in sectors like construction or road building, especially in the lean season,” T. Jayaraman, Senior Fellow, Climate Change, MSSRF, said. “Construction activity heats up and road building also attracts labourers and they are prone to the direct risks.”

He noted livestock are vulnerable to heat waves.



Dealing with heatwaves

Governments, both at the Central and State levels, is taking action. For example, the National Disaster Management Authority, in collaboration with the Union Ministry of Home Affairs, published guidelines for protecting the Indian workforce. These guidelines, which stress on providing education and regulating work schedules, providing water, medical facilities and appropriate workwear, can be used by officials preparing heatwave action plans for the cities and towns .

Currently, the focus is mostly on urban areas. “Urban areas are at a higher risk because of the population that they host. Nearly 76% of India’s population lives in 57% of districts [and they are susceptible to the risks],” Dr. Chitale said. He noted the healthcare infrastructure in rural areas is relatively weak. This puts Indians in rural areas at risk of health-related disorders.

FALLING SHORT

On June 2, India took a turn for the better in its transport electrification journey by offering a concessional import duty of 15% on completely built-up units. This is contingent on the EV manufacturer investing a minimum of about ₹4,150 crore over three years to localise manufacturing in India, with a base domestic value add of 25% in three years, going up to 50% in another two years. The notification, under the Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMEPCI) announced in March 2024, allows for a maximum import of 8,000 completely built units annually for each manufacturer for five years. The SPMEPCI adds to the bouquet of policies that attempts to boost EV adoption and manufacturing. However, these policies put together fall short of addressing a pressing issue in India’s journey to decarbonise and transform mobility — technology transfer. India began this journey in 2015, about five years later than most large economies. An outlay of ₹895 crore for the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME) scheme, for five years, expanded to ₹10,000 crore in 2019. China announced its ambitious New Energy Vehicle subsidy programme in 2009, which, coupled with mandatory joint venture manufacturing of EVs until 2022, enabled technology transfer. In addition, a reduced import duty on EVs (25% in 2010 to 15% in 2018), and cumulative incentives of about \$230 billion in the past 15 years — the most by any country — enabled China to achieve the highest global EV adoption rate. This also supported rapid charging infrastructure deployment, making China the largest producer and consumer of EVs.

The U.S. began this journey in 2010 with an initial outlay of \$25 billion for its Advanced Technology Vehicles Manufacturing Loans Program. This was greatly expanded under the Biden administration’s Inflation Reduction Act. But its EV adoption rate is much lower than China’s. In 2024, out of 17 million global EV car sales, China alone accounted for 11.3 million, followed by Europe with 3.2 million, the U.S. with another 1.5 million, and the rest of the world accounting for the remainder. China’s vertical integration of battery manufacturing, from mining, processing to assembling, has aided economies of scale with competitive pricing of EVs against conventional ICE vehicles. For now, the 25% DVA that India could aim for under the just announced scheme would be repurposing locally made auto components meant for ICE vehicles to EVs and layering it with Software-as-a-service. But to obtain the crucial technology for the heart of the EV — its battery — India must replicate its approach to localising ICE manufacturing, which is to mandate joint ventures with local ICE or EV makers, and gradually allow for a complete open market.



MINISTER: TESLA NOT KEEN TO MANUFACTURE IN INDIA

Electric Vehicle (EV) major Tesla is not interested in manufacturing in India but is looking at opening two stores, Union Heavy Industries Minister H D Kumaraswamy said on Monday.

- He, however, said that global EV makers like Mercedes-Benz, Volkswagen-Škoda, Hyundai and Kia have shown interest in applying under the ministry's flagship Scheme to Promote Manufacturing of Electric Passenger Cars in India, notified in March last year.

- "Mercedes-Benz, Volkswagen-Škoda, Hyundai and Kia — all these companies have already shown interest. Tesla, we are actually not expecting from them. They (Tesla) are going to start two showrooms, they are not interested in manufacturing in India," Kumaraswamy said at a media briefing.

- In February, US President Donald Trump had criticised Tesla's plan to expand in India, calling it "unfair" to the US. "Now, if (Tesla CEO Elon Musk) built the factory in India, that's okay, but that's unfair to us. It's very unfair," he had said. Trump has since made similar objections to Apple's expansion plans in India.

- The heavy industries ministry also issued detailed guidelines on Monday under the EV manufacturing scheme, and will soon issue a notice inviting online applications. Under the scheme, approved applicants will be required to make a minimum investment of Rs 4,150 crore to produce EVs domestically, with defined domestic value addition (DVA) goals.

- In turn, they will be eligible to import a maximum of 8,000 completely built-in units (CBU) of electric four-wheelers per year, with a minimum import value of \$35,000 at a reduced Customs duty of 15 per cent for a five-year period. The scheme is limited to global manufacturers with a revenue of at least Rs 10,000 crore per year, with fixed assets valued at a minimum of Rs 3,000 crore.

Do You Know:

- Shortly after the scheme was announced in March 2024, in the run-up to the Lok Sabha polls, Musk was expected to visit India and make a pledge to pump over \$2 billion into a car manufacturing facility in the country. However, the visit was postponed after Musk cited "very heavy Tesla obligations". But, a few days after cancelling his India trip, Musk visited China — the company's second-largest market.

- In February this year, days after Prime Minister Narendra Modi met Musk in Washington, Tesla announced 13 job openings in India, including store manager, service advisor, business operations analyst, and customer engagement manager.

- Meanwhile, according to think tank Global Trade Research Initiative (GTRI), it could take years before the first batch of EVs manufactured under the Centre's scheme hit the market. "While announcement of the scheme guidelines is a positive step, the application process has not opened yet and is expected soon. Realistically, it may take another six months or more before selected firms are announced, and the first locally made EVs under this scheme are still some time away; for now, approved firms can keep importing fully built cars at the reduced 15% duty," GTRI said in a release.



ELON MUSK'S STARLINK GETS LICENCE TO START SERVICES IN INDIA

Elon Musk's Starlink has received a licence for providing satellite internet services in India, a key milestone that will take it closer towards launching commercial operations in the country.

Starlink is the third company after Eutelsat OneWeb and Jio Satellite Communications to get a licence from the Department of Telecommunications (DoT) to provide satellite internet services in the country.

A fourth applicant, Amazon's Kuiper is still waiting for approvals.

DoT sources confirmed on Friday that Starlink has indeed received the licence and said the company will be granted trial spectrum in 15-20 days of applying for it.

Starlink will now have to comply with the security norms such as providing access for lawful interception, before starting services.

Starlink is a satellite internet service developed by SpaceX, a firm founded by Mr. Musk. It provides high-speed broadband internet worldwide using satellite technology and is described as broadband beamed from the skies.



DreamIAS



LIFE AND SCIENCES

CLASH BETWEEN ANDROMEDA AND MILKY WAY MAY NOT HAPPEN AFTER ALL: ASTRONOMERS

It turns out that the looming collision between our Milky Way and Andromeda galaxies might not happen after all.

Astronomers reported Monday that the probability of the two spiral galaxies colliding is less than previously thought, with a 50-50 chance within the next 10 billion years. That's essentially a coin flip, but still better odds than previous estimates and farther out in time.

"As it stands, proclamations of the impending demise of our galaxy seem greatly exaggerated," the Finnish-led team wrote in a study appearing in Nature Astronomy.

While good news for the Milky Way galaxy, the latest forecast may be moot for humanity.

"We likely won't live to see the benefit," lead author Till Sawala of the University of Helsinki said in an email.

Already more than 4.5 billion years old, the sun is on course to run out of energy and die in another 5 billion years or so, but not before becoming so big it will engulf Mercury, Venus, and possibly the earth. Even if it doesn't swallow the earth, the home planet will be left a burnt ball, its oceans long since boiled away.

Sawala's international team relied on the latest observations by NASA's Hubble Space Telescope and the European Space Agency's Gaia star-surveying spacecraft to simulate the possible scenarios facing the Milky Way and next-door neighbour Andromeda. Both already collided with other galaxies in their ancient past and, according to many, seemed destined for a head-on crash.

Past theories put a collision between the two — resulting in a new elliptical galaxy dubbed Milkmeda — as probable if not inevitable. Some predictions had that happening within 5 billion years, if not sooner.

For this new study, the scientists relied on updated galaxy measurements to factor in the gravitational pull on the Milky Way's movement through the universe. They found that the effects of the neighbouring Triangulum galaxy increased the likelihood of a merger between the Milky Way and Andromeda, while the Large Magellanic Cloud decreased those chances.

Despite lingering uncertainty over the position, motion, and mass of all these galaxies, the scientists ended up with 50-50 odds of a collision within the next 10 billion years.

A full-on collision would transform our home galaxy from a disk of stars seen as a milky band of diffuse light across the sky into a milky blob, said Raja GuhaThakurta of the University of California, Santa Cruz, who was not involved in the study. A harmless flyby of the two galaxies could leave this stellar disk largely undisturbed.

More work is needed before the Milky Way's fate can be predicted with accuracy, according to the researchers. Further insight should help scientists better understand what's happening among galaxies even deeper in the cosmos.



While our galaxy's fate remains highly uncertain, the sun's future is "pretty much sealed," according to Sawala. "Of course, there is also a very significant chance that humanity will bring an end to itself still much before that, without any need for astrophysical help."

MUSK RETAINS PLAN TO FLY STARSHIP TO MARS IN 2026 DESPITE SETBACKS

Two days after the latest in a string of test-flight setbacks for his big new Mars spacecraft, Starship, Elon Musk said on May 29 he foresees the futuristic vehicle making its first uncrewed voyage to the red planet at the end of next year.

Mr. Musk presented a detailed Starship development timeline in a video posted online by his Los Angeles area-based rocket company, SpaceX, a day after saying he was departing the administration of U.S. President Donald Trump as head of a tumultuous campaign to slash government bureaucracy.

The billionaire entrepreneur had said earlier that he was planning to scale back his role in government to focus greater attention on his various businesses, including SpaceX and electric car and battery maker Tesla.

Mr. Musk acknowledged that his latest timeline for reaching Mars hinged on whether Starship can accomplish a number of challenging technical feats during its flight-test development, particularly a post-launch refuelling manoeuvre in earth orbit.

The end of 2026 would coincide with a slim window that occurs once every two years when Mars and the earth align around the sun for the closest trip between the two planets, which would take seven to nine months to transit by spacecraft.

Mr. Musk gave his company a 50% chance of meeting that deadline. If Starship were not ready by that time, SpaceX would wait another two years before trying again, he suggested in the video.

The first flight to Mars would carry a simulated crew consisting of one or more robots of the Tesla-built humanoid Optimus design, with the first human crews following in the second or third landings. Mr. Musk said he envisioned eventually launching 1,000 to 2,000 ships to Mars every two years to quickly establish a self-sustaining permanent human settlement.

NASA is currently aiming to return humans to the surface of the moon aboard Starship around 2027, more than 50 years after its last manned lunar landings of the Apollo era, as a stepping stone to ultimately launching astronauts to Mars sometime in the 2030s.

Mr. Musk has previously said he was aiming to send an uncrewed SpaceX vehicle to the red planet by 2018 and was targeting 2024 to launch a first crewed mission there.

The SpaceX founder was scheduled to deliver a livestream from the company's Texas launch site on May 27 night, following a ninth test flight of Starship that evening.

But the webcast was canceled without notice after Starship spun out of control and disintegrated in a fireball about 30 minutes after launch without achieving some of its most important test goals. Two test flights in January and March failed in more spectacular fashion, with the spacecraft blowing to pieces on ascent moments after liftoff.

Mr. Musk shrugged off the latest mishap, saying it produced a lot of "good data to review," and promised a faster launch cadence for the next several test flights.



WHAT CAUSED THE MASSIVE ERUPTION OF ITALY'S MOUNT ETNA

Italy's Mount Etna, the largest volcano in Europe, produced an explosive eruption on Monday morning, sending a huge cloud of ash, smoke and rock fragments several kilometres into the sky.

- Mount Etna, sometimes referred to simply as Etna, is an active volcano on the east coast of Sicily, the largest island in the Mediterranean Sea, lying just off the toe of the Italian "boot". Etna's peak is the highest in Italy south of the Alps, and it is the largest of Europe's active volcanoes.
- Etna's summit has five craters, which are responsible for most of the volcano's eruptions. "Flank" eruptions also occur at the 300-odd vents of varying sizes along the slopes of the mountain.
- The volcano is in near-constant activity. Since 1600, at least 60 flank eruptions and many more summit eruptions have happened. In recent years, summit eruptions have occurred in 2006, 2007-08, on two occasions in 2012, in 2018, and 2021; flank eruptions have taken place in 2001, 2002-03, 2004-05, and 2008-09.
- Etna has been a World Heritage Site since 2013, and according to UNESCO, the volcano's eruptive history can be traced back 500,000 years. At least 2,700 years of this activity have been documented.
- Experts suggest that the eruption began with an increase in pressure inside the volcano due to expanding gases, which led to the collapse of the southeast crater, resulting in hot lava flows.
- According to Italy's National Institute of Geophysics and Volcanology (INGV) Etna Observatory, the volcano was witnessing a "Strombolian" eruption. This type of eruption is usually characterised as discreet moderately explosive bursts which can eject chunks of rock and cinders that can travel hundreds of metres into the air. It occurs due to the presence of gas in the magma chamber within the volcano.

Do You Know:

A volcano is said to be active if it's erupting right now or will soon. There are also zombie volcanoes like Uturuncu in Bolivia. Although it hasn't erupted in 2.5 lakh years, it still emits gases and triggers earthquakes in its surroundings.

Recently, scientists used a new technique to find that gases are collecting in magma chambers beneath Uturuncu's crater but also that it isn't likely to erupt any time soon.

- According to the US Geological Survey: "Volcanoes are openings, or vents where lava, tephra (small rocks), and steam erupt onto the Earth's surface."
- Volcanoes can be on land and in the ocean. They are formed when material significantly hotter than its surroundings is erupted onto the surface of the Earth. The material could be liquid rock (known as "magma", when it's underground and "lava" when it breaks through the surface), ash, and/or gases.
- The rise of magma can take place in three different ways, according to NASA. First, when tectonic plates — massive, irregularly shaped slabs of solid rock that carry both continents and oceans and are constantly in motion — move away from each other. "The magma rises up to fill in the space. When this happens underwater volcanoes can form," it added. Second, when the plates move



towards each other. “When this happens, part of Earth’s crust can be forced deep into its interior. The high heat and pressure cause the crust to melt and rise as magma,” NASA said.

Third is how magma rises at the hotspots — hot areas inside of the Earth, where magma gets heated up. As magma gets warmer, it becomes less dense, leading to its rise.

- According to the British Geological Survey, the type of volcano depends on the viscosity of the magma, the amount of gas in the magma, the composition of the magma, and the way the magma reaches the surface.
- There are two broad types of volcanoes: a stratovolcano and a shield volcano. Stratovolcanoes have steep sides and are more cone-shaped than shield volcanoes have a low profile and resemble a shield lying on the ground.

NEW EUROPE PUSH TO CURB CHILDREN’S SOCIAL MEDIA USE

From dangerous diet tips to disinformation, cyberbullying to hate speech, the glut of online content harmful to children grows every day. But several European countries now want to limit minors’ access to social media.

The European Union already has some of the world’s most stringent digital rules to rein in Big Tech, with multiple probes ongoing into how platforms protect children — or not.

There are now demands for the EU to go further, as a rising body of evidence shows the negative effects of social media on children’s mental and physical health. Backed by France and Spain, Greece has spearheaded a proposal for how the EU should limit children’s use of online platforms. The proposal includes setting an age of digital adulthood, meaning children will not be able to access social media without parental consent.

France, Greece, and Denmark believe there should be a ban on social media for under-15s, while Spain has suggested a ban for under-16s. Australia has banned social media for under-16s, which will enter into force later this year, while New Zealand and Norway are considering a similar ban. France has led the way in cracking down on platforms, passing a 2023 law requiring them to obtain parental consent for users under the age of 15.

The proposal also expressed concern about the algorithmic design of platforms increasing children’s exposure to addictive and harmful content. They demand “an EU-wide application that supports parental control mechanisms, allows for proper age verification and limits the use of certain applications by minors”.

AI’S UNCHECKED ASCENT: HOW BIG TECH IS OUTPACING THE REGULATORY RULEBOOK

Artificial intelligence is experiencing a period of meteoric acceleration. Scarcely a week passes without fresh demonstrations of its expanding capabilities, as giants like OpenAI, Meta, Google, Anthropic and Microsoft unveil deeper integrations of their AI models, each flaunting ever more advanced capabilities.

These firms’ fortunes were built on data, both scraped from the internet and personal user details. This digital information now serves as the lifeblood for all the AI tools they deploy to the general public as tiered products.



Some of these tech titans have faced scrutiny over their data practices, resulting in fines in certain instances and changes in their behaviour in others. They have been questioned by regulators, courts, and the general public in several major economies.

To understand the kind of data these firms collect and the methods they use, consider a 2020 class action lawsuit brought against Google. In *Brown et al vs Google LLC*, users alleged that the tech giant was tracking them even when they were browsing privately, using Google's "incognito" mode.

The users alleged that the tech giant was tracking their data, including shopping habits and other online hunts, despite them choosing to browse privately.

The search giant reached a settlement in April, and lawyers of the plaintiffs valued the accord as high as \$7.8 billion. While users will have to individually file for damages, the company agreed to delete troves of data from their records following the settlement.

In another case, Google agreed to settle a case brought against it by Texas Attorney General Ken Paxton over deceptive location tracking. The Silicon Valley company agreed to pay \$1.4 billion for illegally tracking the location and biometric details of users without consent.

Google is not alone. Llama AI owner Meta is another data guzzler. The social media giant was accused of using the biometric data of users illegally. The company agreed to pay \$1.4 billion and sought to deepen its business in the state of Texas.

The settlement route

Both Google and Meta have denied any wrongdoing. This method of making out-of-court settlements, coupled with denying wrongdoing, only emboldens the tech giants. By settling, these companies avoid creating legal precedents that could be used against them or the broader tech industry in future cases. A definitive court ruling against their data practices could open the floodgates for similar lawsuits.

If Google and Meta's legal woes are largely concerned with user data, OpenAI, the standard-bearer of AI's rapid advance, finds itself contesting lawsuits that probe the very foundations of its training methodologies. Multiple class-action suits accuse the company of illicitly scraping vast quantities of personal data from the internet without consent to train its large language models.

High-profile authors and media organisations, including The New York Times, have joined this legal fray, alleging copyright infringement and claiming their intellectual property was unlawfully used to construct OpenAI's ChatGPT.

The copyright battles aren't limited to the U.S. Indian book publishers and their international counterparts filed a copyright lawsuit against OpenAI earlier this year, while publisher Ziff Davis sued OpenAI for copyright infringement in April, adding to the web of high-stakes copyright cases.

These cases starkly illuminate the conflict between the AI industry's perceived hunger for limitless data and established protections for personal information and intellectual property. Even as litigation mounts, OpenAI, Google, and Meta's AI development and deployment continue, seemingly undeterred.

Oblivious to these legal and regulatory threats, tech giants appear to operate in a realm where conventional constraints are less binding. They not only continue to enhance their AI models but



also deploy them with ever-greater velocity, even as legal frameworks struggle to catch up or even define the parameters of a race that is already decisively underway.

The EU gold-standard tested

Perhaps, an answer could lie in someplace across the Atlantic, where Europe's General Data Protection Regulation (GDPR) represents a robust attempt to tether data use to individual rights. Penalties under GDPR can be formidable, and the EU has been moving beyond GDPR violations to broader digital market competition issues.

Just this year, the EU fined Meta over the company's user consent policy, which violated the bloc's Digital Markets Act.

The EU's scrutiny is not confined to American firms. Complaints have also targeted Chinese tech companies like TikTok and SHEIN, with allegations of unlawful data exports. While GDPR has undeniably compelled companies to adjust certain practices, the broader AI industry, particularly builders of foundational models, has continued its global expansion with little apparent deceleration. Moreover, the ultimate efficacy of Europe's direct AI regulation remains an open question, with the EU's AI Act not slated for full implementation until August 2025.

This dynamic is mirrored in other significant economies. India, with its Digital Personal Data Protection Act, 2023, is navigating this regulatory maze, formalising a data protection regime. The Act aims for a comprehensive framework, balancing consent requirements with provisions for future flexibility, thus attempting a delicate calibration between control and encouragement. India aims to be both a regulator and an important AI player.

China, too, has implemented stringent data privacy rules that make it difficult for foreign firms to transfer "significant data". While China is strict about data transfers from its soil, the country has given AI development paramount strategic importance by support local firms to harness latest advances in emerging technologies. And as in the U.S., the firms investing most heavily in AI are often those with the largest data troves.

Thus, while courtrooms bustle and regulators issue stern pronouncements, AI giants forge ahead, relentlessly refining models and deploying them at remarkable speeds. Legal challenges, however significant, often resemble the wake behind a rapidly advancing ship rather than a rudder steering its course. It is abundantly clear that privacy laws and regulatory frameworks are struggling to keep pace.

The fundamental truth is that Big Tech's AI innovation cycle currently far outstrips the slower, more deliberative cadence of legal and ethical calibration. In this race, user privacy and broader societal guardrails risk becoming afterthoughts — issues to be managed or litigated post hoc, rather than foundational principles guiding AI's unchecked and transformative ascent.

INDIA'S RAPID AI ADOPTION, CHINA'S OPEN-SOURCE LEAD IN FOCUS IN MARY MEEKER REPORT

"Unprecedented" – that's the word frequently used by venture capitalist Mary Meeker—once known as the 'Queen of the Internet'—in her latest trends report on artificial intelligence (AI) development and adoption.



- The 340-page report, titled ‘Trends — Artificial Intelligence,’ charts out the speed at which costs of usage are dropping, and how its adoption curve is unlike any tech disruption of the past. “The pace and scope of change related to the artificial intelligence technology evolution is indeed unprecedented...” Meeker writes in her report, her first major trends report since 2019.
- While largely upbeat about AI’s disruptive promise, the report also outlines cautions against well-known pitfalls including hallucinations, biases, misinformation and slow moving regulation. It also said that while AI platforms have racked up the user-base, revenue per user is still quite low for most of them, with a median of \$23.
- The adoption of AI platforms has been unlike anything that has come before it, the report said. For instance, it took the likes of Instagram, WhatsApp, and YouTube between 2-4 years to reach 100 million users, but for ChatGPT, it took less than 3 months.
- The report also speculated, based on data from Morgan Stanley, that while it took between 6-12 years for 50% households in the US to have access to mobile and desktop internet, it will take only 3 years for the same number of households to become users of AI platforms.

Do You Know:

- Owing to its large demography and internet penetration, India has been a key user-base market for AI companies, the report said. It is the second largest market for ChatGPT, and contributes the highest percentage of its mobile app users (13.5%), ahead of countries like the US (8.9%), and Germany (3%).
- India is also the third-largest user base (6.9%) for China’s homegrown platform DeepSeek, and is behind only China (33.9%) and Russia (9.2%). However, the thing to note here is that ChatGPT, one of DeepSeek’s main rivals, is banned in both China and Russia. Indians therefore contribute a substantial user base to DeepSeek, despite the availability of its Western rivals.
- The report said that two different philosophies in shipping AI models are playing out in parallel – closed and open source.
- Closed models follow a centralised, capital-intensive arc. These models – like OpenAI’s GPT-4 or Anthropic’s Claude – are trained within proprietary systems on massive proprietary datasets, requiring months of compute time and millions in spending, it said. They often deliver more capable performance and easier usability, and thus are preferred by enterprises and consumers, and – increasingly – governments. However, the tradeoff is opacity: no access to weights, training data, or fine-tuning methods, the report added.

REMEMBERING EDMUND WHITE: WHEN HE PROVED HIMSELF WRONG

In his 2005 autobiographical book, *My Lives*, Edmund White recalls being shamed as an adolescent by a psychologist and family friend, writing, “Foolishly, I had imagined I could transform the dross of homosexuality into the gold of art, but now I saw I could never be a great artist.” Starting in 1973 with *Forgetting Elena*, to his relief and that of a world in which he is today known as the “the pioneer of gay literature in America”, he repeatedly proved himself wrong.

White, who died on Tuesday at the age of 85, belonged to a generation of “gay writers” who were not writing for a straight readership. He came to prominence at a time when homosexuality was illegal and publishing houses would routinely get sued for pornography over a “kiss between two



men". White's visceral writing style and autobiographical works forced readers to get up close and personal with the grief of being "different" in a cold and cruel world. White's father was ashamed of his son's sexuality, and his mother, a psychologist, saw him, as a "guinea pig". From trying to "cure himself" to becoming one of the leading voices responsible for the explosion of queer writing in the mainstream was a long journey. White's *The Edmund Trilogy* — a coming-of-age tale of a gay man's life from childhood to middle age — tells this story. The first in the series, *A Boy's Own Story*, became an instant classic.

At a time when queer writers often had to work in isolation, White, along with six of his contemporaries, formed *The Violet Quill* — a club with "a mixture of gay male friends, lovers and enemies" — to build a network for writers like himself. Four of the seven founders died in the AIDS epidemic. Through all this grief and love, White wrote 30 books, each bold in its own way, leaving a legacy of freedom.

PETS AS PART OF THE FAMILY. AUSTRALIAN LAW CONFIRMS IT

Ludwig Wittgenstein, the man who all but broke Philosophy, would likely have appreciated Australia's Family Law Amendment Act that comes into force next week. A singular mind, Wittgenstein showed how many of the most intractable problems of metaphysics — and life, really — are rooted in misunderstandings of language. For example, the questions "who gets the house" and "who gets the dog" follow the same syntax. But that doesn't mean they should be addressed in the same way. Fortunately, in Australia at least, the law will no longer treat the family dog like any other piece of property. After a breakup or divorce, the best interests of the pet and who the primary caregiver is, among other considerations, will determine custody — not an archaic idea of "ownership".

To be fair, the idea of pets as "fur babies" — especially in urban and well-to-do households — is relatively recent. Animals have been domesticated for three purposes: Food, transport and labour, and as companions for hunting, guarding and pest control. But some animals, even when they are working, are a part of the family. A dog feels, even when she guards and a cat has moods, even when she catches mice. They have an inner life, likes and dislikes. Dogs, especially, need care, and give it back in return and, unlike children, are always grateful for a meal, a hug and a walk.

Australia's law is, then, both a correction and an admission. It ensures the well-being of an animal, emotional and physical, as it would of a dependent. It also acknowledges that the anthropocentric view of ethical and legal systems leaves out some of the most important members of a family, that when a home is broken, the pet isn't just a part of the furniture. Hopefully, lawmakers in the rest of the world will take a leaf out of Australia's book.

HOW THE TECHNOLOGY INDUSTRY IS TRYING TO MEET ITS CLIMATE GOALS

A team of researchers from Microsoft and WSP Global has published a groundbreaking study in *Nature* demonstrating that advanced cooling methods like cold plates and immersion cooling can cut data centre emissions by 15-21%, energy use by 15-20%, and water consumption by 31-52% compared to traditional air cooling.

The life cycle assessment, led by Husam Alissa of Microsoft, Mukunth Natarajan, and Praneet Arshi of WSP, among others, also provided actionable insights to help the Information and Communications Technology (ICT) industry meet its climate goals. "Our [life cycle assessment] has shown that reducing data centre energy use through advanced liquid-cooling technologies



will lead to marked reductions in data centre environmental impacts,” the authors wrote in their paper.

Electronics versus rising temperatures

Electronics heat up like crowded kitchens: billions of microscopic switches (transistors) are like cooks working nonstop, bumping into each other while flipping electrical dosas (data). The tighter they are packed — that is smaller the chips are — or the more tasks they handle, the more they collide and create heat, just like a packed kitchen gets hotter, needing fans and ACs to cool down. A laptop is like a kitchen with one burner: a simple fan suffices. A data centre is like a thousand laptops working at full speed in a single room, generating heat like a massive bonfire compared to a single candle. Without cooling, the intense heat will melt the hardware in minutes.

Heat slows down electrons, like runners in thick mud. If the chips get too hot, they may malfunction or altogether fail. Cooling keeps them running smoothly, ensures a longer lifespan and fast and reliable performance, and prevents heat damage. Just like an athlete needs water to stay sharp in a race, electronics need efficient heat removal.

Race to cut emissions

In data centres, cooling consumes nearly as much power as computing, like an AC fighting oven heat in a busy kitchen. To curb climate change, the ICT industry needs to cut emissions by 42% by 2030 (from its 2015 levels). Data centres need greener designs that use less energy and water, and have lower greenhouse gas emissions to help meet global climate goals and keep warming below 1.5°C. Urgent upgrades to energy, efficiency, and cooling are critical.

Chips are also getting smaller, faster, and more energy-efficient, like upgrading your phone every year without draining the battery faster. As the demand for cloud services increases, so must data centre capacities and heat mitigation strategies.

Ice packs and oil baths

Two prominent cooling techniques have emerged as viable alternatives. Cold plates, also known as direct-to-chip cooling, are small heat exchange modules equipped with microchannels to enhance heat transfer. Think of a cold plate like an ice pack strapped to a feverish forehead, but for computer chips. It sits directly on hot components, with small coolant-filled channels absorbing heat into tiny channels filled with coolant.

When it becomes warmer, the coolant — such as 25% polyethylene glycol and 75% water — flows away and dumps the heat outside, while fresh coolant entering the veins keep the cycle going. This method is more efficient than fans the same way swapping a handheld fan for an ice-cold bath is better. In a cold-plate system, the liquid-to-air heat transfer ratio ranges from 50% to 80%, sometimes more.

The second technique, immersion cooling, is like dunking a hot frying pan into a pool of heat-hungry oil instead of blowing air on it. The oil, which is good at dissipating heat within itself, soaks up 100% of the pan’s heat and keeps it from overheating. In the one-phase cooling method, like swirling cold water around the pan, the oil stays liquid but carries heat away. In two-phase cooling, the technique works the way water cools in a mud pot: the coolant fluid bubbles into vapour at a low temperature, rises into a cooling coil, condenses, drips back down, and repeats. “These techs cut corrosion, boost reliability, and slash carbon footprint — all while running silent without fans,” the researchers wrote.



Pioneers like Microsoft and Alibaba are already deploying these systems at scale.

Green or just less dirty?

To truly lower the carbon footprint of cooling technologies, scientists, policymakers, and lawmakers need to weigh its full impact. While the new solutions are innovative, they face hurdles. Coolant fluids involve different regulations, and complex designs delay deployment. Using them is like swapping plastic straws for paper: they are greener, but not without trade-offs. The world could end up trading one ecological problem for a different, even worse, one.

If the electricity for an electric car comes from a coal power plant, the car's carbon footprint is still high. Similarly, cooling gains can backfire if pollution is merely shifted elsewhere.

The study team's cradle-to-grave life cycle assessment evaluated air-cooled, cold-plate, and immersion cooling across emissions, energy, and water use, proving that sustainability demands systemic thinking, not isolated fixes.

Twin engines of a green data centre

The assessment revealed that with grid electricity, cold plates and immersion cooling cut greenhouse gas emissions by more than 15%, energy use by more than 15%, and water consumption by more than 31% — making them superior to conventional cooling technologies in use today. With 100% renewable energy, the team found the cuts could jump to 13% for emissions, 15% for energy, and 50% for water.

“Switching to renewables slashes emissions by 85-90%, energy use by 6-7%, and water demand by 55-85%, regardless of cooling tech,” the researchers wrote. Thus, life cycle assessments can reveal sustainability trade-offs either within the same cooling technology or when comparing different technologies. Ultimately, the calculus is clear: ICT's climate future hinges on tackling how the industry cools its data centres.

IS GLOBAL WARMING BECOMING A DISTRACTION?

The story so far:

A global mean temperature rise of 2°C is enshrined in the Paris Agreement as a safe level of global warming by 2100 with respect to the pre-industrial baseline. This threshold was reduced further to 1.5°C due to the demand from the Alliance of Small Island and Developing States. The climate community has since been trying to quantify climate change and its consequences relative to these warming levels. Unfortunately, the models scientists use for climate projections aren't perfect, which affects the uncertainties in global mean temperature rise estimates. To make predictions for years far beyond 2050, the models need to know the greenhouse gas emissions at the time. Modellers create these figures by imagining energy sources of the future, population growth, and climate actions and policies by then. However, it is anything but easy to simulate societies of the distant future. Thus, projections of global warming in the distant future depend heavily on uncertainties inherent to these speculative scenarios.

Is global mean warming important?

After 2023 and 2024 turned out to be record warm years, the spectre of crossing the 1.5°C threshold looms large. However, the 2°C warming threshold emerged from a rather arbitrary assumption rooted in the work of economics Nobel laureate William Nordhaus in the 1970s.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



There has been much debate since as to what this figure represents in real terms, because the two warming levels — 1.5°C and 2°C — aren't particularly special in climate science. In fact, there are uncertainties about the magnitude and/or duration of warming overshoot required for it to be catastrophic. The onslaught of climate-related disasters also makes it clear that any additional warming should be avoided. The exact amount of warming, whether 1.5°C, 1.75°C or 2°C, hardly matters for disaster management and adaptations required today.

Did the world really cross 1.5°C?

Global temperature estimates are prepared by blending observations and models. Also, multiple groups produce multiple models, which produce multiple estimates — and they are not alike. Two such models of late have claimed the world exceeded 1.5°C of warming in late 2024 whereas one has estimated the world didn't. Be that as it may, the question remains as to whether 2025 will continue to warm or if the rate of warming will drop. Rapid warming events in the past suggest that the rate of warming after sudden jumps tends to decline after a few years. For example, 2024 started out warm following the record warmth of 2023 before the rate of warming dropped. The rate in 2025 has already fallen below that seen in 2024 for the same months. Considering the uncertainties in warming plus irreducible uncertainties in estimating today's temperatures, it is confusing why global mean warming levels remain relevant.

Climate adaptation and resilience require large investments. We also need reliable local information to avoid maladapting. Thus, climate mitigation must continue, in fact even accelerate while global mean warming is a distraction we can do without. But with the back-peddaling on climate action in some countries, short-and medium-term predictions, from days to a decade or two, are most urgent now, especially at the hyperlocal scale.

What about climate disasters?

Climate disasters like heatwaves, floods, and droughts are becoming more protracted, frequent, and intense. Insurance losses, number of lives, and number of livelihoods lost worldwide are rising year on year. These disasters are a reminder that unless researchers can pinpoint which disaster is likely to occur where and with sufficient actionable lead time — for example, a few days to few weeks for most extreme events — focusing on global mean warming can be wasteful, if not misguided.

Early-warning systems and disaster management are becoming better overall and global plans under the UN, such as Early Warnings for All, promise to ensure poorer countries are not left out. If we are to manage day-to-day crises better even as the risks of climate hazards increase, we also need predictions at the decadal timescale to allow countries to plan ahead for adaptation and resilience. This in turn demands that we focus on tracking disasters, preparedness, management and recovery.

The earth's tropics are a hotspot of climate change's consequences since they are warmer to begin with. So catastrophic floods outside the tropics, such as those in Valencia in 2024, are a stark reminder that good early warnings are worthless unless they are actionable up to the last mile. It has become common in the wake of disasters for some research groups to claim it was caused by global warming. However, we need to focus on more important questions: whether a given forecast was accurate and whether all disaster management agencies on the ground received it in time. If a forecast fails, they need to be recorded and documented as such; if a forecast was accurate but the government failed to prepare for it in time, the points of failure must be quickly identified and corrected.



This acknowledges that climate risk and uncertainties are never zero, that risks are not predestined, and that we have agency in mitigating them.

BEWARE BEACHES NEAR RIVER MOUTHS: THE AIR MAY NOT BE FRESH

Through history, human civilisations almost always erupted near bountiful rivers. The waters enriched the soil, hosted lush ecosystems, and fed and washed the people. This affinity for rivers is less true today but the relationship has also become twisted. In many places around the world, including in India, cities and factories have zombified rivers into sewers.

Now, scientists in California have found that the pollutants rivers drain into seas can in fact spray into the air, become aerosolised, and drift back overland, where people can inhale them. Their findings were published in *Science Advances* on May 28. In their study, they tracked the water in the Tijuana river flowing into the Pacific Ocean near the U.S.-Mexico border. From January to March 2020, they sampled five places along 35 km of the coast: every day, they scooped seawater and, for almost 24 hours, drew air through quartz-fibre filters to catch aerosol particles. They collected more samples during rain events that sent extra filth down the river.

Then the team used high-resolution liquid-chromatography mass-spectrometry to look for 12 human-made compounds that commonly appear in wastewater. The list covered a sunscreen ingredient called octinoxate, a tire rubber additive called dibenzylamine, prescription drugs, agricultural biocides, and several illicit drugs including methamphetamine. As a proxy for untreated sewage, they tracked benzoylecgonine, a cocaine metabolite that passes unchanged through the human body and persists in seawater.

They found that 10 of the 12 compounds were more concentrated in the river water than in non-river water, while aerosols collected at the two spots closest to the river were the dirtiest. The octinoxate, methamphetamine, and dibenzylamine concentrations were closely correlated with that of benzoylecgonine, meaning they were likely from the same source.

Using the measured seawater values and a standard model of water spray, the researchers estimated that 1 km of beach coastline could release 1 kg of octinoxate, up to 100 g of methamphetamine, and several grams of tire additives into the on-shore breeze. Worldwide, they estimated polluted coasts could release roughly 40,000 tonnes of octinoxate and 50 tonnes of dibenzylamine overland air every year.

While a person may inhale less-than-morbid amounts of these substances every hour near the river mouth, the chronic effects of breathing a mix of sunscreen, stimulants, and pesticides — as would be the case for the fishers and marginalised communities living along the coasts — are unknown.

READINESS, NOT PANIC

The lessons of the past should serve as a good guide, especially the learnings from three years of COVID-19. The country's COVID-19 dashboard has seen some activity in recent weeks, and the total number (since January 2025) of COVID cases is currently at 3961 (as on June 2, 8 a.m.), and the number of deaths recorded as 32. While a figure in 1000s seems a bit alarming, it is still a small number in a country with a population of over 1.4 billion. It is also important to take a look at the full picture. Not all States have had a day-on-day hike in numbers testing positive for COVID, and all hikes are still in the single or low double digits. Also, 2,188 people have been discharged since,



underlining what experts have been saying as the curve rose this year: that the variants causing infection now are Omicron subvariants and that they are neither more transmissible nor do they cause worse disease than in the past.

While panic and anxiety might be unwarranted, a sense of caution and precautionary approach are advisable, particularly for those with vulnerabilities and co-morbid conditions. Experience from the pandemic is that people with other pre-existing co-morbidities are disproportionately affected by COVID-19 infection. Common comorbidities include hypertension, diabetes, cardiovascular diseases, obesity, and kidney diseases, and advancing age (post 60 years). People with these conditions must start masking up in public places, and hand wash regularly. Former World Health Organization Chief Scientist Soumya Swaminathan has said the recent immunity from the pandemic will stand in good stead, but again, to take possible precautions including giving boosters or vaccine shots, especially to the vulnerable. This is where the government must step in, as COVID vaccines or boosters are not available in most parts of the country, even urban centres. India, a signatory to the World Health Organization Pandemic Agreement, must first ensure that stockpiles of vaccines and diagnostic kits are created and distributed across the country. Both public and private sector hospitals must ensure that health infrastructure — particularly the availability of medical oxygen, adequate beds and health-care personnel — is in a state of readiness. Another scenario that must be avoided at all costs is the deliberate obfuscation of data on true numbers on infections or deaths as during the pandemic. Instead, transparency and efficiency must guide both the Centre and the States, this time, irrespective of how the COVID curve behaves. But panic is not the same as preparedness: one is debilitating, the other is enabling.

NO SHAKING

When a player is hit on the hand by a cricket ball, the first reaction is to shake it off. Does this help?

Quickly shaking the hand may briefly feel better. But depending on how hard the ball has struck the hand, instinctively shaking it may or may not help.

A famous 1965 paper said this was because the jolt sends nerve signals to the spinal cord faster than the sharp-pain signals reach it, temporarily closing the 'gate' on the latter. But this gate-control theory has come to be disputed for various reasons. This said, research has found the jolting action may help the person distract themselves from the pain and believe they are doing something about it.

It may be better to stop shaking the hand and start first aid. In the event of a contusion, the American Academy of Orthopaedic Surgeons specifically states, "Do not massage the injured area."

Instead it recommends the RICE protocol: Rest ("protect the injured area from further harm"), Ice ("use cold packs for 20 minutes at a time"), Compress ("lightly wrap the injured area in a soft bandage"), and Elevate ("raise the injured area to a level above the heart").

HOW THE DIET SHAPES HEALTHY AGEING

Across the world, the population of older adults has increased over time. And over 80% of them suffer from at least one chronic health disorder. The U.S. Centre for Disease Control (CDC) and World Health Organization (WHO) point out that promoting global health is a priority. They both point out that a better-quality diet is beneficial for the prevention of heart attacks, diabetes and premature death.



The Mediterranean Diet, much lauded by health researchers as an ideal one, uses plant-based foods — vegetables, fruits, legumes and natural oils, moderate amounts of poultry and eggs — and avoids red meat. People there who practice this diet do live longer and healthier lives. Indeed, a typical food in India, with wheat or rice, dal, sabji with lots of greens, and curd/buttermilk, (and for non-vegetarians: eggs and fish but little or no meat), is essentially Mediterranean.

Towards this, two recent articles highlight the best food that we should take for healthy ageing. One in the April 3 issue of the journal Nature, titled ‘The Best and Worst Foods for Healthy Ageing’, points out that people who eat a diet rich in fruits and vegetables are more likely to reach the age of 70 without major physical or cognitive impairments. This article offers the advice that the recommendation to eat plenty of fruits and vegetables is well-founded: a large-scale 30-year study on dietary habits shows that diets high in these foods are associated with healthier ageing.

The massive study itself is published in Nature Medicine, titled ‘Optimal dietary patterns for healthy ageing’. The message here is ‘get more fibre in your diet, eat more vegetables, pulses such as beans, lentils, and eat less fats and animal meat’, suggesting that this practice will help senior citizens live a healthier life. In this study, health experts from the U.S., the U.K., Canada, and Denmark analysed data from two major studies: the Nurses’ Health Study (tracking hospital workers and medical professionals) and the Health Professionals Follow-up Study (examining men’s diet and lifestyle linked to serious illnesses such as cancer and cardiovascular diseases).

By looking at the records of 70,000 women and 30,000 men, they uncovered key insights into how our eating habits affect our health. A healthful plant-based diet was seen to be highly associated with healthy ageing.

Researchers examined how long-term adherence to plant-rich dietary patterns, moderately supplemented with healthy animal-based foods, enhances healthy ageing. They examined the association between eight healthy dietary patterns.

One, called Alternative Healthy Eating Index (AHEI), focuses on a scoring system that evaluates diet quality based on its alignment with recommendations for a healthy diet (greens, low fat, low sugar, and avoid foods causing cancer and high blood pressure). The second, called the Alternate Mediterranean Index (aMED), is adapted for populations outside of the Mediterranean region, and offers long term benefits for the elderly.

The third, called Dietary Approaches to Stop Hypertension (DASH), is primarily focused on controlling high blood pressure. Others, such as the Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) and healthful plant-based Diet (hPDI), also emphasise a plant-rich and nutrient-dense diet that avoids highly processed foods.

In summary, the groups suggest that a diet with plant-rich foods, plus a moderate amount of animal-based foods, is best for living longer and healthier.