

CURRENT AFFAIRS for UPSC

30TH MARCH TO 5TH APRIL 2025

DreamIAS



INTERNATIONAL

ALARMING SHIFT

Secretary of State Marco Rubio has confirmed that there is an ongoing programme in the United States to revoke the visas of foreign students who are “taking activities that are counter to our national interest, to our foreign policy”. Reports suggest that several hundred visas have been revoked, which include those held by Indian students. These reports also indicate that the U.S. government is using surveillance of social media activity as a basis for these revocations. Mr. Rubio also referenced the more troubling aspects of the Gaza war protests — Jewish students were reportedly harassed or university buildings were occupied. In his view, if an action would justify denying a visa at the application stage, it is grounds for revocation after issuance. However, this development raises concerns about the U.S. government’s stance on the free speech rights of foreign nationals who reside in the country legally. Not all those affected by these visa revocations have been disruptive. The right to free speech is enshrined in the First Amendment to the U.S. Constitution. Although the amendment explicitly restricts Congress from curtailing speech, it has long been interpreted broadly. It protects “people”, not just “citizens” — though the distinction may have been less defined at the time of its writing.

Whether this right extends to foreign nationals legally present in the U.S. remains a grey area. Various laws — from those of the late 18th century to more recent regulations concerning the impact on U.S. foreign policy — have placed limits on such expression. Yet, historically, foreign students have often been vocal critics of U.S. domestic and foreign policies without facing punitive action. And, university administrations have generally defended the free speech rights of students and academics. Despite its imperfections — both historic, such as the internment of Japanese Americans during the Second World War, and ongoing, such as systemic racial inequalities — the U.S. has been a beacon of liberal values and due process. These are principles admired around the world, often more than its material wealth or professional opportunities. For many, it is the commitment to values such as free speech that makes the U.S. exceptional. That commitment now appears to be at risk. The U.S. system of checks and balances, which guards against the abuse of power, should assert itself — perhaps through judicial intervention — to rein in the overreach by the Trump administration and preserve the freedoms that define American democracy and inspire large parts of the world.

SEASON OF BLUSTER

After more than two months of caustic words for Ukraine President Volodymyr Zelenskyy and approbation for Russian President Vladimir Putin, U.S. President Donald Trump appeared to strike a different note in his approach towards bringing the two leaders to the negotiating table. Following a call with Mr. Putin, Mr. Trump said that he was “very angry” with the former when, following weeks of attempted negotiations, Mr. Putin reportedly attacked Mr. Zelenskyy’s credibility instead of discussing steps towards finding peace. Further, Mr. Trump, apparently irate that his campaign promises to end the conflict was losing steam and in danger of remaining unfulfilled, threatened to slap nations purchasing Russian oil with a 50% tariff, unless Mr. Putin agreed to a ceasefire in the near term. The choke point was Mr. Putin’s insistence that Mr. Zelenskyy lacks the legitimate authority to sign a robust peace deal that would not be challenged by any nation; and that in this context the introduction of “temporary governance in Ukraine,” was required, perhaps achieved through “democratic elections, to bring to power a viable government that enjoys the trust of the people...”

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



In terms of his popularity back home, Mr. Zelenskyy had earlier corrected a broadside from Mr. Trump, a false claim that he only had an approval rating of 4%, when in fact Kiev had noted that 65% of Ukrainians trusted their President and his approval rating hovered around 57% in early 2025. Mr. Putin's claims in this regard, which range from the unfounded statements about Mr. Zelenskyy lacking popular legitimacy to accusing him, a leader of Jewish descent, of enabling Nazi forces in Ukraine, can be understood in the backdrop of Moscow's reluctance to enter into a peace treaty at a time when its troops have continued to keep up the military pressure on Ukrainian forces and have made substantial territorial gains there. The greater concern for Europe, and perhaps the U.S., might be that Mr. Putin could seek to undermine via influence operations any plan for free and fair elections in Ukraine and thus succeed in getting a pro-Russian candidate installed in Kiev. In turn, Mr. Trump, even if he is not particularly concerned with European security in a post-conflict scenario in Ukraine that might favour Russian interests, may worry that a lucrative U.S.-Ukraine mineral extraction deal might be in jeopardy if Mr. Putin is de facto calling the shots across the region. Regardless of the bluster on all sides, an early ceasefire would have the greatest impact on prospects for lasting peace after more than three years of bloodshed and dislocation.

LEAVE IT ALONE

Vice President J.D. Vance's recent visit to Greenland, where he reaffirmed United States President Donald Trump's plan to assert control over the Arctic Island, was a blunt demonstration of American power over a strategically vital territory inhabited by around 56,000 people. The visit drew sharp disapproval from Greenland's local leaders and the Danish government, which retains sovereignty over the island. It marked a new low in U.S.-Greenland relations, which have soured in recent weeks. While Mr. Vance was inspecting the Pituffik Space Base (formerly Thule Air Base), Mr. Trump declared that the U.S. would "go as far as we have to" to take control of Greenland. This is not the first time that an American administration has attempted to acquire the island. In 1867, following the purchase of Alaska from Russia, the U.S. held unsuccessful talks with Denmark to buy Greenland. During the Second World War, after Nazi Germany occupied Denmark, the U.S. established military and radio stations on the island. In 1946, Washington offered Denmark \$100 million for Greenland, which it rejected. More recently, during his first term, Mr. Trump made a similar offer, which was again declined by Denmark and Greenland. Now, in his second term, he is aggressively pursuing the idea, undeterred by the strong opposition from both sides of the Atlantic.

But the Greenland of today is different from the Greenland of the 19th or even the mid-20th century. Once a Danish colony, it was formally incorporated into the Kingdom of Denmark in 1953. After a 1979 referendum, it gained autonomy, with foreign affairs and defence under Danish control. Since then, nationalist sentiment has grown, with polls indicating over 80% of Greenlanders in support of full independence. In another survey, 85% of the population opposed becoming a part of the U.S. The American push for Greenland is rooted in geopolitical calculations. As climate change accelerates Arctic ice melt, the region is becoming more accessible for navigation and resource extraction. Only five countries have direct access to the Arctic seabed: Canada, Russia, Norway, Denmark (via Greenland), and the U.S. (via Alaska). Russia already maintains a strong military presence in the region. Washington sees control of Greenland as a way to expand its Arctic claims and access to untapped natural resources. But attempting to seize territory for strategic or economic gain echoes the behaviour of bygone empires. Mr. Trump's expansionist ambitions risk further undermining the fragile post-war international order, which is grounded in principles of territorial integrity and national sovereignty. The U.S. should respect



the will of the people of Greenland. Any change in the island's status must come through the democratic choices of its residents, and not through external pressure or geopolitical gamesmanship.

WHY ARE TENSIONS HIGH IN THE ARCTIC?

The story so far:

International observers have raised concerns about escalating tensions in the Arctic, warning that if left unchecked, they could eventually spark conflict in the region.

What is happening?

The Arctic, the northernmost area of the planet, has remained largely isolated for centuries. However, as climate change accelerates the melting of ice caps, new strategic opportunities are emerging for global powers. Beneath the frozen landscape lie untapped reserves of natural resources such as fossil fuels, rare earth elements, phosphates, and copper as well as lucrative fishing grounds.

Most of these resources are currently inaccessible due to the year-round ice barrier, but as climate change destroys the Arctic environment, these resources and nearby trade routes will become increasingly viable. Unlike the Antarctic, which is demilitarised and environmentally protected by a dedicated international treaty, the Arctic lacks similar legal safeguards and is primarily governed by the UN Convention on the Law of the Sea (UNCLOS). This allows nations to claim territories in the region and deploy military infrastructure. In recent years, overlapping maritime claims and military posturing have exacerbated tensions.

Who is in control?

The various islands and coastal areas in the Arctic are controlled by eight countries — Canada, Denmark (through Greenland), Finland, Iceland, Norway, Russia, Sweden, and the U.S. Together, these nations form the Arctic Council, an international body tasked with protecting the environment, conducting scientific research, and safeguarding the interests of indigenous peoples in the region. These nations exercise sovereignty over the Arctic land and can also exploit resources within their Exclusive Economic Zones (EEZs). The waters between these territories fall under international jurisdiction, ensuring freedom of navigation.

According to UNCLOS, nations can extend their claims to the seabed beyond the 200-nautical-mile EEZ if they can prove that the area is a natural prolongation of their continental shelf. Canada, Denmark, and Russia have all submitted overlapping claims to the Arctic seabed to the UN Commission on the Limits of the Continental Shelf. Despite these territorial declarations, infrastructure in the Arctic remains underdeveloped, with only a few operational ports along the coast. Among the Arctic Council members, Russia is the only country with a significant fleet of icebreakers, including one which is nuclear-powered, capable of navigating through the region's treacherous sea ice.

Where do the tensions arise?

For months, news headlines have reported on U.S. President Donald Trump's renewed interest in acquiring Greenland from Denmark. He has described the world's largest island as a matter of "national security" and has questioned the legitimacy of Denmark's sovereignty over the territory.



Greenland, which has been under Danish control for over 300 years, also hosts the U.S. Pituffik military base. In January, following Mr. Trump's renewed interest, Denmark's prime minister Mette Frederiksen has pledged to bolster Greenland's security and embarked on a tour of European capitals to seek support from allies.

Additionally, tensions between the U.S. and Canada have risen following Mr. Trump's controversial comments about annexing Canada. Both nations have long disputed the status of the Northwest Passage, a potential Arctic shipping route that winds through Canada's Arctic Archipelago. Ottawa considers the passage part of its internal waters, granting it control over navigation, while Washington insists it falls under international jurisdiction, which means that any nation has freedom of navigation in the Passage.

Concerns over potential conflict also extend to Russia and the remaining Arctic Council members. These members, apart from Russia, all belong to NATO. Since the Russian invasion of Ukraine, relations within the Council have become increasingly strained. Russian officials, including Defence Committee of State Duma member Andrei Gurulyov, have suggested that Norway's Arctic island of Svalbard should fall under Russian control. Meanwhile, observer states of the Arctic Council, including India, are closely monitoring developments. The U.K., for instance, has repeatedly emphasised the strategic importance of the Greenland-Iceland-U.K. (GIUK) gap, a critical choke point for NATO's naval defences. This passage is the only feasible route for Russian submarines attempting to access the Atlantic to potentially disrupt NATO shipping in case of conflict, making it a focal point of Western military planning.

Why does the Arctic matter so much?

Aside from ongoing resource extraction, interest in the Arctic surged following a 2009 U.S. Geological Survey report estimating that the region holds 13% of the world's undiscovered oil reserves and 30% of its untapped natural gas reserves. Most of these resources lie beneath the seabed, making maritime claims highly significant. Greenland also harbours some of the world's richest deposits of rare earth elements, which drew significant investment interest from Chinese companies in the early 2020s. However, many of these projects were later suspended due to environmental concerns or U.S. political pressure.

The melting of Arctic sea ice has also prompted interest into the opening of new commercial trade routes. The Northeast Passage, which runs along Russia's Arctic coast, is particularly critical for Chinese trade. This route, stretching from the Bering Strait to Norway, could reduce the maritime distance between East Asia and Europe by approximately 8,000 kilometres compared to the traditional route through the Suez Canal. Navigating commercial shipping through this passage could save Beijing billions in transportation costs. However, the so-called Polar Silk Road would require Russia to grant Chinese ships access to its Arctic ports, a prospect Moscow has so far approached with caution.

What lies ahead?

Aside from political declarations and territorial claims, some nations have taken concrete steps to assert their Arctic ambitions. In 2007, Russia sent the MIR-1 submarine to the North Pole to plant a Russian flag on the seabed beneath the Arctic ice cap — a symbolic demonstration of its presence and capabilities. Moscow has also maintained a number of military bases in the Arctic, most of them dating back to the Soviet era. In 2022, it conducted joint naval exercises with Beijing in the East China Sea, which indicated strategic implications for Arctic security.



China has also steadily become more vocal about its Arctic interests, declaring itself a 'Near-Arctic State' in 2018 and planning the construction of its first nuclear-powered icebreaker. Since Sweden and Finland joined NATO following Russia's invasion of Ukraine, the alliance has intensified its military presence in the region, including large-scale exercises near the Russian border in Finland in 2024. Analysts have pointed out NATO's limited operational capabilities in the Arctic, raising concerns about strategic imbalances. As temperatures continue to rise, tensions in the melting Arctic may soon reach a boiling point.

THE RISE OF LE PEN, WHO TOOK THE FRENCH FAR RIGHT TO THE MAINSTREAM, HITS A HURDLE

For years, Marine Le Pen stood at the gates of power — poised, relentless and rising. She stripped the French far right of its old symbols, sanded down its roughest edges, and built in its place a sleek, disciplined machine with the single goal of winning the country's presidency.

In 2022, she came closer than anyone thought possible, winning more than 40% of the vote in the runoff against Emmanuel Macron. The Élysée Palace seemed within reach.

Now her political future may lay in ruins. On Monday, a French court convicted Ms. Le Pen of embezzling European Union funds and barred her from holding office for five years. The sentence may have done more than just potentially remove her from the next presidential race. It may have ended the most sustained far-right bid for power in Western Europe since the Second World War — surpassed only, in outcome, by Italy's Prime Minister, Giorgia Meloni.

But the political earthquake Ms. Le Pen set in motion will rumble for years to come.

Ms. Le Pen was born in 1968 into a family already on the fringes of French politics. In 1972, her father, Jean-Marie Le Pen, founded the National Front party rooted in racism, anti-Semitism, and a yearning for France's lost empire.

She was just 8 years old when a bomb destroyed the family's apartment in Paris in what was widely seen as an assassination attempt on her father. No one was seriously hurt, but the blast marked her for life. She has said it gave her a lasting sense that her family was hated, and that they would never be treated like other people.

As a young woman, she studied law, became a defence attorney, and learned how to argue her way through hostile rooms. In politics, she did not wait her turn. In 2011, she wrested control of the party from her father. In 2015, she expelled him after one of his Holocaust-denying tirades.

She renamed the party the National Rally. She replaced leather-jacketed radicals with tailored blazers and talking points. She talked less about race, more about the French way of life. She warned of "civilizational threats," called for bans on headscarves, and promised to put French families first. Her tone changed. Her message did not. In one of her sharpest political maneuvers, she sought out a group long despised by her father: the LGBTQ community. Ms. Le Pen filled her inner circle with openly gay aides, skipped public protests against same-sex marriage, and framed herself as a protector of sexual minorities against "Islamist danger."

Critics called it "pinkwashing" — a cosmetic tolerance masking deeper hostility. But it worked. A surprising number of gay voters, especially younger ones, started backing her. Many saw strength, clarity, and the promise of order in a world spinning too fast.



'Convincing leader'

She ran for President three times: 2012, 2017, and 2022. Each time, she climbed higher. In her final campaign, she was confident, calm, and media savvy. She leaned into her role as a single mother, posed with her cats, and repeated her calls for "national priority." She no longer shocked. She convinced.

Behind her stood a constellation of far-right leaders cheering her on: Hungary's Viktor Orbán, Matteo Salvini and Giorgia Meloni in Italy, the Netherlands's Geert Wilders. They saw in her not only an ally, but a leader. Her mix of cultural nationalism, social media fluency, and calculated restraint became a blueprint.

When Ms. Le Pen lost in 2022, she did not vanish. She regrouped, stayed present in parliament and prepared for 2027. Polls had her leading. Mr. Macron cannot run again.

Then came Monday's verdict.

The court found that Ms. Le Pen had siphoned off millions of euros in public funds while serving in the European Parliament, paying party staff with money intended for EU assistants. Prosecutors described it as deliberate and organised. The court agreed. She was sentenced to two years of house arrest, fined €1,00,000 and banned from holding public office for five years. She said she would appeal. The house arrest sentence will be suspended during the appeal, but the ban on holding office takes effect immediately. Her allies erupted in outrage. Mr. Orbán declared, "Je suis Marine" — I am Marine. Mr. Salvini called the ruling "a declaration of war by Brussels." Ms. Meloni lamented it was "depriving millions of citizens of their representation." U.S. President Donald Trump decried it as "a very big deal... it sounds like this country." In Paris, her supporters called it political persecution. Her opponents fist-pumped in the streets.

Even in disgrace, Ms. Le Pen remains one of the most consequential political figures of her time. She took a name that once evoked hatred and transformed it into a serious vehicle for national leadership. She made the far right electable. She blurred the line between fringe and power. Her party last year became the largest in France's lower house of parliament. Her handpicked successor, 29-year-old Jordan Bardella, now leads it. He is polished and popular, but he lacks broad political experience and name recognition.

Whether Ms. Le Pen returns after her ban, fades into silence, or reinvents herself again, her mark is permanent. She forced mainstream rivals to adapt to her language. She turned fear into votes and redefined what was politically possible in a republic once seen as immune to extremism.

She never became President, but she changed the race and the rules.

US AND IRAN SHOULD RETURN TO NEGOTIATIONS. A NUCLEAR DEAL IS GOOD FOR WEST ASIA AND THE WORLD

Just over five years ago, the killing of Iran's most powerful military commander in an air strike ordered by US President Donald Trump, then in his first term, threatened to unleash full-blown hostilities. The assassination of Qasem Soleimani effectively ended any prospects of a return to talks between Washington and Tehran with respect to the Joint Comprehensive Plan of Action (JCPOA), widely known as the Iran nuclear deal. Trump had already withdrawn the US from the deal in 2018, claiming that it failed to curtail Iran's nuclear programme and the latter consequently began ignoring the limitations imposed by the JCPOA. While the Joe Biden



administration failed to achieve a breakthrough, in a surprising move last month, Trump wrote to Iran's Supreme Leader, Ayatollah Ali Khamenei, calling for renegotiations. But in a swift u-turn, on Sunday, the US president warned that Iran could face "bombing the likes of which they have never seen before" if it does not soon come to an agreement. Tehran has stood its ground, rejected direct negotiations with the US and placed its missile arsenal on high alert. With West Asia already engulfed in war between Israel and Hamas, and the US and the Houthis in Yemen exchanging fire as recently as two days ago, the intensifying US-Iran standoff risks plunging the region into further chaos.

A functional JCPOA ensures that Iran's nuclear programme remains active under international oversight and only for peaceful purposes. Indeed, a nuclear-armed Iran could pose a serious threat to the security of West Asia. Iran, after all, seeks to undermine what it perceives to be the US-Israel-dominated regional order, and being armed with nuclear weapons would only reinforce these traditional national security objectives. The most pressing concern in the short term is that of an Iran-Israel nuclear contest. But even if these rival regional powers manage to avoid direct conflict, the mere fact that Iran possesses nuclear weapons could emerge over the long term as a source of instability, as Saudi Arabia and other countries in the region might pursue their own capabilities, leading to a dangerous regional nuclear arms race.

Washington and Tehran should return to the table. Given that Iran has been open about its unwillingness to engage in direct negotiations, the Trump administration should ask its key partners in the Gulf, such as Riyadh and Abu Dhabi, to initiate the talks. The threat of bombing, or even secondary tariffs for a country whose economy has been ravaged by international sanctions for years, does not bode well for a future deal. Tehran, too, stands to benefit from cooperating. The lifting of sanctions that were imposed in response to its continued illicit nuclear activities would allow it to sell oil and gas freely, bringing in revenue that is much-needed. The stability of the global oil markets depend on West Asia's long-term stability. India, whose dependence on imported oil is high, would not want an escalation that makes prices shoot up. Conflict in the region takes a much wider toll.

UK AND MAURITIUS CLOSE IN ON CHAGOS DEAL AFTER US CONSENT

Britain and Mauritius are finalizing a deal to transfer sovereignty over the Chagos Islands, a disputed U.K. territory that is home to a major U.S. military base, the U.K. government said.

- The government signalled that President Donald Trump's administration, which was consulted on the deal, has given its approval and no further action is needed from the U.S.
- Britain and Mauritius have been negotiating a deal for the U.K. to hand over the Indian Ocean archipelago, which is home to a strategically important naval and bomber base on the largest of the islands, Diego Garcia. The U.K. would then lease back the base for at least 99 years.
- But the deal has faced criticism from the opposition Conservative Party and from some allies of Trump. Last year the now-Secretary of State Marco Rubio said it posed "a serious threat" to U.S. national security.
- Britain split the islands away from Mauritius, a former British colony, in 1965, three years before Mauritius gained independence, and called the Chagos archipelago the British Indian Ocean Territory.



- In the 1960s and 1970s Britain evicted up to 2,000 people from the islands so the U.S. military could build the Diego Garcia base.
- Mauritius has long contested Britain's claim to the archipelago and in recent years the United Nations and its top court have urged Britain to return the Chagos to Mauritius.
- Britain agreed to do so in a draft deal in October, but that has been delayed by a change of government in Mauritius and reported quarrels over how much the U.K. should pay for the lease of the Diego Garcia air base
- The Chagos islanders, many of whom relocated to Britain, say they were not consulted over the agreement. Under the draft deal, a resettlement fund would be created to help displaced islanders move back to the islands, apart from Diego Garcia. Details of any such measures remain unclear.

Do You Know:

- The Chagos archipelago comprises more than 60 low-lying islands in the Indian Ocean roughly 1,600 km to the northeast of the main island of Mauritius. Chagos has a land area of only 56.1 sq km, with Diego Garcia alone spread over 32.5 sq km — which is about the same as the land area of Lakshadweep.
- Including the lagoons within its atolls, however, Chagos has a total area of more than 15,000 sq km. The Great Chagos Bank, spread over 12,642 sq km, is the world's largest atoll structure. (An atoll is a ring-shaped coral reef, island, or series of islets, which surrounds a body of water called a lagoon.)
- Although it finds mention in some Maldivian oral traditions, Chagos was uninhabited for most of its history. The islands are far from any other piece of inhabited land — its closest inhabited neighbour Addu, the southernmost Maldivian atoll, lies 500 km away — and have scant resources to support settled populations.

The Portuguese visited and mapped out Chagos in the 16th century, and used the islands as a stopover in voyages around the Cape of Good Hope to India. But it was only in the 18th century that the first permanent settlements emerged on the islands.

- France became the first European power to officially plant its flag on Chagos, when it claimed the Peros Banhos island in 1744. The French had earlier set up Indian Ocean colonies in Île Bourbon (now Réunion) in 1665, Isle de France (now Mauritius) in 1715, and the Seychelles in 1744.
- In 1783, a Mauritius-based plantation-owner named Pierre Marie Le Normand founded a settlement in the previously uninhabited Diego Garcia. He brought 22 slaves from Mauritius to Chagos, who became the islands' first permanent inhabitants. These slaves likely traced their origins to Madagascar and East Africa, and were put to work in the coconut plantations in the island.
- By 1786, a number of fishing settlements and coconut plantations had been established on the islands. The labour for these enterprises was supplied by slaves from Mauritius, the Seychelles, Madagascar, and East Africa.



- In 1814, after the fall of the Napoleonic French Empire, France formally ceded Mauritius, including Chagos, and the Seychelles to Great Britain. After Britain abolished slavery in its colonies in 1833, indentured labour from India and Malaya was brought to the plantations.
- The Chagossian population today traces its origins to freed African slaves, and the Indian and Malayan labourers who arrived in the 18th and 19th centuries. Under international law, they are the indigenous people of the Chagos archipelago.
- In 2017, the UN General Assembly voted to ask the International Court of Justice to examine the legal status of the archipelago. In 2019, the ICJ concluded that “the UK is under an obligation to bring to an end its administration of the Chagos Archipelago as rapidly as possible”.
- The UNGA subsequently adopted a resolution welcoming the ICJ’s ruling, and demanded that the UK “unconditionally withdraw its colonial administration from the area within six months”. But negotiations between the UK and Mauritius began only in 2022. A deal was struck in October 2024. Britain recognised Mauritius’ claim over all of Chagos, including Diego Garcia — however, the deal said that the UK would, for a 99-year initial period, exercise “the sovereign rights [over Diego Garcia] and authorities of Mauritius are required to ensure the continued operation of the base well into the next century”.

AFGHANS IN LIMBO AS PAKISTAN PLANS TO EXPEL 3 MILLION REFUGEES FROM THE COUNTRY

Pakistan plans to expel 3 million Afghans from the country this year, as a deadline for them to voluntarily leave the capital and surrounding areas expired on Monday.

It’s the latest phase of a nationwide crackdown launched in October 2023 to expel foreigners living in Pakistan illegally, mostly Afghans. The campaign has drawn fire from rights groups, the Taliban government in Afghanistan, and the UN.

Arrests and deportations were due to begin on Tuesday but were pushed back to April 10 because of the Id ul-Fitr holidays marking the end of Ramzan, according to government documents.

About 8,45,000 Afghans have left Pakistan over the last 18 months, figures from the International Organization for Migration show.

Pakistan says 3 million Afghans remain in the country. Of these, 13, 44,584 hold Proof of Registration cards, while 8,07,402 have Afghan Citizen Cards. There are a further 1 million Afghans who are in the country illegally because they have no paperwork.

Pakistan said it will make sure that Afghans do not return once deported.

Authorities wanted Afghan Citizen Card-holders to leave the capital Islamabad and Rawalpindi city by Monday and return to Afghanistan voluntarily or be deported.

Those with Proof of Registration can stay in Pakistan until June 30, while Afghans bound for third-country resettlement must also leave Islamabad and Rawalpindi by Monday. “No Afghan officials to be made part of any committee or formal decision-making process,” one of the documents said about the expulsion plans.

Authorities have said they will work with foreign diplomatic missions to resettle Afghans, failing which they will also be deported from Pakistan.



Tens of thousands of Afghans fled after the Taliban takeover in 2021. They were approved for resettlement in the U.S. through a programme that helps people at risk because of their work with the American government, media, aid agencies, and rights groups. However, President Donald Trump paused U.S. refugee programmes in January and 20,000 Afghans are now in limbo.

A spokesperson for Afghanistan's Refugee Ministry, Abdul Motalib Haqqani, said that Pakistan was taking decisions arbitrarily, without involving the UN refugee agency or the Taliban government. Two transit stations will be set up in the northwest province of Khyber Pakhtunkhwa to help with deportations. One will be in Nasir Bagh, an area in the Peshawar suburbs. The second will be in the border town of Landi Kotal, near the Torkham crossing.

NO TO REGRESSION

The violent protests in Kathmandu on Friday, which left two dead, dozens injured and saw arson and looting, were spearheaded by fringe political forces such as the royalist Rastriya Prajatantra Party. Though long relegated to the political margins, the royalist camp has managed to seize upon growing disillusionment with the political establishment. The series of pro-monarchist rallies and demonstrations have been drawing crowds across Kathmandu and other cities, signalling an undercurrent of dissatisfaction with the republic, which is surprising and concerning. Nearly two decades ago, Nepal made a decisive break from monarchy, an institution that had shaped its identity for over 240 years. This was neither a moment of spontaneous outrage nor a casual shift, but the culmination of years of discontent. The turning point came with the royal massacre at Narayanhiti Palace in June 2001, which irreparably damaged the monarchy's image. When Gyanendra Shah ascended the throne after his brother's death, he attempted to reassert absolute authority and return Nepal to the pre-1990 political order. His power grab and crackdown on democratic forces triggered a backlash. The tide turned definitively when Maoist rebels abandoned an armed struggle to join the mainstream democratic process. Their integration, along with the withdrawal of international support — particularly Indian — for the monarchy, sealed the institution's fate. A democratically elected Constituent Assembly (CA) was formed, and in 2008, passed a near-unanimous resolution declaring Nepal to be a federal democratic republic. Despite the political volatility which included two iterations of the CA before the Constitution was promulgated in 2015, Nepal has remained a constitutional republic. Since 2008, power has primarily alternated among the Nepali Congress, which has led the fight for democracy since the fall of the Rana regime; the Communist Party of Nepal (Unified Marxist-Leninist), the largest of the leftist parties; and the former Maoist rebels. However, chronic instability, opportunistic alliances, poor governance, and self-serving leadership have plagued the system. The hopes of the CA for inclusive development and justice have largely gone unfulfilled.

Even so, most Nepalis remain acutely aware of the authoritarianism and injustices that characterised the monarchist era. The recent surge in pro-monarchy sentiment is a regressive response to democratic disillusionment. The government must move swiftly to hold accountable those responsible for the recent violence, including any role played by Mr. Shah. At the same time, the ruling party and the opposition must rise to the occasion, restoring public faith by demonstrating the strength, responsiveness, and integrity of parliamentary democracy. That is the surest antidote to calls for a return to monarchy.

**NATIONAL****THAILAND KEY TO INDIA'S ACT EAST, INDO-PACIFIC POLICIES: MODI MEETS COUNTERPART**

AS PRIME Minister Narendra Modi met Thailand's Prime Minister Paetongtarn Shinawatra in Bangkok on Thursday, the two countries agreed to upgrade their relations to a "strategic partnership". Modi underlined that Thailand holds a special place in India's Act East Policy and its Indo-Pacific vision.

- Modi, who arrived in Bangkok on a two-day visit on Thursday, will attend the 6th BIMSTEC leaders' summit on Friday. In his departure statement, Modi described BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) as a significant forum for promoting regional development, connectivity and economic progress in the region.
- Modi and PM Shinawatra witnessed the signing of six pacts, including on the establishment of India-Thailand strategic partnership, MoUs on digital technologies, National Maritime Heritage Complex (NMHC) at Lothal (Gujarat), on Micro, Small and Medium Enterprises, and cooperation on Northeast India.
- At the BIMSTEC summit, Modi will join leaders from Thailand, Bangladesh, Sri Lanka, Nepal, Myanmar and Bhutan to oversee the signing of the Agreement on Maritime Cooperation. He will share the stage with Nepal Prime Minister K P Sharma Oli, Bangladesh Chief Advisor Muhammad Yunus and Myanmar military junta leader Min Aung Hlaing, among others.

Do You Know:

- According to official website of BIMSTEC, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization that was established on 06 June 1997 with the signing of the Bangkok Declaration. Initially known as BIST-EC (Bangladesh-India-Sri Lanka-Thailand Economic Cooperation), the organisation is now known as BIMSTEC and comprises seven Member States with the admission of Myanmar on 22 December 1997, and Bhutan and Nepal in February 2004. On 06 June 1997, representatives of the Governments of Bangladesh, India, Sri Lanka, and Thailand came together in Bangkok, and signed the 'Declaration on the Establishment of the Bangladesh-India-Sri Lanka-Thailand Economic Cooperation (BIST-EC)'.
- Any reference to BIMSTEC inevitably raises its unfortunate image as an alternative to SAARC, the stalled forum for regional cooperation in the Subcontinent. This perception arose partly because the Modi government's push to enhance BIMSTEC activity followed immediately after the SAARC summit's failure in 2014.
- While the Bay of Bengal constitutes a natural region with historical interconnections, the post-War evolution of the littoral has complicated efforts to restore these natural bonds. The British Raj had unified the littoral in a modern, albeit colonial, framework. It projected power into the Bay of Bengal's hinterlands and across its waters, colonising Burma and controlling Singapore and the settlements along the Malacca Strait connecting the Bay of Bengal to the South China Sea.
- Several factors have impeded Bay of Bengal regionalism. Unlike Pakistan in SAARC, no member wields a veto in BIMSTEC. Yet, structural constraints persist. BIMSTEC has yet to achieve the level



of mutual trust present in the Association of Southeast Asian Nations, where member states set aside bilateral disputes to pursue shared goals of growth and connectivity.

- India and Thailand on Thursday upgraded their relationship to a strategic partnership, with Prime Minister Narendra Modi stating that both nations support a free, open, inclusive, and rules-based Indo-Pacific order and uphold development-ism over expansionism.
- Agreements were also reached in areas such as MSMEs, handloom, and handicrafts. Modi underscored Thailand's significance in India's 'Act East' policy and Indo-Pacific vision. "Today, we have decided to elevate our relations to the level of a strategic partnership. Discussions were also held on establishing a 'Strategic Dialogue' between security agencies," he stated.
- Reaffirming India's commitment to regional cooperation, Modi declared, "India fully supports ASEAN unity and ASEAN Centrality. In the Indo-Pacific, we both support a free, open, inclusive, and rules-based order. We believe in the policy of vikaasvaad, not vistaarvaad (development-ism, not expansionism)."
- During his visit to Thailand, Modi received a Guard of Honour and witnessed a performance of Ramakien, the Thai adaptation of the Ramayana. He was also presented with the Holy Scriptures, "World Ti-pitaka: Sajjhaya Phonetic Edition," by Thai Prime Minister Paetongtarn Shinawatra. This edition of the Tipitaka was published by the Thai government in 2016 to commemorate the 70-year reign of King Bhumibol Adulyadej (Rama IX) and Queen Sirikit of Thailand.

TIMING AND LOCATION

Bangladesh Chief Adviser Muhammad Yunus's remarks, made during his China visit to attend the Boao Forum for Asia conference, have sparked sharp responses in India, amid questions about their underlying intent. Speaking at a round table, Mr. Yunus highlighted the lack of connectivity and trade in the region, referring to the north-eastern Indian States — the "Seven Sisters" — as a "land-locked" area. Ignoring India's vast coastline, he went on to claim that Bangladesh was the "guardian of ocean access" and called on China to view the Indian States, along with Bhutan, Nepal, and Bangladesh, as an "extension of the Chinese economy", presenting them as a market and a production base. There were other undertones to his remarks, which were shared on his social media accounts. This was his first visit to China since taking office following the ouster of Bangladesh Prime Minister Sheikh Hasina last August. Tensions with India have persisted over attacks on minorities in Bangladesh and the Yunus government's demands for the repatriation of Ms. Hasina from India.

With no invitation forthcoming from New Delhi, Mr. Yunus's decision to visit China has been perceived as a diplomatic snub — and possibly a sign that Bangladesh may be shifting its foreign policy orientation. While the Ministry of External Affairs has declined to comment, political leaders have weighed in. Assam Chief Minister Himanta Biswa Sarma called the comments "offensive and strongly condemnable", suggesting that the remarks were aimed at highlighting India's strategic vulnerability via the "Chicken's Neck". Other regional leaders and members of the Opposition have urged the central government to convey its displeasure to Dhaka. Mr. Yunus could not have been unaware that the timing and the location of his speech would provoke controversy. His remarks reflected a lack of sensitivity toward how the countries mentioned might interpret statements that appear to support China's economic hegemony in the region. While these comments may have been intended to appeal to his hosts or may have stemmed from his advocacy for regional connectivity, their substance could have been more carefully considered. A



more suitable platform for such discussions might have been the upcoming BIMSTEC summit in Thailand, where Prime Minister Narendra Modi and leaders from South Asia to Southeast Asia will be present. Equally significant is that Mr. Yunus received two letters from India this week: one from President Droupadi Murmu extending Eid-ul-Fitr greetings, and another from Mr. Modi on the anniversary of Bangladesh's Independence Day. Although there has been no formal announcement of a Modi-Yunus meet in Bangkok, it is hoped that both sides will engage on the sidelines to mend the strain in ties and explore a more constructive path.

Note:

India should talk with the Yunus regime more, but it should also see the Interim Government for what it is — a government to manage the transition period post-Hasina. It will eventually be replaced by a popularly elected government after the impending elections. Given the ongoing political churn, India must broaden its outreach. Since the domestic political environment in Bangladesh continues to be uncertain, Delhi would do well to begin a dialogue with other political actors, such as the Bangladesh Nationalist Party and the newly formed National Citizen Party. It should not postpone this initiative in anticipation of an election outcome that it prefers. At the same time, Delhi must reinforce border security while collaborating with Bangladesh on trade, connectivity and counter-terrorism. The Interim Government, too, must take proactive steps to ensure the safety of the Hindu minorities, an issue that has caused some diplomatic hostility.

TAWANG MONKS, VILLAGE CHIEFS AIM TO RETRACE DALAI LAMA'S ROUTE DURING FLIGHT FROM TIBET

A group led by Buddhist monks and village chiefs in the Tawang district of Arunachal Pradesh commenced a 100-kilometre trek along the Freedom Trail on Monday.

The trek is intended to retrace the route taken by the 14th Dalai Lama during his escape from Lhasa, Tibet, in 1959.

The 300-member group, which also includes personnel from border-guarding forces, tourists, and members of the panchayati raj institutions, began their journey from Kenzamani, near the Line of Actual Control separating India and China.

The trek will conclude at the Tawang Monastery on April 5, commemorating the day the Tibetan spiritual leader reached Tawang town over six decades ago.

The event, organised by the Tawang district administration, began with an inaugural ceremony featuring prayers for the long life of the Dalai Lama, followed by cultural performances by monks and villagers.

On Tuesday, the team is scheduled to reach Gorzam Chorten after a five-hour walk. The trekkers will cover 22 kilometres – considered the most challenging part of the journey – in 10 hours to reach Shakti. At Shakti, some village chiefs from Pangchen Dhingro village will join the group.

On the fourth day, they will walk 23 kilometres to reach Old Lumla, culminating in a visit to the Thar Dhoe Norbu Ling Gonpa. This will be followed by a 14-kilometre stretch to Thongleng on the fifth day, before the final leg of the journey to Tawang Monastery, a distance of 28 kilometres and an estimated 11 hours of walking.



WHAT ARE THE RULES ON JUDICIAL TRANSFERS?

The story so far:

On March 28, the Union government notified the repatriation of Justice Yashwant Varma to his parent High Court in Allahabad, where he had previously served as a judge. The decision comes amid allegations that charred currency notes were recovered from his residence after a fire. His transfer was proposed after Delhi High Court Chief Justice D.K. Upadhyaya sought an in-house inquiry into the matter. However, Justice Varma has denied the allegations, calling them a “conspiracy to malign” him.

How are High Court judges transferred?

Article 222(1) of the Constitution empowers the President, in consultation with the Chief Justice of India (CJI), to transfer a judge from one High Court to another. This provision has been the subject of extensive judicial interpretation, particularly through three rulings known as the First, Second, and Third Judges cases.

In *S.P. Gupta versus President of India* (1981), commonly referred to as the First Judges case, the Supreme Court held that consultation with the CJI did not necessitate concurrence, thereby affirming the executive’s primacy in judicial appointments and transfers. However, this position was overturned in *Supreme Court Advocates-on-Record Association versus Union of India* (1993), or the Second Judges case, where the Court institutionalised the collegium system. The ruling established that in the event of a disagreement between the President and the CJI, the latter’s opinion would prevail. More importantly, the Court underscored that judicial transfers must serve public interest and improve the administration of justice. Justice J.S. Verma, who authored the judgment, further clarified that the CJI must consult the Chief Justice of the concerned High Court, relevant Supreme Court judges, and at least one senior High Court judge or any other individual whose views are deemed significant, including senior members of the Bar, where appropriate. The Court further reasoned that involving multiple judges in the decision-making process serves as an inherent safeguard against arbitrariness. Consequently, it limited judicial review of transfer decisions, asserting that such matters should remain insulated from “legislative debates”.

Notably, the Court clarified that a judge’s consent is not a prerequisite for either an initial or subsequent transfer. In the Third Judges case (1998), it further refined the collegium system, mandating that transfer recommendations be made by the CJI in consultation with the four seniormost judges. It required inputs from Supreme Court judges who had previously served in the High Court from which the judge was being transferred. Following the collegium’s recommendation, the Law Minister reviews it and advises the Prime Minister, who then forwards the recommendation to the President. Once approved, the transfer is formalised through a gazette notification, and the judge assumes office in the new High Court.

What are the criticisms?

A recent report by the Geneva-based International Commission of Jurists (ICJ) raises serious concerns about judicial independence in India, citing growing executive interference, opacity in appointments, and weak accountability mechanisms. It highlighted that judicial transfers, carried out without the affected judge’s consent, are often justified on ambiguous grounds such as “public interest” and the “better administration of justice.” This, the report noted, makes it difficult to distinguish legitimate transfers from punitive or retaliatory actions. To mitigate these concerns,



the ICJ recommended that Parliament establish a “Judicial Council” to oversee appointments and transfers based on transparent, objective, and predetermined criteria.

What happened to the National Judicial Appointments Commission Act?

To address concerns over the collegium system’s opacity, the Narendra Modi government in 2014 proposed sweeping reforms to judicial appointments. In August, Parliament enacted the Constitution (99th Amendment) Act, 2014, and the National Judicial Appointments Commission (NJAC) Act, 2014, establishing an independent body to replace the collegium system for appointing judges to the Supreme Court and High Courts. The NJAC was to be chaired by the CJI and include the two senior-most Supreme Court judges, the Union Law Minister, and two eminent civil society members. One would be nominated by a panel comprising the CJI, Prime Minister, and Leader of the Opposition in the Lok Sabha, while the other had to belong to the Scheduled Castes, Scheduled Tribes, Other Backward Classes, or be a woman. The amendment witnessed rare political unanimity, passing in Parliament with near-complete consensus — with the sole dissent from veteran jurist Ram Jethmalani — and was subsequently ratified by 16 State legislatures.

However, within days of its enactment, the law was challenged before the Supreme Court. The primary contention was the veto power granted to any two dissenting NJAC members, potentially allowing the Law Minister and the two eminent members to override the judiciary’s majority within the commission.

On October 16, 2015, a five-judge Bench ruled with a 4:1 majority that the NJAC was unconstitutional and violated the “basic structure of the Constitution”. The Bench underscored that “the veto power with the Law Minister or with non-judge members, as against a Supreme Court Judge who is a member of the collegium, may involve interference with the independence of the judiciary”. However, the lone dissenter, Justice Jasti Chelameswar, observed that, aside from occasional leaks, the collegium records remained “absolutely beyond the reach of any person, including judges of this court who are not lucky enough to become the Chief Justice of India.”

What lies ahead?

Justice Varma’s transfer seems intended to avert an administrative impasse in Delhi. As the third senior-most judge, he was a member of both the High Court Collegium and several key administrative committees. His continued presence in Delhi risked stalling crucial decision-making processes. No timeline has been set for the three-member inquiry committee investigating the allegations. While hearing a plea for an FIR against the judge, the CJI dismissed it as “premature,” stating that any decision on criminal proceedings or a parliamentary reference for removal would depend on the inquiry’s findings. Meanwhile, the Supreme Court, in a press release, disclosed that the Chief Justice of the Allahabad High Court has been directed to refrain from assigning Justice Varma any judicial work for now. The development has also reignited political discourse on judicial appointments. Vice President Jagdeep Dhankhar remarked that “things would have been different” had the top court not struck down the “historic legislation” establishing the NJAC.

SC DECISION TO MAKE JUDGES’ ASSETS PUBLIC IS WELCOME – BUT NOT ENOUGH

The Supreme Court’s decision that judges should publicly declare their assets is welcome and significant, because it prioritises transparency and openness.



- Back in 1997, at a meeting chaired by then Chief Justice of India, the late Justice J S Verma, the Supreme Court adopted a resolution that judges would declare their assets to the Chief Justice. The resolution said: “Every judge should make a declaration of all assets in the form of real estate or investment held in their names, in the name of their spouses or any other person dependent on them, to the Chief Justice.” This was not a call for public disclosure of the assets of judges — only a disclosure to the Chief Justice.

- More than a decade later, in a meeting held on September 8, 2009, the full Bench of the Supreme Court resolved to declare the assets of judges on the court’s website, but added that this was being done “purely on a voluntary basis”. These declarations appeared on the SC website in November that year, after which a few High Courts followed suit.

However, the SC website has not been updated since 2018. No declarations submitted by the current judges are available. The website only gives a list of 28 judges of the court (out of a total 33) “who have submitted their declarations of assets” to the CJI.

- Declarations by former judges have also been removed from the website.

- This situation exists despite the fact that the apex court had itself held in 2019 that the assets and liabilities of judges are not “personal information”. This was in a case that began in January 2009 when Right to Information (RTI) activist Subhash Chandra Agarwal filed an application under the RTI Act to determine whether SC judges had indeed declared their assets to the CJI, as had been resolved in 1997.

- As of March 1 this year, there were 770 judges in all High Courts put together. Only 97 of these judges — belonging to seven High Courts, viz., Delhi, Punjab & Haryana, Himachal Pradesh, Madras, Chhattisgarh, Kerala, and Karnataka — have publicly declared their assets and liabilities. These judges make up fewer than 13% of all High Court judges.

- Most High Courts in the country have been against the public disclosure of their judges’ assets and liabilities.

- In 2012, the Uttarakhand High Court passed a resolution stating that it “strongly objects to bring disclosure of assets by Judges under the purview of Right to Information Act”.

- As of March 1 this year, there are 770 judges in all the High Courts put together. Of these, only 97 judges from seven High Courts — Delhi, Punjab & Haryana, Himachal Pradesh, Madras, Chhattisgarh, Kerala, and Karnataka — have publicly declared their assets and liabilities. This amounts to less than 13% of all High Court judges.

- The Indian Express had earlier filed an RTI application requesting information regarding the assets and liabilities of the judges of the Allahabad High Court. The court rejected the request, saying that such information fell outside the ambit of the RTI Act.

- In view of this situation, Parliament’s Committee on Personnel, Public Grievances, and Law and Justice had recommended in 2023 that legislation should be introduced to ensure the mandatory disclosure of assets and liabilities of judges of the Supreme Court and High Courts. But there has been no progress on the recommendation yet.

- Public servants, unlike judges, are often mandated to declare their assets, and this information is often easily accessible to ordinary citizens.



- Beginning with the UPA-2 government (2009-14), it has become a norm for Union Ministers — including the Prime Minister — to submit their declarations to the Prime Minister's Office. Nowadays, these can be accessed via the PMO's website. Many state governments have followed suit.

Do You Know:

- The RTI Act, which came into force in October 2005, was seen as a significant development towards freedom of information. It gave ordinary citizens the right to request information from government bodies, making authorities accountable for their actions and decisions.
- The roots of the RTI Act lie in a grassroots movement in rural Rajasthan. In the 1980s, civil society organisations and villagers in Devdungri, a small village in Rajsamand district, led struggles to address issues such as fair wages, accountability from government officials, and access to information about local employment records, including muster rolls, to ensure fair compensation.
- The first draft provisions for RTI were prepared in 1993 by the Consumer Education and Research Council (CERC). It was followed by the Press Council's draft, which had some of the significant features that would later become central to the RTI Act.
- One of the biggest impediments to the effective implementation of the RTI Act is the Official Secrets Act (OSA) of 1923. Enacted during British rule, the OSA was designed to maintain the confidentiality of official information by making it an offence to share and disseminate any classified information.

WHEN A LANDLORD CITED RIGHT TO EQUALITY, WENT TO COURT AGAINST A RS 2 TAX ON HIS FOREST LAND

Kunnathat Thathunni was a 'Moopil Nair', a title held by some of the feudal landlords in Malabar — so rich that besides vast tracts of agricultural land, he owned at least 50,000 acres of forest land filled with "rocks, rivulets and gorges" in present-day Palakkad district of Kerala.

- So when the state government — the first democratically elected Communist government led by EMS Namboodiripad that came to power in 1957 — imposed a flat tax of Rs 2 on every acre of land owned by private individuals, irrespective of the kind of land, Thathunni was quick to move the Supreme Court.
- Kunnathat Thathunni Moopil Nair vs The State Of Kerala set a guiding rule for the state to tax individuals, one that is relevant even today — that any tax would be arbitrary and unequal if it is not based on a reasonable classification.

Nair's case was that the land did not give him returns to even match the tax demand. His income from the forest land, he said, was Rs 3,100 a year that he got from the highest bidder who bought the rights to chop trees in about 450 acres of his forest land.

- On December 9, 1960, a five-judge bench of the Supreme Court agreed with Nair and struck down the Kerala government's flat tax. Then Chief Justice B P Sinha said that the Act "does not lay down any principle or policy for the guidance of the exercise of discretion by the Government".



- “The spirit of the ruling is the reason why we have different income tax slabs for people with different earning capacities. The government has to classify equals and unequals and treat them differently,” Datar explains.

Do You Know:

- Article 14 of the Indian Constitution states: “The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.”
- India’s states have the power to tax mining activities, and collecting “royalties” from mining leaseholders is entirely separate from, and does not interfere with, the power to impose taxes, a nine-judge Constitution Bench ruled in July 2024.
- Royalties refer to the fees paid to the owner of a product in exchange for the right to use that product. For example, if a movie studio wants to use an existing piece of music by a specific artist in their new film, they will have to pay a royalty fee that goes to the artist.
- The majority held that a royalty is not a tax because there is a “conceptual difference” between royalties and taxes. Royalties are based on specific contracts or agreements between the mining leaseholder and the lessor (the person who leases the property) who can even be a private party.
- Also, taxes are meant for public purposes such as welfare schemes and creating public infrastructure, whereas the payment of royalties is to a lessor in exchange “for parting with their exclusive privileges in the minerals”.

COURT ORDERS POLICE TO FILE FIR AND INVESTIGATE DELHI MINISTER KAPIL MISHRA’S ROLE IN 2020 RIOTS

Five years after deadly communal riots ripped through north east Delhi, a city court ordered the police to file a first information report (FIR) and conduct further investigations into Delhi Law and Justice Minister Kapil Mishra’s alleged role in the violence.

This is the first time that any court has ordered an FIR against Mr. Mishra regarding his role in the 2020 riots, which left 53 people dead and 700 injured, despite allegations that the Karawal Nagar MLA’s speeches helped instigate the violence. The police maintained, on multiple occasions, that he did not play any part in the alleged conspiracy behind the riots, in which the accused were booked under the stringent Unlawful Activities (Prevention) Act.

Cognisable offence

The current case against Mr. Mishra stems from a complaint filed last December by Yamuna Vihar resident Mohammed Ilyas, seeking FIRs to be filed against six people, including Mr. Mishra. Of the five incidents mentioned by Mr. Ilyas, a cognisable offence was found against Mr. Mishra in one of them, warranting an FIR and further investigations, Additional Chief Judicial Magistrate Vaibhav Chaurasia of the Rouse Avenue Courts ruled on Tuesday.

The court added that if the complaint is found to be untrue, the Delhi Police has the liberty to proceed against Mr. Ilyas under Section 182 of the IPC (Section 217 of the BNSS).

According to the complaint, Mr. Mishra and his associates allegedly blocked the road at Kardampuri on February 23, 2020 and broke the carts belonging to Muslims and Dalits. The complainant alleged that police officials were hand in glove with the accused, with DCP Ved



Prakash Surya accused of threatening untoward consequences if ongoing protests against the Citizenship Amendment Act were not stopped.

In response to the complaint, the police submitted that the February 2020 riots had been executed by carefully identifying and selecting protest sites in Muslim majority areas which were close to the mosque and main roads, with an aim at escalating the protests, leading to road blockages.

The police added that the protests were communal in nature despite donning the garb of a secular agitation, and were expected to generate a critical mass which would eventually lead to violence against the police and common citizens.

The police also maintained that a “well-planned” conspiracy was being hatched against Mr. Mishra to frame him in the matter.

The court noted that the police have indulged in several interpretations and guesswork. It pointed out that one of the submissions claims that women protestors were allowed to take the lead so that police officials would be forced to practise restraint, and so that the secret motive of mass scale violence could be executed.

The court also noted that, during interrogation, Mr. Mishra himself acknowledged that he had been present in the area during the riots. “Therefore the presence of accused cannot be ruled out, further fortifying the allegations of the complainant,” the court said.

INSTANT INJUSTICE

Arbitrariness and brazen bias in law enforcement have undermined the rule of law in India for decades. Despite the spread of education and growing awareness of rights among the masses, high-handedness by the state often threatens the fundamental rights and dignity of citizens. Custodial torture and extrajudicial killings are reported with alarming frequency. Police and civic authorities in several States now routinely resort to demolition of property as a convenient and extra-legal form of punishment — not just for criminal suspects but also for political opponents. Given the spread of this disturbing trend, the Supreme Court of India’s strong remarks against the practice this week offer a glimmer of hope. A Bench headed by Justice A.S. Oka stated that the illegal demolition of properties belonging to six individuals by the Prayagraj Development Authority in Uttar Pradesh in 2021 had “shocked the conscience” of the Court. The order followed findings that the demolitions were carried out without even serving show-cause notices to the house owners, either in person or by registered post. “These cases shock our conscience. Residential premises of the appellants have been high-handedly demolished... There is something called the right to shelter, something called due process... The authorities, and especially the development authority, must remember that the right to shelter is also an integral part of Article 21 of the Constitution,” the Court observed. The top court has ordered the payment of ₹10 lakh as compensation to each house owner. Through its observations, the Court has reiterated the basic principles of the rule of law — that there can be no punishment without trial, no collective punishment, that every person is presumed innocent until proven guilty, and that guilt cannot be ascribed by association.

While this is mostly reassuring, it remains doubtful whether such judicial intervention is sufficient to act as a deterrent. For one, despite earlier disapproval of the bulldozing of property under the guise of law enforcement, the practice has not only continued in Uttar Pradesh but has also spread to other States. Bharatiya Janata Party-ruled States have been eager adopters of this trend, but it



has also found appeal beyond partisan lines. The Aam Aadmi Party government in Punjab, for instance, recently resorted to property demolition as a tool in its campaign against the drug mafia. The apparent social approval of state high-handedness in many situations is a troubling commentary on collapsing standards of governance. Mob lynching is a menace the state is duty-bound to curb with an iron fist; it is tragic when the state itself adopts tactics akin to mob justice. The Supreme Court must ensure that its orders are implemented in letter and spirit — consistently and throughout India.

PRAYER AND PUNISHMENT IN UTTAR PRADESH

Among the many depredations of British colonialism in India, some of whose effects are felt to this day, is the Criminal Tribes Act of 1871. An example of gross discrimination, it categorised several communities as “criminal tribes” and their members often bore the brunt of police excesses – their “guilt” an assumption rather than a matter of proof. The Act was repealed soon after Independence. Unfortunately, when it comes to the police apparatus and how it looks at minorities, part of that ethos seems to linger. Ahead of Eid-ul-Fitr, the Uttar Pradesh Police have issued advisories that fly in the face of natural justice and the principles of the Constitution.

First, the UP Police have gone beyond their remit. Meerut City SP Ayush Vikram Singh said that people offering prayers in the open on Eid will be prosecuted and have their passports and licences cancelled. Sadly, it now bears repeating that the police are not meant to impart punishment or take suo motu punitive action. The judiciary — not the permanent executive — can pronounce a sentence after a due process. Police forces are not passport-issuing authorities, and threatening to use the process of verification amounts to making a simple process the punishment. Second, and even more disturbing, the police seem to assume, a priori, that the responsibility for “untoward incidents” lies with the Muslim community. In Sambhal, SP Krishan Kumar Bishnoi said, “People can offer prayers at their house. But they should be careful that there’s no untoward incident.” Similar statements have been made by several other senior police officers in the state, “going by the advisory of the UP government”.

The statement by Union Minister of State and BJP ally Jayant Chaudhary should give the UP government and police cause to rethink their approach to maintaining peace and order during Eid. Moving “towards an Orwellian 1984” does not behove a state that is trying to become a destination for investment, both domestic and international. Finally, the justification offered by the Hathras SP, that “we will not be allowing anyone, irrespective of community, to offer prayers on roads or in any public place” also does not inspire confidence. After all, the police rarely talk of cancelling passports during robust celebrations of other festivals — and rightly so. The Indian state and Constitution, rather than framing secularism in opposition to religion, saw it as allowing all of them to flourish. Each citizen has the fundamental right to their religion and culture, of course, subject to public order. India’s largest state must live by that principle — anything else will make it look weak and prejudiced.

RHEA CHAKRABORTY IS OWED A PUBLIC APOLOGY

The CBI report terming the untimely death of actor Sushant Singh Rajput in June 2020 a “case of suicide” brings closure, even if belatedly, for his family, friends and fans. Rajput’s death, however, was only the beginning of another story. This was a larger tale of abdication and irresponsibility, and complicit in it were individuals, institutions, society. Reportage and investigation of a tragedy spiralled into a noisy spectacle that was not about truth and justice but about vilification and TRP-



hunting, feeding an appetite for sensationalism. Now the CBI's quiet exoneration of the actor's partner at the time of his death, Rhea Chakraborty, and her family, in the closure report, is not merely an indictment of all those complicit in their relentless hounding. It is also a warning about the clear and present dangers of TV anchors playing judge, jury and executioner, and of witch-hunting overtaking due process.

In the aftermath of Rajput's death, FIRs were filed against Chakraborty and her family on charges of abetment to suicide, criminal intimidation and money laundering by Rajput's family as well as by investigating agencies. Chakraborty, an actor and V J, was arrested by the Narcotics Control Bureau and spent nearly a month in prison. The NCB accused Chakraborty and her brother of coordinating drug deliveries for the late actor. In the flurry of allegations, rumours and speculation, the presumption of innocence — the bedrock of any legal system — was overturned in favour of a baying for blood by a TV-led mob. Evidence took a backseat to online hashtags, outright prurience and conspiracy theories. The circus was fed by people from the film industry in Mumbai, fuelled by a ruling establishment looking to consolidate its hold over the entertainment industry, magnified by TRP-hungry news outlets, whose incursions into the private lives of Chakraborty and her family turned them into fodder for a frenzy that sought to keep the public entertained at the expense of their suffering. A nation watched as Chakraborty, a young woman already grappling with grief and personal loss, was thrust in the eye of a storm on national television that violated her right to privacy, dignity, and a fair trial.

In 2008, the murder of a teenager and the family's domestic help in the national capital had highlighted how a media trial can render a tragedy into a sideshow. The death of Rajput, a bright young actor, should have been a moment to initiate conversations about mental health and the importance of support systems in an industry driven by uncertainties and insecurities. Instead, the trial of Chakraborty became a cautionary tale about the perils of media excess. It invites a moment of pause, at least, and actually an honest reckoning, from all those who participated in it. A public apology would be a good start.

EXPRESS VIEW | SHIV SENA'S TARGETING OF KUNAL KAMRA: THE JOKE'S ON US

The vandalism at Habitat Comedy Club in Mumbai's Khar by Shiv Sena members against stand-up comedian Kunal Kamra for his show Naya Bharat, released on YouTube Sunday, was no surprise. In the video, Kamra is seen taking a jibe allegedly at Maharashtra Deputy CM Eknath Shinde for his 2022 exit from the undivided Shiv Sena. While several Sena members have been booked, an FIR has also been lodged against Kamra. Instead of condemning the mob attack, Maharashtra CM Devendra Fadnavis has criticised the comedian, saying, "Freedom should not be unrestrained behaviour... No one has the right to do such low-level comedy and disrespect the former chief minister, deputy chief minister, and senior leaders of the state, who are respected by the people of the state." In what has become a predictable leitmotif in a dismal pattern, the BMC has begun the demolition of allegedly unauthorised structures at the studio.

From its run-ins with artistes such as Pralhad Keshav Aatre and Pu La Deshpande to the current episode, the Shiv Sena has had a problematic relationship with freedom of expression. At a time when technology is collapsing walls, making it easier to widen access and reach global audiences, the shrinking space in this country for comedy, once a sanctuary for irreverence and social critique, presents a sobering contradiction. Rather than embracing the diversity of thought and free speech that new media facilitates, and notwithstanding landmark judicial pushback against state encroachment on freedom of speech and expression in the 2015 Shreya Singhal vs Union of India judgment, in the last few years, India has witnessed a steady erosion of such freedoms, with



numerous instances of legal cases, censorship, and threats against performers and artists. From the defamation lawsuit against comedian Vir Das after his performance at the Kennedy Centre in Washington DC in 2021, in which he spoke about “two Indias”, to bans on Munawar Faruqui’s shows for “offensive” content, to the threats against Agrima Joshua for a 2019 act, comedy finds itself increasingly at odds with political and social forces that seek to muzzle criticism and dissent. The state takes the most restrictive view and civil society retreats into evasion or silence.

The chilling effect that sets in with each such incident is a gradual erosion of society’s capacity for diversity, and its ability to embrace uncomfortable truths with humour. For all its parochial outbursts, Maharashtra, especially its capital, is *maya nagri*. In its best version, Mumbai is a city of ideas, not identities, of freedoms big and small, a city at ease with differences and contradictions, a city that can laugh at its own foibles and irregularities. Incidents like the attack in Mumbai strike at the heart of that self-awareness with narrowing notions of what constitutes freedom. With good reason, the culture industry banks on the talent of millions in a democracy but a comedian hounded doesn’t a creative superpower make.

TIMELY RESTATEMENT

In fraught times, every restatement of the basic elements of free speech law and democracy is wholly welcome. The Supreme Court of India judgment quashing a Gujarat police case against Congress Member of Parliament (Rajya Sabha) Imran Pratapgarhi for posting an allegedly inflammatory poem on social media is a welcome intervention in favour of free speech. Its importance is that it restates nearly forgotten aspects of free speech jurisprudence in an era in which any speech can be criminalised if powerful or influential people claim to be hurt by it. The Court has reminded the police that they have to honour and preserve the freedom of expression of citizens. For overzealous policemen who rush to register a first information report (FIR) splattered with as many of speech-restrictive penal provisions as possible, even when it is clear that the complaint is politically or communally motivated, the Court has advised that they should consider the effect of spoken or written words based on the standard of their effect on “reasonable, strong-minded firm and courageous individuals, and not based on people with weak and vacillating minds”. “The effect of the spoken or written words cannot be judged on the basis of the standards of people who always have a sense of insecurity or of those who always perceive criticism as a threat to their power or position,” says the Bench comprising Justices Abhay. S. Oka and Ujjal Bhuyan.

The Court has gone on to analyse the poem posted by Mr. Pratapgarhi. It finds that it is not concerned with any religion, race, language, regional group, caste or community and makes no imputation against any of them. It contains no appeal likely to cause disharmony or feeling of enmity, or hatred or ill-will. It dismisses as ‘ridiculous’ to accuse the appellant of any intention to outrage the religious feelings of any class by insulting its religion or belief. “The poem only tells the rulers what the reaction will be if the fight for rights is met with injustice.” In effect, the Court has found that none of the ingredients of the offences relating to divisive speech, speeches having a detrimental effect on public order or any insult or provocation against any religious sentiments, could be found in it. Overall, the verdict will have to serve as a guide to police officers deciding to invoke Section 196 of the Bharatiya Nyaya Sanhita (equivalent of the Section 153A of the Indian Penal Code), often under political direction, whenever a speech containing trenchant criticism of the government or Ministers is made by anyone. As defamation cannot be the subject of an FIR or a complaint, the police often invoke the sections related to speech restrictions to browbeat critics and dissenters.



EXPRESS VIEW: 'EMPURAAN' MAKERS' VOLUNTARY MODIFICATIONS SETS A DISQUIETING PRECEDENT

This is how it usually goes. After a film is made and before it can be viewed by the public, it is sent to the Central Board of Film Certification. The CBFC is the body, as is evident from its name, that is responsible for issuing a certificate, after scrutiny, which makes the film eligible for release. Like other films, L2: Empuraan, directed by Prithviraj Sukumaran, too, went through this process. Yet, days after its release on March 27, on the heels of a controversy over its alleged “divisive political agenda”, the film’s makers sought to make “voluntary modifications”, and in effect, re-censor their film. It sets a troubling precedent of preemptive or anticipatory self-censorship, and raises sobering questions about a shrinking space for artistic expression in the country.

The outrage over Empuraan, emanating mostly from social media users and sections of the Sangh Parivar, centres on the film’s depiction of the 2002 communal violence in Gujarat, on the watch of then Chief Minister Narendra Modi, with many decrying it as an attempt to “malign Hinduism”. Significantly, the BJP, in what may be a stance specific to Kerala where films have rarely shied away from political themes or in what bodes a larger shift in the party’s approach to politically-sensitive cinema, has seemed to distance itself from the issue. Rajeev Chandrasekhar, the new chief of the party’s state unit, has described the controversy as “manufactured” and argued that “cinema should be seen as cinema, and not history”. Notwithstanding the BJP’s reticence, however, the response of the team behind Empuraan — star Mohanlal and producer Gokulam Gopalan have issued apologies and signalled willingness to change dialogues or scenes that may have “pained anyone” — paints a picture of a larger filmmaking ecosystem that is increasingly stalked by contrived spectres of “hurt sentiments”. Not too long ago, they stalled the release of Emergency, directed by BJP MP Kangana Ranaut, and led to vandalism and threats in the case of films like Sanjay Leela Bhansali’s Padmaavat and Rajkumar Hirani’s PK.

In responding the way they did, the makers of Empuraan are exhibiting self-censorship. This is deeply disturbing. It suggests that artistic expression must now be calibrated to guard against the potential offence an artistic work may cause. This narrows the space for the artist, and hands a veto power to the noisy mob and the lumpen fringe.

WHY HAS X SUED THE GOVERNMENT OVER SAHYOG?

The story so far:

Social media platform X has sued the Union government in the Karnataka High Court for the SAHYOG portal, which it says is a “censorship portal” that allows local police and different parts of the government to indiscriminately demand takedowns of online content.

What is the SAHYOG portal?

The SAHYOG portal was “developed to automate the process of sending notices to intermediaries by the Appropriate Government or its agency under IT Act, 2000 to facilitate the removal or disabling of access to any information, data or communication link being used to commit an unlawful act,” the Centre says on the site. It is run by the Ministry of Home Affairs (MHA) with help from the Ministry of Electronics and Information Technology (MeitY).

The portal’s existence was disclosed by the MHA during a Delhi High Court case filed by the parent of a “missing” 19-year-old in Shabana versus Govt of NCT of Delhi and Ors. The court questioned



the government and social media firms over delays in obtaining data from an Instagram account used by the teenager. The court had emphasised the need for a mechanism to enable real-time interactions between Internet intermediaries and law enforcement in order to address urgent cases.

The government, which was already testing the SAHYOG portal, and the MHA held a virtual conference with State police officials, informing them of the pilot. The portal is to be given over to the police across the country, MHA officials said at the meeting, and would soon be “expanded” to accommodate data requests from social media firms in such cases. The main mandate, however, remained content takedown notices under Section 79(3)(b) of the Information Technology (IT) Act, 2000. X considers this illegal, as it argues only two laws govern internet takedowns in India.

What are the laws?

Section 79(1) of the IT Act gives online platforms a shield from legal liability for content posted by third parties, that is, their users. Section 79(3), however, qualifies this safe harbour by stating that the shield will not apply if “upon receiving actual knowledge, or on being notified by the appropriate Government or its agency that any information... controlled by the intermediary is being used to commit the unlawful act, the intermediary fails to expeditiously remove or disable access to that material on that resource without vitiating the evidence in any manner.” In other words, if social media companies are given notice by any “appropriate Government or its agency,” then they can also be taken to court for a piece of content, just like the user. This is incentive enough for social media firms to take down posts that have been flagged by authorities, without an explicit legal direction.

X argues — as have civil society groups — that this is an overreach. “Section 79(3)(b) of the IT Act does not authorise the government to issue information blocking orders,” X said in its petition. “That power is governed by Section 69A of the IT Act read with the Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009.” This has been upheld by the Shreya Singhal judgment of the Supreme Court in 2015, a verdict that also held unconstitutional Section 66A, a broad law allowing prosecution over users posting “offensive” content.

Section 69A allows the government to block content, the IT Ministry says, if it impinges on “(i) interest of sovereignty and integrity of India, (ii) defence of India, (iii) security of the State, (iv) friendly relations with foreign States or (v) public order or (vi) for preventing incitement to the commission of any cognizable offense relating to above.” However, this Section has several safeguards built into it, such as giving users the opportunity to be heard. These safeguards are laid out in the Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009. However, even blockings under Section 69A have been contentious, because there have been instances where a notice has not been issued.

“While website blocking orders under Section 69A have poor procedural safeguards, they still have some of them,” the Internet Freedom Foundation noted in an analysis of X’s new lawsuit. “Now, even those basic thresholds have been bypassed by MeitY, which has transformed the safe harbour framework under Section 79 into a censorship system on large-scale.”

What is the government’s stance?

While these legal challenges are being worked out, the SAHYOG portal has seen participation from most social media firms, including those owned by Meta and Google. The government has argued



that the “takedown” orders (as they are called even in the model notice the IT Ministry has shared with authorities) are not blocking orders. “Section 79 regime does not envisage any ‘blocking orders’ and merely issues notice informing intermediaries of their due diligence obligations,” the government said in a filing in the case. “In case of non-compliance of the notices, the result is lifting of safe harbour protection and consequent action under extant law... and the same is fundamentally at a different plane altogether.”

The potential for censorship even in such an indirect content governance regime, however, has elicited concerns. As Vasudev Devadasan, then with the Centre for Communications Governance at the National Law University, Delhi, wrote in 2022: “Unlike newspapers and broadcasters who are directly incentivised to protect their own content, social media companies have few incentives to defend their users’ content.”

TAKEN TO TASK

The issue of defections in Legislative Assemblies has become a vexed one in public life in recent years. Ruling parties — the Bharatiya Janata Party in particular — have adopted an unabashed approach to augment their legislative support by encouraging defections. A commonly used modus operandi — used egregiously in Manipur in the late 2010s and later in Maharashtra — involves the Speaker, invariably from the ruling party, sitting on disqualification petitions from Opposition parties against legislators who have defected. Some defectors have even been sworn in as Ministers, pending adjudication on their party-switching by the Speaker. Many States have seen the unedifying sight of mass defections to the ruling party just after elections, making a mockery of the democratic exercise. The latest is the situation in Telangana where the petitions filed by the Bharat Rashtra Samiti (BRS) in March-April 2024, to disqualify 10 of its legislators who defected to the Congress, were notified by the Speaker only in January this year. The Supreme Court, hearing a petition by the BRS seeking timely action by the Speaker, has rightly observed that it was not “powerless” if a Speaker chose to remain indecisive. Justice B.R. Gavai’s observation that the courts cannot tell a Speaker how to decide, but that they could ask the Speaker to decide within a reasonable period, is a rational one.

A five-judge Constitution Bench, in May 2023, had reposed its faith in the Speaker’s “propriety and impartiality” to decide on defections, but “within a reasonable period”. Flowing from this judgment, the Court had, in October 2023, fixed a deadline for the Maharashtra Speaker to decide defection pleas from the Opposition after the undue delay by him in hearing them. Yet, the issue is persistent. This is inevitable as Speakers are invariably elected from ruling parties and rarely act in a non-partisan manner, despite the expectation that they will do so. In 2020, the Court had asked Parliament to amend the Constitution to strip Legislative Assembly Speakers of their exclusive power to decide upon whether legislators should be disqualified or not under the Tenth Schedule which frames the anti-defection law. It had also asked for an independent tribunal, instead of the Speaker, to be appointed for the task. No such action has been taken by Parliament since then and the problem of defections going unaddressed by Speakers within a reasonable time frame persists. If the Court forces the hand of the Speaker in Telangana, it might be one more blow for decisive action. But the scourge of defections and how it is dealt with will remain as long as voters do not punish those who indulge in such practices.



PARLIAMENT DEBATE WASN'T ABOUT WAQF – IT SHOWED A GOVERNMENT WITH A TRUST DEFICIT

Parliament has discussed the Waqf Amendment Bill. In the House of the People, the debate ran well past midnight, 288 MPs voted in favour, 232 against. Those, there, are the bare facts. But rewind to the debates in both Houses, listen in, and an impression is inescapable: The deliberation in Parliament was not, really, about amending the 1995 Act regarding the administration, management and regulation of waqf properties across the country. It was also much wider than the shorthand summary of each side of the debate makes it out to be. Curbing corruption, reforming by improving efficiency, transparency and accountability, on the government's side. Discriminating between Muslims and other religions, dividing and marginalising Muslims, undermining constitutionally guaranteed rights and freedoms of minorities, according to the mostly united Opposition. Even as elements in the bill promote transparency, specific provisions raise questions — be it the inclusion of non-Muslims in the state Waqf Boards and the Central Waqf Council, or the expansion of government's role in regulating waqf properties and adjudicating disputes. But these issues became secondary to the larger invocations in the House, from the criminalisation of triple talaq, the Citizenship Amendment Act and the building of the Ayodhya Ram Mandir to the abrogation of Article 370.

At the heart of the deliberations lay this stark question: What is needed for the country's largest minority to trust the Modi government to do the right thing by it? Unfortunately, for now, any reading of the answer would have to be shaped by unmoving positions and frozen complicities. They show that even as the Modi government, now in its third term, rightly congratulates itself on its agility and ability in pushing boundaries in many sectors, politically and administratively, finding the language or the credibility to talk to and persuade the minorities remains a challenge for it. The government proclaims "sabka vikas... sabka vishwas (development for all, with everyone's trust)", but needs to make much more effort to move the needle on the slogan's second half. In this, it is hampered, most of all, by a glaring absence — the BJP has zero Muslim MPs in the Lok Sabha. While the idea of representation cannot, of course, be reduced to a head count of different identities, the fact that the BJP did not have an elected Muslim MP of its own to speak for it in the waqf debate underlines an exclusion and a withholding that is at odds with the great and enriching diversity of India's polity.

As far as the Opposition is concerned, the debates over the Waqf Amendment Bill brought a welcome respite from its internal wrangling. For this brief period, on display was an otherwise elusive Opposition unity. Showcased in Parliament, too, was the fact that these parties regained their voice, even if temporarily, on minority issues, which, in recent times, have been met with their equivocation and/or silences. What was most heartening, perhaps, after the two-day debate was this: Parliament became, once again, the site of the big debate. All sides participated, no major player walked out, and even though the outcome was finally determined by cold and hard numbers, the House rang with different and differing voices.

WAQF BILL CLEARS LOK SABHA STORM: GOVT CITES TRANSPARENCY, OPP SAYS BID TO DIVIDE ON FAITH

The contentious Waqf (Amendment) Bill, which proposes sweeping changes in regulation of Waqf properties and settlement of disputes, sailed through Lok Sabha after a midnight vote Wednesday, capping a marathon 12-hour debate in which the Opposition accused the BJP-led NDA government of interference in Muslim religious affairs in contravention of the Constitution, a charge rejected

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by Union Home Minister Amit Shah who said the Bill had no provision for government interference.

- Hitting back at Opposition parties which united in accusing the government of targeting the beliefs and practices of the Muslim community, Shah said the government had no intention to interfere in the affairs of the community.
- Both Shah and Minority Affairs Minister Kiren Rijiju, who spoke at the beginning of the debate and replied to it before the voting, said the proposed reforms would ensure the welfare of poor Muslims and women.
- Making an intervention during the debate, Shah said non-Muslims in the waqf council and boards are meant purely for ensuring administration of properties in accordance with stated aims.
- Rijiju, who tabled the Bill, said, “We have allowed Shia, Sunni, backward Muslims, women and expert non-Muslims to be part of the Waqf Board.... There can be four non-Muslims in it. And there have to be two women. Look at the Waqf Boards until now. Where are the women?”
- The Bill amends the Waqf Act, 1995, which governs the management of Waqf properties in India. It proposes sweeping changes which give the government a foot in the door in regulating Waqf properties, and settling disputes regarding such properties.
- The Bill was first introduced in August last year, and referred to a House panel headed by BJP MP Jagdambika Pal. On February 27, the panel, in a 15-11 vote, cleared 14 amendments, all moved by BJP members or its allies in the National Democratic Alliance.

Do You Know:

- The primary objection to the Waqf Bill, 2025 is framed in questioning the need for bringing a new law that changes the way Waqfs are managed.

—Asaduddin Owaisi of the All-India Majlis-e-Ittehadul Muslimeen (AIMIM) has said that the Bill’s objective is to weaken the foundations of Waqf governance and to undermine the rights of Muslims.

—Government officials say that the 1995 Act contains some loopholes with regard to the regulation of Waqf properties including title disputes, and the illegal occupation of Waqf land, which has prompted the Centre to bring a fresh law.

—Also, the lack of judicial oversight on Waqf management is a key issue, according to officials. Questions concerning Waqf properties are heard by the Waqf Tribunal whose decisions cannot be challenged in court.

—The Bill is also being brought at a time when the constitutional validity of the Waqf Act is under challenge before the Delhi High Court.

- A major criticism of the opponents of the Bill is that it gives the government a handle to regulate the management of Waqf properties, and the power to determine whether a property is a Waqf.
 - Section 40 of the Waqf Act empowers the Waqf Board to decide if a property is Waqf property.
 - The decision of the Board would be final unless it is revoked or modified by the Waqf Tribunal.
- The Bill extends this power, which currently lies with the Waqf Tribunal, to the District Collector.
- The Bill also states that until the government makes a decision, the disputed property will be treated as a government property and not a Waqf property.



- The government's intention behind bringing this crucial change is the alleged misuse of Waqf laws, sources said. According to government officials, Section 40 of the Waqf Act is "widely misused to declare private properties as Waqf properties, causing legal battles and unrest".
- In Islamic law, the dedication of a property as Waqf was done largely verbally until documentation became the standard norm. For example, even in the absence of a Waqfnama, a masjid can be deemed to be Waqf property if it is continuously used as such. —The amendments also seek to remove the concept of "Waqf by use", which means that a property can be deemed to be a Waqf through use as a Waqf, even if the original declaration is suspect. The Bill, by omitting the provisions relating to the "Waqf by user," makes a Waqf property suspect in the absence of a valid Waqfnama.
- The 1995 Act prescribes a survey of auqaf (plural of waqf) by a Survey Commissioner appointed by the state government. The amendment Bill replaces the Survey Commissioner with the District Collector or any other officer not below the rank of a Deputy Collector duly nominated by the Collector. It is learnt that the government's reasoning for this change is that survey work has been poor in several states. Officials said that in Gujarat and Uttarakhand, surveys have not yet begun, while a survey ordered in Uttar Pradesh in 2014 is still pending.
- Another criticism of the Bill is that it changes the representation of Waqf Boards —The Bill proposes allowing a non-Muslim Chief Executive Officer, and at least two non-Muslim members to be appointed by the state government to the Waqf Boards at the state level. Critics of the Bill argue that this could interfere with the community's right to manage its own affairs, a constitutionally protected right.
—On the issue of having non-Muslim representation in the Waqf Board, government officials argue that the move is aimed at bringing expertise and promotes transparency without undermining community representation. While there will be non-Muslim members on the Board, they will not form the majority, government sources said.
- The Bill proposes to delete Section 107 of the 1995 law that had made the Limitation Act, 1963 inapplicable to Waqf properties.
—The Limitation Act is a statutory bar on individuals from filing cases after a period of time. Essentially, this provision ensured that the Waqf Board is not limited by the statutory timeframe of 12 years to file a case to reclaim its properties from encroachment.

WHAT IS THE CONTROVERSY OVER THE BODH GAYA TEMPLE?

Beginning February, nearly 100 Buddhist monks under the All-India Buddhist Forum (AIBF) have been protesting, first at the Bodh Gaya's Mahabodhi Temple or Mahavihara, and later a little down the road, demanding a repeal of the Bodh Gaya Temple Act (BTA), 1949. The AIBF has support from prominent Buddhist bodies, and has submitted a memorandum to the Bihar government. The Bodh Gaya is one of the four sacred sites of Buddhism; the other three being Buddha's birthplace Lumbini, Sarnath where he gave his first sermon and Kusinagar where he attained parinirvana.

Have there been protests before?

In November 2023, Buddhist monks held a rally in Gaya and submitted a memorandum to the Central and State governments. As it failed to have the desired effect, the monks scaled up the



protest and held a rally in Patna last year to press for repealing the Act. Back in 2012, monks had filed a writ petition before the Supreme Court to repeal the Act. The petition is yet to be heard.

What is the Act?

The BTA established an eight-member management committee having equal number of Buddhists and Hindus. The Act made the local district magistrate an ex-officio chairperson of the committee. As the district magistrate hailed from the majority community, it translated to a Hindu majority on the committee, something which was resented by Buddhist bodies. Ever since then, various Buddhist bodies have been raising their voice intermittently for gaining autonomy over the Bodh Gaya temple, which they call the Bodh Gaya Mahavihara.

What do the annals say?

Noted poet Edwin Arnold in his well-known poem, 'The Light of Asia' talks about Gautam Siddharth's enlightenment under the Bodhi tree. Bodh Gaya was then described as the Mecca of Buddhism, and in many ways popularised Buddhism in the West. However, Bodh Gaya's claim to fame goes much further back in time. In the third century, Mauryan Emperor Ashoka worshipped the Bodhi tree and built the temple there. From the time of Ashoka to the Palas, the Bodhi temple continued to be a Buddhist place of worship and a site of pilgrimage. Chinese traveller Hiuen Tsang visited it in 629 AD during the reign of Harshavardhana. Incidentally, Hiuen Tsang called it a Buddhist site, and is said to have found only Buddhist relics here save for a statue of Avaloktishvara.

Things changed with the invasion of Bakhtiyar Khilji in the 13th century. The invasion ended the Pala rule, and thus began the decline of Buddhism. During Akbar's reign, in 1590, a Hindu monk established the Bodh Gaya mutt.

Giri's descendants continue to control the Mahabodhi temple, which they say is a Hindu site. "Our Math's teachings treat Lord Buddha as the ninth reincarnation of Lord Vishnu and we consider Buddhists our brothers," Swami Vivekananda Giri, the Hindu priest currently in charge of the Bodh Gaya Math, told Al Jazeera.

With this the temple lapsed into the hands of the Hindu community. Following Independence, the Bihar Assembly passed the BTA in 1949 and control of the temple was transferred from the Hindu head to the new management committee.

How has the government intervened?

The BTA was passed by the Bihar government to resolve a festering dispute between the Buddhist and Hindu heads of the Mahabodhi temple for control over the same. The Buddhist side was unhappy at the stipulation that the district magistrate, who was the ex-officio chairman, could only assume leadership if he was from the Hindu community. It changed in 2013 after the State government amended the rule and inserted a provision for the ex-officio chairman to be of any faith.

In the early 1990s, then Chief Minister of Bihar Lalu Prasad Yadav, drafted the Bodh Gaya Mahavihara Bill to replace the BTA. It was supposed to hand over the management of the temple to the Buddhist community. The Bill prohibited idol immersions near the temple and Hindu marriages inside the temple. However, the Bill went into cold storage.



- Legally speaking, the Buddhists' case is complicated by the Places of Worship Act, 1991. Introduced in the wake of the Ayodhya movement, the Act provides for the maintenance of the religious character of any place of worship as it existed on August 15, 1947.

Do You Know:

- "The Places of Worship Act... blocked any legal attempts by the Buddhists to regain control of the temple," said Vanchit Bahujan Aghadi youth leader Rajendra Patode. The Act is currently under challenge in the Supreme Court.
- In 2012, two monks filed a petition before the Supreme Court seeking a repeal of the BGTA, but 13 years on, the case is yet to be listed before the court.
- The Mahabodhi Temple Complex at Bodh Gaya is a UNESCO World Heritage Site. The temple stands to the east of the Mahabodhi Tree, where Gautam Buddha is believed to have attained nirvana. The temple has a unique shape and a height of 170 feet. It is in Bodh Gaya, while meditating under the Bo tree, that Prince Siddhartha attained enlightenment to become the Buddha (literally, "the Enlightened One") in 589 BCE.
- A simple shrine was constructed to mark the site by Emperor Ashoka in the 3rd century BCE, of which only the Vajrasana (Diamond Throne), a stone slab under the Bodhi tree next to the temple, remains. Additional structures were built during the Shunga period (2nd to 1st century BCE).
- Fifth-century Chinese traveller Faxian (also known as Fa Hien) wrote that there were three Buddhist monasteries around the temple in Gaya. But the current pyramidal structure can be dated to the reign of the Guptas in the 6th century CE.
- The Palas (8th-12th century CE) were the last major royal patrons of the Mahabodhi temple. By the 11th-12th centuries, Buddhism was gradually declining in the subcontinent, and so were its many centres, including in Gaya.
- The shrine was in a state of disrepair when Alexander Cunningham, the founder of the Archaeological Survey of India, began restoration in the 1880s. According to the website of UNESCO, which granted the Mahabodhi temple the World Heritage Site tag in 2002, the shrine was largely abandoned between the 13th and 19th centuries.
- But according to popular legend, which also finds mention in the shrine's official website, a wandering Shaivite monk named Mahant Ghamandi Giri arrived in Gaya around 1590, and established what would become the Bodh Gaya Math, a Hindu monastery.
- Calls for the temple to be handed over to the Buddhists can be traced to the late 19th century. These were initially led by the Sri Lankan monk Anagarika Dhammapala, who even took the Hindu priests controlling the Mahabodhi temple to court. Dhammapala's struggle culminated in the passage of the Bodh Gaya temple act (BGTA) by the Bihar Assembly in 1949, 16 years after his death.

SC TASKFORCE ON STUDENT SUICIDES: A GOOD FIRST STEP

The Supreme Court's decision this week to set up a task force to address the alarmingly high rate of student suicides in the country is an acknowledgement of a crisis. The statistics speak of a system failing its most vulnerable. According to the most recent NCRB data, there were over 13,000 student suicides in 2022. As the Court noted, they're a "grim reminder" of how inadequate

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and ineffective existing frameworks have been in addressing the mental health concerns of students, and point to the need for a more “robust, comprehensive and responsive mechanism to address the various factors” that drive students to the final, irrevocable step.

That the court has not turned its eyes away from a problem that only seems to worsen — a 70 per cent increase in the last decade — is welcome. However, the task force, which is to be headed by former Supreme Court Justice Ravindra Bhat, is not the solution; it is merely one step towards addressing the challenge. Its work, which will include representatives from various fields, could shed much-needed light on what remains a little understood problem. It has been mandated with drawing up a report on a range of factors that lead to student suicides, including academic pressure, ragging, sexual harassment, financial burden, mental health stigma and discrimination based on caste, gender, ethnicity, sexual orientation. It will also carry out an assessment of existing frameworks and measures, and make recommendations.

But the larger picture of student well-being calls for the participation of all stakeholders: Parents and teachers who, with vigilance and compassion, must shepherd the young through the tough phases of life, instilling the understanding that there is life beyond a failed test; educational institutions that must invest in their students’ welfare and staff that is trained to identify the red flags. The government, too, must make good on the promise of initiatives like the National Education Policy 2020, which emphasises student well-being and mental health, by prioritising reform that focuses on nurturing individual potential, rather than a one-size-fits-all model. Crucially, there needs to be a concerted effort to replace the hyper-competitiveness that characterises student life with a genuine love for knowledge, where curiosity, rather than rote learning, is rewarded. The Supreme Court’s initiative is a beginning, but results will only come from the sustained and collaborative action of all stakeholders.

THE CHALLENGE FLAGGED BY IIT PLACEMENTS

Campus placement processes in the IITs and other technical universities are highly anticipated events for most students graduating from these institutes. They have traditionally been seen as launchpads for careers that are fulfilling and lucrative. The success rate of graduates from the country’s top technical institutes is also closely watched by knowledge economy specialists and job market experts. That’s why the government should conduct a threadbare analysis of the data it provided to the Parliamentary Standing Committee on Education, Women, Children, Youth and Sports. In its report, the Committee headed by Congress MP Digvijaya Singh notes an “unusual decline” in placements in IITs between 2021-22 and 2023-24. Barring IIT BHU, 22 of the 23 IITs have seen a drop in placements.

Placements, as the Standing Committee rightly points out, are highly dependent on market trends. It’s also correct that a section of IIT students have a history of gravitating towards careers unrelated to their academic qualifications — the bureaucracy, for instance. However, the Committee’s conclusion that the decline “could be for various reasons... like students opting for higher education or pursuing start-up ventures” should be compared with the data on students showing up for the campus placement processes. These figures show that in all IITs, other than the one in Tirupati, the number of students showing up for campus placements has gone up. It appears that the increasing number of engineering graduates has heightened the competition at these events. The Standing Committee’s data should also be compared with the figures for 2021-2022, when there was a spike in placement percentages. This was largely due to a recovery in the job market after the Covid pandemic. But campus placements came down in 2022-23 and they fell further the following year. Reports and anecdotal evidence indicate that the global economic



slowdown has compelled companies to cut down on hiring and scale down salary packages. In fact, as reported by this newspaper on March 28, participants at the Candidates Open House for the PM Internship Scheme organised last week by the Union Ministry of Corporate Affairs also talked of fewer openings in the IT sector. The IITs have reportedly reached out to alumni networks to help the graduating students navigate the challenging job market. Concerns over falling placements of students from the country's top technical institutions should also inform the government's plans for the economy, especially its entrepreneurial programmes such as Make In India.

In the past, the IITs were, by and large, exempted from the industry's criticism that the country's engineering graduates lack employability skills. However, educational planners cannot afford to ignore that the rapid evolution of technology requires even the country's top institutions to upscale their curricula. As the Parliamentary Standing Committee has suggested, they will "need to find ways to enhance employability". The Committee's report should push the government to join dots and make connections — between the job market, skills and the broader economy.

THE NEW READING AND WRITING

Aditya Vishwanath and Ujwal Thakar write just as the industrial era demanded reading and writing, the AI era demands a new kind of fluency: AI literacy.

- Today, we stand at a similar inflection point with artificial intelligence (AI). Just as past generations prioritised literacy as a fundamental right and a strategic necessity, we must now make the case for AI literacy as an essential skill for the next generation of young Indians.
- Computational thinking (CT) — promoted in the early 2000s by scholars like Jeannette Wing of Columbia University — was envisioned as a foundational skill for every child, comparable to maths or reading.
- Comprehensive AI literacy must now encompass all layers of Indian society — from foundational K-12 education to extensive higher education programmes, targeted workforce training, inclusive micro-courses for diverse non-technical professions, and broad-based, culturally aware initiatives aimed at AI literacy for the masses.
- But what does AI literacy actually mean? Here are three distinct ways to define it. One, AI literacy as "human-AI collaboration". Understanding how AI systems work and how to effectively collaborate with them as co-pilots, rather than being passive users.
- Two, AI literacy as "critical AI awareness". The ability to interpret and critique AI-generated content, recognising bias, fairness, and ethical implications in automated decision-making.
- Three, AI literacy as "problem-solving with AI". The capacity to design, apply, and creatively leverage AI to solve real-world challenges, regardless of whether one is a programmer or not.
- Most importantly, AI literacy is not just about coding. While programming is one way to engage with AI, true AI literacy is about cultivating a mindset of problem-solving, abstraction, and systems thinking — skills that are essential for any profession in an AI-driven world.
- India's potential is already emerging — from Wadhvani AI's agricultural solutions to Sarvam AI's generative AI breakthroughs. Scaling such innovation requires deep investment in AI education, research, and entrepreneurship.



- A national initiative for AI literacy is critical. Policymakers must integrate AI into school curricula, industries must invest in workforce skilling, and civil society must ensure equitable access — so no Indian is left behind in the AI age.

Do You Know:

- Last year, the Union Cabinet approved the IndiaAI Mission with an outlay of Rs 10,372 crore for the next five years, under which the government will allocate funds towards subsidising private companies looking to set up AI computing capacity in the country, among other things.
- Under the IndiaAI Mission, the government will look to establish a computing capacity of more than 10,000 GPUs and also help develop foundational models with a capacity of more than 100 billion parameters trained on datasets covering major Indian languages for priority sectors like healthcare, agriculture, and governance.
- The implementation of this AI compute infrastructure will be done through a public-private partnership model with 50 per cent viability gap funding.

PATNA UNIVERSITY STUDENTS' UNION IS NOW A YOUNG WOMEN'S CLUB

In February, when BJP's Rekha Gupta was named the Delhi chief minister, Congress's Alka Lamba reached across the aisle with a photograph from their student-politics days in Delhi University. In 1995, Lamba had been DUSU president as an NSUI leader, while Gupta was the general secretary, representing the ABVP. Thirty years later, in another state where women's political participation has been limited at best, the Patna University Students' Union (PUSU) election has thrown up a memorable result: Women have claimed three of the top five positions for the first time in the university's history.

The success of these women speaks not merely of personal achievement. As Bihar CM Nitish Kumar has said, this "reflects women's empowerment in Bihar", an increasing socio-economic autonomy that is a result of developmental policies such as the Jeevika programme under the Bihar Livelihood scheme, 50 per cent reservation for women in panchayat elections, and Kumar's cycle scheme that saw increased female enrolment in educational institutions. Over the last two decades, women's engagement with the political process has also undergone significant changes. In the 2020 Assembly election, for instance, the total turnout of female voters was 59.7 per cent, compared to 54.6 per cent male turnout. On the other hand, of the 371 women who contested the elections, only 26 were able to make it to the legislative assembly.

From Lalu Prasad to the late Sushil Kumar Modi, PUSU elections have been the launchpad of several of Bihar's tallest leaders who have played important roles in national politics. In an election year, the victory of these young women sends out a powerful message of a more inclusive and diverse political representation. It aligns with broader national conversations on women's rights and participation, especially in the light of the Women's Reservation Bill, 2023. The future is a fertile field of opportunities for the gutsy women from Patna.

WHY BENGAL NEVER SAW A UNIFIED DALIT CAMPAIGN

Adrija Roychowdhury writes- "In March this year, 550 Dalits in Gidhagram, a small village in West Bengal's Purba Bardhaman district, entered a local temple for the first time. The incident has reignited discussions on the issue of caste-based discrimination in a state that has for long, and in popular consciousness, been considered as 'casteless'."

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



- “But is caste indeed absent in West Bengal, or is it merely absent from public discussions? “I would say that caste has been unrecognised in Bengal, and that there was a conscious effort to do so,” says historian Sekhar Bandyopadhyay in an interview with indianexpress.com.”
- “Experts point out that even though caste has been a social reality in Bengal, much like the rest of India, the rigours of the system were not strict in the Bengali-speaking region. This was due to certain historical factors. “To begin with, Bengal was distant from the core geographical area of Brahmanism,” explains Bandyopadhyay.”
- “Moreover, when Brahmanism started gaining currency in the region from around the 11th century, it was constantly interacting with the more liberal tribal culture of the region.”
- “It was only in the 12th century that there was a resurgence of Brahmanism in Bengal which led to the formalisation of the varna social organisation. However, the emergence of the Bhakti movement in Bengal in the 14th and 15th centuries once again had a corroding effect on the caste apparatus.”
- “The 19th century in the Indian subcontinent was specifically characterised by social reform movements, a large number of which was focused on the eradication of caste discrimination. The Prarthana Samaj in Bombay and Jyotirao Phule’s Satyashodhak Samaj, for instance, were focused upon abolition of caste inequalities and the upliftment of the Dalits.”
- “The conspicuous absence of caste in the public consciousness of Bengal is accompanied by an equally noticeable lack of a consolidated lower-caste or Dalit movement, of the kinds that occurred in Tamil Nadu, Uttar Pradesh or Bihar pre- and post-independence. This is despite the fact that Dalits comprise 23.51 percent of the total population of West Bengal (according to the 2011 census of India). The state also has the second-highest Dalit population in India at 10.66 percent.”
- “Yet another factor that contributed to the disappearance of the Dalit movement in the region was the emergence of the Communist regime in later years. “Communism offered Dalits an Overton window to remedy economic exploitation and discursive land reforms. However, the communist emphasis on the ‘proletariat’ as an ontologically economic category ensured that Dalitness was not recognised as a disruptive political category,” suggests Chatterjee.”

‘EXCESS FLUORIDE’ IN SONBHADRA GROUNDWATER: RESIDENTS SAY THEY ARE GETTING SICKER

The issue of excess fluoride in Sonbhadra’s groundwater was first discovered in 2013, when a sample from Padarach village was sent off for testing after multiple residents complained of health issues.

- The Sonbhadra, UP’s second-largest district, where rich deposits of granite, an igneous rock, have leached “excess” fluoride into the groundwater, making it unfit for human consumption. It’s a problem that the government has taken note of, most recently in a March report by the state water authority, the Jal Nigam.
- Mahendra Singh, the Executive Engineer at the Jal Nigam, Sonbhadra, who was recently transferred to Lucknow, told The Indian Express that the report confirmed the presence of “excessive” fluoride in the groundwater in 120 hamlets, home to nearly 2 lakh people, across the district.



- Confirming Vijay Kumar's fluorosis diagnosis, Sonbhadra Chief Medical Officer (CMO) Dr Ashwani Kumar says, "Fluorosis is not fatal. In the elderly, it can cause joint pain, stiffness, bone deformities, mobility issues, muscle weakness and fatigue. In children, the most common sign is yellow stains on the teeth."
- Before the launch of the Har Ghar Jal Yojana, under the Jal Jeevan Mission in 2019, schemes to provide treated water to the public were launched by the Jal Nigam in 2012-13, says DM Badrinath Singh.
- Meanwhile, administration officials say steps have been taken since 2013 to supply potable water to Padarach village after the contamination was first discovered. They said plans were also made to supply treated surface water from rivers, lakes, and ponds.

Do You Know:

- Called the 'energy capital of India', Sonbhadra shares its borders with Madhya Pradesh, Chhattisgarh, Jharkhand and Bihar. Officials said five sectors in the district — Dudhi, Myorpur, Babhani, Kone and Chopan — are especially rich in granite deposits.
- Located around 50 km from the district headquarters, Padarach village, which has 300 residents, is among the worst-hit by fluorosis. Most village residents, who live in houses made of mud, are engaged in farming. The locals say they still depend on borewells and hand pumps to meet their potable water needs.
- The locals say they have been advised to avoid boiling groundwater since "boiling increases fluoride concentration". They say they have also been encouraged to consume lemon and tamarind regularly to reduce the impact of fluoride on their body.

THE NUCLEAR LEAP

Jitendra Singh writes- "As the world's fifth-largest economy with a population of over 1.4 billion, India's thirst for energy grows exponentially each year. India's electricity demand is projected to triple by 2047, but nearly 70 per cent of power generation still comes from fossil fuels. This paradox defines India's energy challenge — how to promote rapid economic growth while simultaneously reducing carbon emissions and ensuring energy security. Nuclear power has emerged as a crucial pillar in India's quest for a sustainable and self-reliant energy future."

- "Nuclear energy represents one of the most concentrated forms of power generation, where small amounts of fuel can produce enormous quantities of electricity with minimal carbon emissions. France, which generates over 70 per cent of its electricity from nuclear sources, has demonstrated how this technology can form the backbone of a low-carbon energy strategy."
- "For India, the challenges are multifaceted. The country's heavy dependence on imported fossil fuels not only strains the economy but also increases vulnerability to global price fluctuations. Simultaneously, as a signatory to international climate agreements, India has committed to reducing its carbon footprint significantly."
- "Unlike intermittent renewable sources such as solar and wind, nuclear power provides reliable baseload generation regardless of weather conditions. While hydropower faces seasonal variations and ecological concerns, and coal continues to pose serious environmental challenges, nuclear energy offers a sustainable alternative."



- “At the heart of India’s nuclear strategy lies the visionary three-stage nuclear programme designed by Homi Bhabha, who envisaged using nuclear energy for peaceful purposes. It aims to leverage India’s abundant thorium reserves — the world’s largest — to eventually achieve complete energy self-sufficiency, a goal that has gained renewed urgency as the country works toward its net-zero target by 2070.”
- “While nuclear power currently contributes approximately 3 per cent of India’s electricity generation, this figure is set to grow substantially with 21 reactors totalling 15,300 MW at various stages of implementation.”
- “The successful commissioning of India’s first indigenous 700 MWe Pressurised Heavy Water Reactor (PHWR) at Kakrapar, Gujarat in 2023-24 marks a significant milestone in self-reliance. The country has also made strides in nuclear fuel cycle capabilities, with the Prototype Fast Breeder Reactor (PFBR) achieving critical milestones in 2024, including primary sodium filling and commissioning of sodium pumps.”
- “The government has set a target of 100 GW nuclear power capacity by 2047, a massive increase from the current 8.18 GW. To achieve this, the Nuclear Energy Mission for Viksit Bharat has been launched, focusing on enhancing domestic capabilities.”
- “International collaborations have been reinvigorated, particularly with Russia, France, and the US. The government has accorded in-principle approval to set up six 1208 MW nuclear power plants in cooperation with the US at Kovvada in Andhra Pradesh.”

Do You Know:

- India’s nuclear journey began shortly after Independence with the establishment of the Atomic Energy Commission in 1948. In 1956, Asia’s first research reactor, Apsara, was commissioned at the Bhabha Atomic Research Centre (BARC) in Trombay. These early steps laid the foundation for what would become one of the world’s most comprehensive nuclear programmes.
- In her budget speech, Finance Minister Nirmala Sitharaman said the government would set up a Nuclear Energy Mission worth ₹20,000 crore for research and development of SMRs, and promised that at least five such indigenously developed SMRs would be operationalised by 2033.
- The Finance Minister also promised to amend the Atomic Energy Act and the Civil Liability for Nuclear Damage Act to accelerate private sector participation in building and operating nuclear power plants.
- Notably, unlike renewables like solar or wind, nuclear energy offers a reliable source of on demand electricity generation, and is not susceptible to weather-related interruptions.
- The International Atomic Energy Agency (IAEA), an international body that advises governments on the transition to clean energy, says nuclear energy has to more than double by 2050 if the world has any chance of reaching net zero. The problem with nuclear power currently is that it is big and expensive, takes too long to build and could cause civilisation-ending disasters if something were to go wrong.



KEY NUCLEAR DEAL BREAKTHROUGH: US CLEARS FIRM TO BUILD AND DESIGN N-REACTORS IN INDIA

Two decades after it was inked, decks have been cleared to tap the commercial potential of the India-US civil nuclear deal with an unprecedented regulatory clearance from the US Department of Energy (DoE) that will allow a US company to build and design nuclear reactors in India.

- The March 26 approval from DoE cleared Holtec International's application for specific authorisation with respect to the restrictive regulation that is referred to as "10CFR810". (Part 810 of Title 10, Code of Federal Regulations of the US Atomic Energy Act of 1954). This authorisation permits Holtec, with conditions, to transfer "unclassified small modular reactor (SMR) technology" to three firms in India.
- So far, the regulation, while giving US companies, such as Holtec, the ability to export equipment to countries such as India under strict safeguards, explicitly barred them from manufacturing any nuclear equipment or performing any nuclear design work in India. This provision was a non-starter from New Delhi's perspective, which wanted to participate in manufacturing SMRs and co-produce the nuclear components for its domestic needs.
- This comes weeks after an announcement on renewed nuclear cooperation between the two countries to "fully realise" the US-India 123 Civil Nuclear Agreement, marking a significant diplomatic upside for India.
- At a time when the Trump administration has been extremely transactional on the issue of balancing trade deficits and supporting US manufacturing, the commitment to move forward on plans to jointly build US-designed nuclear reactors in India — through large scale localisation and possible technology transfer — is being seen as a significant diplomatic gain for India.
- The new deal potentially offers a chance for India's nuclear sector to upgrade its reactor specialisation to those in use across much of the world, and scale up capacity addition against the current glacial pace of project development.
- The plan to leverage private sector capabilities to get into the niche, but growing, SMR space is also significant. Though India's civil nuclear programme has expertise in manufacturing smaller reactor types – 220MWe PHWRs (pressurised heavy water reactors) and above – the problem for India is its reactor technology.
- Based on heavy water and natural Uranium, PHWRs are increasingly out of sync with the pressurised water reactors or PWRs (a light-water nuclear reactor type that constitute the majority of the world's nuclear power plants) are now the most dominant reactor type across the world. Holtec International, a privately-held company, is billed as one of the world's largest exporters of capital nuclear components and is a leader in the decommissioning sector.

Do You Know:

On March 26, the US Department of Energy cleared Holtec International's application to design and build nuclear reactors in India. It allows for the transfer of unclassified small modular reactor (SMR) technology to three companies in India — L&T, Tata Consulting Engineers and Holtec's regional subsidiary, Holtec Asia. SMRs are advanced nuclear reactors that have a power generation capacity ranging from less than 30 MWe to 300 MWe.



Globally, there are two SMR projections that have reached the operational stage, one in Russia and the other in China. The Indian government is hopeful that at least five indigenously developed SMRs will be operationalised by 2033.

- The 123 agreement signed by India and the US way back in July 2007 did, in fact, explicitly aim to enable full civil nuclear energy cooperation between the two sides by providing for “full civil nuclear energy cooperation covering nuclear reactors and aspects of the associated nuclear fuel cycle including enrichment and reprocessing” Since then, there has been no progress on the ground and a single investment is yet to come through.
- On the Indian side, there are legal issues too. The Civil Liability for Nuclear Damage Act, 2010, which sought to create a mechanism for compensating victims from damage caused by a nuclear accident, and allocating liability and specifying procedures for compensation, has been cited as an impediment by foreign players such as GE-Hitachi, Westinghouse and French nuclear company Areva.
- This is primarily on the grounds that the legislation channelises operators’ liability to equipment suppliers, with foreign vendors citing this as a reason for worries about investing in India’s nuclear sector due to fear of incurring future liability.
- Amendments to the Atomic Energy Act 1962 also have to be initiated to enable private companies to enter nuclear generation as operators, which is currently restricted to only state-owned companies. The Indian government has committed to getting this done.

ISRO SEES BREAKTHROUGH IN SEMICRYOGENIC ENGINE DEVELOPMENT FOR LVM3

ISRO has announced significant progress in the design and development of a semicryogenic engine, or liquid oxygen/kerosene engine, with a high thrust of 2,000 kN (kilonewton) that will power the semicryogenic booster stage of the Launch Vehicle Mark-3 (LVM3).

The first major breakthrough in the semicryogenic engine development programme was achieved on Friday, when the first successful hot test of Engine Power Head Test Article, was carried out at ISRO Propulsion Complex, Mahendragiri, Tamil Nadu, said the organisation.

Highlighting that the test demonstrated the smooth ignition and boost strap mode operation of the engine for a test duration of 2.5 seconds, the space agency said the objective of the test was to validate the integrated performance of the critical sub-systems by carrying out a hot-firing for a short-duration of 2.5 seconds.

“The test proceeded as predicted and all the engine parameters were as expected. With this breakthrough, ISRO is further planning a series of tests on the PHTA to further validate and finetune the performance before the realisation of the fully integrated engine,” reads the statement.

Noting that the Liquid Propulsion Systems Centre (LPSC) is developing the semicryogenic propulsion engine and stage, the ISRO said the stage (SC120) powered by the 2,000 kN semicryogenic engine (SE2000) will replace the present core liquid stage (L110) of LVM3.

Induction of the semicryogenic propulsion system along with an uprated cryogenic stage in the LVM3 vehicle enhances its payload capability from 4 tonne to 5 tonne in Geosynchronous Transfer Orbit (GTO), the Space Agency said.



WHY ARE UNDERSEA CABLES IMPORTANT?

The story so far:

India is getting new cable landing systems coming online gradually. The latest addition is Airtel's 2Africa Pearls system, which has investments from Facebook parent Meta, adding 100 terabits per second of capacity to India's international bandwidth. Earlier this year, the SEA-ME-WE-6 cable was also landed in Chennai and Mumbai.

What are undersea cables?

Undersea cables are the main link connecting the world's internet networks. They connect internet service providers and telecom operators everywhere with those in other countries. These cables are a few inches thick and are heavily padded to withstand the hostile environment of the sea floor. Inside, strands of fiber optic cable — similar to those that connect modern telcos' towers and routers — provide massive capacity for large volumes of data to quickly crisscross the earth.

At each "landing point," usually a manhole covered with a lid and then topped with sand, these cables make landfall and go further inland to connect to a "landing station," where they become accessible to major networks. These systems are critical to the modern information society. "There are about 600 cables, as per Goldman Sachs," said Amajit Gupta, CEO of Lightstorm, a network provider at the first Sub-Sea Cable Systems Conference in Delhi. "90% of data, 80% of world trade, and about \$10 trillion of financial transactions, as well as secure government information, move through these cables. That's the impact this infrastructure has."

Each modern cable has several hundred gigabits per second of capacity, and can support thousands of telecom users. The other side of undersea cables is terrestrial networks, the less well-mapped network of cables and towers that bring connectivity from the coast to people.

Does India have enough undersea cables?

India has two major hubs of cable landing sites: Mumbai and Chennai. "Practically speaking, 95% of subsea today goes into a small six-kilometre patch in Versova, Mumbai," Mr. Gupta said.

Many of the cables connected to Chennai also land in Mumbai. In total, 17 cable systems land at some point in India. India also has two domestic cable systems — the Chennai Andaman and Nicobar Islands (CANI) cable to provide high-speed connectivity to the islands, and the Kochi Lakshadweep Islands project.

Cables take several months, even years, to plan out and lay, at a cost of millions of dollars. Most cables in countries with well-developed internet infrastructure are able to commission capacity years before it is required. As such, most international internet traffic in India is largely served by existing capacity.

Anil Tandan, the Director General of the Broadband India Forum, said that this may not hold forever. "Well, there are differences of opinion," Mr. Tandan said of the existing cable infrastructure's sufficiency. "The capacity may be adequate at this moment of time, but the way the data [traffic] is growing, one has to keep in mind that the capacity may not be adequate as we go along."



Aruna Sundararajan, a former Union IT and Telecom Secretary and current chairperson of the BIF, said, "It is significant to note that India's share presently constitutes around 1% and 3% respectively for cable landing stations and subsea cable systems" respectively.

What are some risks surrounding undersea cable deployment in India?

More cables land in Singapore, a small city-state, than they do in all of India, making India vulnerable to the consequences of cable cuts at sea. "If there is a disruption at the Red Sea, it pretty much brings down 25% of India's Internet in our estimate," Mr. Gupta said. "It's not a theory because it just happened about two years back." He was referring to the cuts that brought down subsea cables in the Bab-el-Mandeb Strait, likely caused by strikes by Houthi rebels in Yemen. That strait is a critical narrow passage through which dozens of subsea cables pass.

These cuts — some of which happened in 2024 — have not destabilised India's internet experience so far, thanks to excess capacity built into other networks. But that may not always be the case. If several cables in the Red Sea are damaged, large parts of the internet may stop working, and there is only so much data that can be rerouted through other cable systems.

"Traditionally, most subsea corridors strangely have followed the trade routes of the past," Mr. Gupta said. "Rarely have subsea routes been built which are different from shipping routes, because back in the day, it was easier to follow the trade routes to be able to lay down your cables and make it work."

What can be done to bolster India's subsea cable infrastructure?

For one, the companies laying subsea cables complain of excessive permissions needed to land a single cable in India. "By last count, about 51 permissions were needed, beyond just the Department of Telecom, including the Home Ministry, Department of Fisheries, the Environment Ministry, local municipalities," and so on, Mr. Gupta said.

"If I have an 8,000-mile point-to-point transoceanic system starting tomorrow, I can guarantee you where I'm going to spend 80% of my time and effort," said Scott Cowling, a senior Meta executive who manages the social media conglomerate's global network infrastructure. "And that's going to be in 24 miles of territorial waters at either end."

In addition to streamlining regulations, securing these cables is also important. "Fishing trawlers break my cables all the time," complained Rahul Vatts, Bharti Airtel's chief regulatory officer.

India depends on foreign repair vessels with long permission processes for them to begin work in Indian waters. "India currently does not have the requisite subsea cable repair ships and cable storage depot capacity that we need," Ms. Sundararajan said, calling for more domestic investment in cable repair capabilities.

EXPRESS VIEW ON TECHNOLOGY VS TB

WHO data shows India has taken impressive strides in countering tuberculosis since 2015. The number of reported cases has dropped by 17 per cent and deaths have come down by more than 20 per cent. Even so, the country accounts for more than a fourth of the world's TB burden and nearly 30 per cent of the deaths caused by the disease. India does not appear to be on course to meet its target of eliminating the disease by the end of this year. That's why the government's



initiative to use cutting-edge technology, including AI, in its anti-TB programme is a step in the right direction.

TB can be tough to detect. The traditional sputum test has major limitations, including inadequate sensitivity, poor performance in some sections of patients, especially children and people living with HIV, and inability to detect antimicrobial resistance. In 2023, the WHO recognised diagnosis as the weakest link in TB care. While the landscape of research has expanded, doctors in large parts of the Global South, including India, continue to rely on the sputum test. The anti-TB programme's plan to widen the diagnostic net by using other samples — such as blood, saliva, or stool — is in line with the WHO's new guideline to "invest in novel diagnostic techniques". So is the use of genetic material to detect the bacteria. The new initiative seems to have accounted for the longstanding weakness of the Indian healthcare system — the shortage of facilities and trained professionals in rural areas. The use of AI to read microscopy slides and X-rays could be a breakthrough.

Until recently, the standard medication course took six to nine months to complete, and treatment for drug-resistant tuberculosis could take up to two years with much lower chances of cure. In the past five years, new drugs have helped reduce the length of therapy. Even then, the regimen is taxing on patients and their caregivers. The defaulting patients then run the risk of contracting the more virulent multidrug-resistant version of the disease and spreading it. A simple test can now measure compliance with the drug regimen — when a patient's saliva is put on the strip, it can tell whether they have taken the medicine in the last 24 hours. The government would, however, be doing injustice to its initiative by relying solely on technology. State-of-the-art diagnostics should be accompanied by initiatives to improve the nutrition of patients and their access to medicines.

EXPRESS VIEW: CONCERNS OVER POWER SHORTAGE CALL FOR A CAREFUL REVIEW OF INDIA'S ENERGY MIX

The problem, in part, stems from how India's energy mix has evolved in the recent past. Thermal power dominates India's baseload power capacity. In recent years, however, additions to thermal capacity have been muted — the installed capacity rose from 230 GW in 2019-20 to just 243 GW in 2023-24. Much of the increase in installed power capacity during these years has occurred in the renewables space — the installed capacity rose from 88.26 GW in 2019-20 to 143.64 GW in 2023-24 (renewables include solar, wind, bio-power and small hydro power). However, despite this, renewables still account for just 13 per cent of all-India energy generation. During the summer months, the problem is acute as solar generation tapers off by the evenings while household demand remains high and storage capacities are limited. In order to fill this gap, baseload capacities are stepped up, but in the absence of an expansion in such capacities, there is a shortfall in supply. As per reports, electricity demand is expected to peak at 273 GW in June 2025 compared to a minimum of 135 GW in December-January. "Shortages are more likely to occur during non-solar hours in May, June, July and August 2025," says a report from the National Load Despatch Centre with the months of May and June identified as "high-risk months for shortages".

The National Electricity Plan (2017-22) had focused more on ramping up renewable capacities in the country. As per its assessment, the expected renewable (solar, wind, biomass and small hydro) capacity addition between 2017 and 2022 was pegged at 117.7 GW. However, the concerns that are being raised call for carrying out a more careful assessment of the country's energy mix — thermal, nuclear and renewables. As the economy continues its forward march, as electricity



demand continues to rise — peak electricity demand is expected to touch 298.7 GW by 2026-27 — policy must ensure a steady supply of power.

INDIA'S COAL RELIANCE RISES TO 79% IN FY24 DESPITE CENTRE'S RENEWABLE PUSH

The share of coal in India's total energy generation increased to 79% to 16,906 petajoules (PJ) in 2023-24, about two percentage points more than previous year, MoSPI's Energy Statistics in India 2025 show.

Coal had always constituted more than 70% of the total energy produced in the country since 2014-15. Coal production also rose 12% in the year under review from 2022-23, when it had grown at a decadal-high pace of 15%.

Crude oil's share at 6% in 2023-24 has reduced from 2014-15 when it was 11% in 2014-15. Natural gas was 7% of the total energy produced and slid from 9% in 2014-15.

Renewable energy sources have not seen any meaningful rise in the share of the total energy produced in the past decade. The share of electricity produced from hydro, solar, nuclear and other renewable sources stood at 7% of the total share. This share was 6% in 2014-15.

Share of electricity from renewable sources in total energy production has always been under 10% in the past decade despite an active renewable push from the Centre.

Almost 26% of India's coal supply is imported, as per the data. This has however reduced since 2019-20 when it was at a decadal high of 31%. Import dependence of coal has been more than 25% in the past decade. Highest import dependence, however, is in crude oil with a dependence of 89% and has not seen any meaningful reduction in the past decade.

TOP COAL IMPORTERS SLOW PURCHASES SO FAR IN 2025

The world's largest thermal coal buyers tapped the brakes on imports during the first quarter of 2025, driving purchases to the lowest quarterly total in three years, data from ship tracking firm Kpler shows.

Global coal imports for the first quarter were just over 240 million metric tons, roughly 10 million tons less than was shipped during the same quarter a year ago. China, India, Japan and South Korea—the top global coal importers in 2024—all reduced first-quarter purchases by more than 10% from the same period in 2024, as sharply higher clean power generation allowed for their utilities to cut coal use.

Continued growth in clean power output may allow for further cuts to coal imports in the top coal markets over the coming months and could trigger their first collective contraction in thermal imports since 2020.

However, smaller fast-growing economies have expanded coal purchases so far this year, which has somewhat offset the cuts seen into the largest markets and prevented total coal imports from registering a steeper decline.

The top four coal importers, which accounted for 69% of all coal imports in 2024, have been the most aggressive import cutters so far in 2025.



China, the world's largest coal consumer, led the import reductions by lowering first-quarter purchases to 67 million tons from nearly 85 million tons in the first quarter of 2024.

India's first-quarter import total was about 39 million tons, down 5.6 million tons from the same quarter last year. Indian authorities have prioritized boosting domestic coal production over imports.

Growth markets

While the largest traditional coal importers have made cuts to coal purchases so far this year, other nations have expanded their coal import volumes.

Indeed, total imports outside of China, India, Japan and South Korea accounted for the largest share of total coal imports in three years during the first quarter of 2025.

Turkey, Vietnam and Bangladesh all registered record first-quarter import tallies in 2025, while the Philippines and Malaysia both recorded their second-highest first-quarter import totals.

The volume increases seen into these second-tier markets are small compared to the nearly 18 million ton drop recorded into China so far this year. But the nearly 2 million ton climb in imports by Turkey, the 1.5 million ton rise in imports into the Netherlands, and the roughly 1 million ton climbs seen into Bangladesh, Hong Kong and Vietnam can add up to significant tonnage.

What's more, there were roughly 43 million tons of coal cargoes dispatched during March that have yet to be rectified by Kpler's trade-matching system. Once cleared, those volumes will likely elevate the delivery volumes into all major coal importing nations during the second quarter of 2025.

That said, the steep import drops seen already into China and India bode well for climate trackers who are hoping for signs of a long-term downturn in global coal imports. And even if import volumes continue to climb into the likes of Turkey and Vietnam, a sustained drop in the coal imports by the four largest importers should trigger an overall contraction in global coal shipments by year-end.

WHY INDIA NEEDS TO CLEAN ITS AIR

India's air pollution crisis is not just a seasonal inconvenience. It's a persistent, silent pandemic that chokes our lungs every winter and quietly lingers throughout the year. Hospitals overflow with respiratory cases, schools shut down, cities disappear under layers of smog, and Indian metros regularly top global pollution rankings.

Given the scale of this crisis, it's worth asking: what is India actually doing to clean its air? While initiatives like the National Clean Air Programme (NCAP), Bharat VI, the Pradhan Mantri Ujjwala Yojana (PMUY), and targeted efforts to phase out coal-burning industries in the National Capital Region mark important progress, the national response remains fragmented and slow-moving. Without stronger alignment and faster implementation, transformative change may remain out of reach.

Tuning in to ground realities

The challenge begins with how India understands air pollution. It's often seen as a technical problem when in reality it's a complex structural issue shaped by governance capacity,



demographic pressure, socio-economic disparity, behavioural norms, and entrenched economic systems. Scientists play a vital role in diagnosing air quality — like physicians identifying symptoms — but lasting solutions depend on those working on the ground: municipal officers, planners, engineers, and community leaders. These actors operate within tight budgets, outdated infrastructure, and competing local demands. Strengthening their capacity and aligning mandates with air quality goals is essential for sustained change.

This complexity becomes especially relevant when considering India's goal to reduce PM2.5 levels by 2026 to 40% of what it was in 2017. While ambitious and necessary, the target risks falling short if it isn't mindful of on-ground realities. Consider transportation, for instance. It's not enough to say "vehicles cause pollution." We need to ask: what types of vehicles are on the road? What fuel do they use? How old are they? How far do they travel? How bad is traffic? Without this level of detail, it's difficult to craft realistic, actionable plans for local governments. To turn national goals into real progress, we must connect them to the everyday activities that actually drive emissions.

Proactive programs

While China is often called a success story, it came at a steep price — ₹22 lakh crore over five years for urban centres. India's NCAP budget is less than 1% of that. However, if we include allied programs like PMUY (₹18,128 crore), the program for Faster Adoption and Manufacturing of Electric Vehicles in India or Fame II (₹10,795 crore), Swachh Bharat Mission-Urban (₹1.4 lakh crore), and NCAP itself (₹11,542 crore), a broader ecosystem of air quality financing becomes apparent. They target emission sources and deserve recognition as part of India's clean air strategy.

The NCAP continues to struggle with how its funds are allocated and how progress is measured. It relies heavily on ambient air quality data, which is often affected by weather and geography, making short-term improvements hard to detect. For example, initiatives like PMUY and waste-burning controls have reduced emissions in several areas, but these gains may not reflect in pollution readings, creating a misleading sense of stagnation. Shifting to activity-based metrics — such as the number of stoves replaced or diesel buses retired — would offer a clearer picture of impact and strengthen accountability.

Realigning metrics alone isn't enough. Local governments also need access to high-resolution, open-source data on emissions-generating activities: where waste is burned, which households use solid fuels, where construction is active, and which roads face the heaviest traffic. Without such data, air pollution remains an abstract issue, disconnected from daily governance. This data gap directly affects how NCAP funds are used. Between 2019 and 2023, only 60% of the funds released were utilised, reflecting not a lack of intent but institutional misalignment. Air quality continues to be treated as a parallel concern rather than a core municipal function.

To shift from intent to impact, India needs a phased, data-driven approach. Phase I: build local emissions profiles to identify the biggest pollution sources; Phase II: link funding directly to targeted actions based on that data; and Phase III: track reductions in emissions, not just pollution concentrations, to measure real progress. This shift from passive monitoring to proactive management mirrors how meaningful change happens on the ground.



Guarding against optics

However, as India adopts more digital tools, it must avoid falling into the “Western trap”—overreliance on high-tech, urban-centric data and solutions without addressing basic pollution sources. Smog towers, real-time apportionment, and AI dashboards may appear innovative but offer little value if burning biomass and the use of old industrial processes and polluting vehicles go unchecked. Cities like London and Los Angeles rolled out advanced sophisticated technologies only after decades of systemic reform. India must sequence its strategies correctly.

This misalignment also risks elite capture. Urban hubs may get cutting-edge tools while rural and informal sectors — responsible for a large share of emissions — are neglected. Worse, these tools may distract from structural reforms, shifting attention to optics over outcomes. More data does not equal more action if local agencies lack authority or the resources to use it.

A key fix is distinguishing between academic research and solution-focused implementation. While long-term innovation is important, policymakers need short-term, scalable models they can act on. India must create separate funding streams: one for research and another for immediate, on-ground interventions. Otherwise, we risk producing more papers than progress.

What are other countries doing?

Global examples offer guidance without imitation. China closed coal plants. Brazil used community-led waste systems. California reinvested pollution revenue in poor communities. London banned coal-use before launching sensors. Each succeeded by following a path grounded in its context. India must do the same—innovate programmes which are federalism-friendly, subsidy-driven, and tailored to its informal economy.

Ultimately, India’s clean air future will be shaped not by dashboards but by people, partnerships, and purpose. We must fix the plumbing before painting the walls. Clean air must be a right for all, not a privilege for a few. Securing that right will take more than promises. It will take coordination, courage, and a commitment to act.

INDIA’S CRITICAL EFFORTS TO TACKLE AIR POLLUTION COULD WORSEN WARMING

Rapidly reducing aerosol emissions, which are part of air pollution, without concurrently reducing greenhouse gas emissions could expose a large fraction of the world’s most vulnerable people to a sudden acceleration of warming and extreme heat in highly polluted regions like India. Researchers warned as much in a study published in November 2024 in *Geophysical Research Letters*.

The analysis found regions that cleaned their air in the late 20th century have experienced a greater increase in warming trends over time, while more populated urban areas with low human development indices have experienced lower levels of warming — due to the masking effect of pollution.

According to Aditya Sengupta, a graduate researcher at the University of Melbourne and first author of the study, abruptly halting the emission of aerosols can also increase the rate of warming on shorter time scales.

The study is particularly relevant for India, which is currently struggling to improve air quality on one hand while trying to stave off the worst of climate change on the other.



Greenhouse gases vs. aerosols

Global warming is caused by the build-up of greenhouse gases in the atmosphere and has been known to intensify temperature and rainfall extremes. Aerosols can counteract the impact of greenhouse gases to some extent.

This is because, while greenhouse gases trap heat and warm the earth's surface, aerosols such as sulphates and nitrates scatter solar radiation, preventing it from reaching the ground and rendering a cooling effect. Aerosols also affect the water cycle.

Greenhouse gases are also well mixed in the atmosphere. As a result, their effects, including knock-on ones on the climate, can be felt around the planet. On the other hand, the concentration of aerosols in the atmosphere varies by location and time. Greenhouse gases are also more long-lived — carbon dioxide can persist in the atmosphere without breaking down for centuries — whereas aerosols live for a few days to weeks at a time.

The consequences of changes in the atmosphere's aerosol load can thus be felt almost immediately.

Thermal power

According to Govindasamy Bala, professor at the Centre for Atmospheric and Oceanic Sciences at the Indian Institute of Science, Bengaluru, growing economies and industrialisation go hand in hand with aerosol and fossil-fuel emissions.

In India, thermal power plants generate roughly 70% of the country's electricity by burning coal, which contains some sulphur. "So before the flue gas [exhaust gas from the combustion process] is released to the atmosphere, you have to take out sulphur dioxide at the source to reduce air pollution," Mr. Bala explained.

Sulphate aerosols, which form through the oxidation of sulphur dioxide, are highly reflective and make up 50-60% of the overall aerosol composition in India, in addition to black carbon, dust, and other pollutants, according to Mr. Bala.

Invisible offset

"[O]ur numbers show, if it were not for aerosols, we would experience much greater warming over India," Krishna AchutaRao, dean and professor at the Centre for Atmospheric Sciences, IIT-Delhi, said.

According to him, India warmed by about 0.54° C between 1906 and 2005, with the estimated warming due to greenhouse gases being about 2° C and the cooling offset from other anthropogenic factors about 1.5° C. While most of the cooling is likely from aerosols released by human industrial activity, some cooling is also likely from irrigation, Mr. AchutaRao added.

According to the first-ever assessment of climate change over India published by the Ministry of Earth Sciences in 2020, the country's average temperature rose by around 0.7° C between 1901 and 2018, largely due to greenhouse gas-induced warming, but was partially offset by anthropogenic aerosols and changes in land use. To compare, overall long-term global warming is currently about 1.3° C above pre-industrial times.



Aerosols and rain

Aerosols' effects on rainfall are another matter. "In general, the temperature effect is fairly straightforward: remove aerosols, and it gets warmer," Mr. AchutaRao said. "With precipitation, things are further complicated."

According to Mr. Bala, the global mean cooling is about 0.6° C in the industrial period due to aerosols. But he said, citing a recent Intergovernmental Panel of Climate Change (IPCC) report, that "this cooling is unevenly distributed — in the northern hemisphere, it is 0.9° and in the southern hemisphere it is about 0.3° C. Because of this larger cooling in the northern hemisphere, the actual aerosol effect is a slight reduction in Indian monsoon rainfall."

Many people would like to understand what aerosols emitted by India are doing to India, but the remote effects of aerosols are also important to consider, he added. For example, a May 2024 study published in Proceedings of the National Academy of Sciences reported that when China cut its aerosol emissions, extreme heat wave events in the Pacific Ocean, along the west coast of North America, got worse.

Likewise, according to Mr. Bala's ongoing research, any substantial increase in aerosols over India could negatively affect the hydrological cycle and reduce the amount of monsoon rainfall. Understanding this process is an active area of study worldwide.

Net-zero not the end

Both aerosol pollution and greenhouse gas-related climate pollution are mainly due to large-scale industrial activity. Greenhouse gas-induced warming increases the risk of extreme heat, aerosols cause respiratory ailments, creating a compounding effect on vulnerable populations, Mr. Sengupta said.

The study has found that cutting both will also require policies to support already at-risk populations that will be affected by the sudden rise in warming in the short term.

"Achieving net-zero carbon emissions would not be the end of the story, and policymakers should focus on long-term adaptation policies for the vulnerable parts of India, particularly people residing in the Indo-Gangetic plains, where the highest aerosol loading is found," Mr. Sengupta added. But because aerosol distribution is highly regional, it is difficult to exactly predict how specific places in India will be affected when (and if) we clean up aerosols, Mr. AchutaRao said.

Experts suggested the surest step would be to develop better heat action plans. Delhi-based research organisation Sustainable Futures Collaborative recently reported that few of the heat action plans of nine cities — Delhi, Mumbai, Bengaluru, Faridabad, Gwalior, Kota, Ludhiana, Meerut, and Surat — included long-term action and that even those were poorly targeted. If and when aerosols are removed from the atmosphere, the heat stress in these cities could worsen.

"While cleaning the air might accelerate ongoing warming by unmasking the greenhouse gas-induced warming, it could be beneficial in terms of increased rainfall over India. These trade-offs should be considered when assessing the effects of aerosols on our complex climate system," Mr. Bala added.

That said, all the experts agreed the immediate benefits to human health from reducing air pollution far outweighed any adverse consequences due to higher heat or disrupted rainfall.



EXPRESS VIEW: EXTENDED SPELLS OF INTENSE HEAT ARE LIKELY TO BE THE NEW NORMAL

The effects of global warming on the Indian summer have been evident for at least a decade. The hot weather regularly eats into spring in most parts of the country, and heat waves are no longer restricted to regions traditionally believed to be prone to high temperatures — northern, central and eastern India. The Konkan region and parts of Karnataka, for instance, experienced inordinately high temperatures as early as February. Now, for the second consecutive year, the India Meteorological Department (IMD) has forecast above-normal temperatures for most parts of the country from April to June. It has warned of extended heat wave episodes that may last more than 10 days. Earlier, such episodes would last for four to seven days. However, last year, spells of intense heat stretched for over two weeks in several parts of the country.

The health effect of heat waves is a nascent field and data on mortality caused by them varies — the IMD, National Disaster Management Agency, Integrated Disease Surveillance Programme and National Crime Records Bureau cite divergent figures. However, experts concur on the need to put in place measures to protect the most vulnerable. Most states have prepared heat action plans. However, by and large, these plans approach the problem from an emergency standpoint — they focus on providing access to drinking water, creating shelters or changing work schedules. The need — as underlined by a study by researchers from Sustainable Futures Collaborative (SFC), a New Delhi-based research outfit, and scientists at King's College, London, and Princeton, Harvard and California universities — is to “make cooling available to the most heat-exposed, developing insurance cover for lost work, expanding fire management services and retrofitting electricity grids”.

There is near-unanimity on the need to account for local conditions while issuing heat wave alerts. Two years ago, for instance, a sunstroke tragedy in Navi Mumbai underscored the need to factor in humidity while evaluating the stress caused by scorching temperatures. Devoting special attention to urban heat islands is another imperative that cannot be delayed. These enclaves record much higher temperatures than the rest of the city because the heat does not have outlets to escape. The average March temperatures in the densely built Mumbai suburbs of Vasai and Ghatkopar, for instance, exceeded that of relatively greener Powai by as much as 13 degrees Celsius. In the long run, planners will need to find ways to reduce heat-retaining infrastructure and create more green spaces. Extended spells of intense heat are likely to be the new normal. The IMD's alert should push policymakers towards heat-proofing cities and towns.

WHY NAINI LAKE IS SEEING RECORD-LOW WATER LEVELS THIS YEAR

The Naini Lake, one of Nainital's key attractions, has recorded a water level of 4.7 feet — marking a five-year low.

- This has sparked concerns over drinking water scarcity ahead of the summer season, with some experts saying that the lake could go below the “zero level”. This does not mean that the lake will dry up but that its water level will go below the normal “gauge level”, which is set for each lake based on historical data.
- With its deepest point at 89 feet, the Naini Lake has a gauge level of 12 feet. The Uttarakhand Jal Sansthan extracts 10 million litres everyday from the lake to supply drinking water to the city.



- For many years now, alarm bells have been sounded about the lake's depleting water levels. This time, a decrease in snowfall and rainfall in the winter months has played a role, compounded by long-term issues surrounding the lake's upkeep.
- Vishal Singh, an environmental scientist at the Centre for Ecology Development and Research in Nainital, told The Indian Express that 76% of the city's water demand was met by the Naini Lake in 2024. However, pressure from an increasing population, the increase in tourist activity, and commercialisation of nearby areas have impacted its health.
- According to researchers Nidhi Singh, Vishal Singh, and Anvita Pandey, Nainital's aging water distribution network has struggled to keep up with the demand. ('Impact of institutional overlapping on water governance of Himalayan City, Nainital, India', 2024).

Do You Know:

- The Naini Lake is a natural kidney-shaped lake in the heart of Nainital, surrounded by seven hills. It is said that English businessman P Barron chanced upon it around the mid-19th Century, spurring the town's development as a hill station for the British.
- A 2017 report from the Uttarakhand State Council for Science and Technology found that compared to other Kumaon lakes, Naini Lake "is subjected to the greatest man-made manipulations". It cited unplanned construction, encroachment, and degradation of recharge zones as key factors. The construction of concrete structures nearby further causes low rainwater infiltration, worsened by the low rainfall in some years.
- "Enhancing siltation, dumping debris in Sukhatal Lake, which is a major aquifer recharge area for Naini Lake, [is] causing the lake to shrink from its two-hectare area," the report added. Encroachments and illegal construction have reduced the catchment area, with houses and hotels coming up near the lake.
- Climate change has a bearing on prevailing weather patterns. Delhi-based organisation Climate Trends found that annual mean temperatures in Uttarakhand have increased by nearly 1.5 degrees Celsius between 1970 and 2022. Experts say the warming is affecting rainfall and snowfall.

ENFORCEMENT AGENCIES ARE PLAYING CATCH-UP WITH TIGER POACHERS

In the early years of this century, tiger poaching went out of control in several protected areas in the country. By 2006, the animal's population had dwindled to less than 1,400. Since then, concerted conservation efforts have led to an appreciable recovery — India today has more than 3,600 tigers. However, in recent years, experts have flagged a significant number of tiger deaths that remain unaccounted for. The needle of suspicion points towards poachers. Now, an investigation by this newspaper — it tracked arrest records and court documents and interviewed former poachers who have become informers — has revealed that illegal traffickers in animal parts have claimed at least 100 tigers in the past three years. Poaching networks today are leaner and more mobile compared to 20 years ago. The poachers are also savvy vis a vis the digital medium and are active on social media. Worryingly, law enforcement agencies are being forced to play catch-up.

After the tiger crisis, the government revamped the country's conservation edifice. The National Tiger Conservation Authority (NTCA), established in 2007, discarded the approach that focused



solely on protecting the animal in individual parks. Recognising the fact that the animals are mobile, it emphasised the need to conserve them as a “meta-population” — inter-breeding tigers in geographically connected reserves. A centralised Wildlife Crime Control Bureau (WCCB) was established to tackle poaching cases. However, the CBI and the Directorate of Revenue Intelligence have continued to pursue animal trafficking cases. These agencies rarely coordinate with each other. Understaffed state forest departments, too, do not keep track of poaching incidents outside their areas of jurisdiction despite the fact that syndicates operate across multiple states. At the same time, there is enough evidence to show that tigers today do not confine themselves to the boundaries of reserves and move out in search of mates and prey. So, unlike 20 years ago, poachers do not necessarily have to enter a protected area to kill tigers. The WCCB is ill-equipped to deal with this exigency. The agency has a sanctioned strength of just 10 wildlife inspectors who can gather intelligence and nearly a fourth of the Bureau’s total posts are currently vacant. Moreover, the regular inspectors are usually enlisted in the WCCB on deputation from paramilitary forces. They lack domain expertise. The poachers, in contrast, deftly use the dark web to plan their operations. Though conviction rates have improved post-2007, the lack of specialised staff to pursue investigations means that more than 90 per cent of poachers who are nabbed escape punishment.

China is widely recognised as one of the world’s largest markets for trafficked tiger parts from India. This newspaper’s analysis shows that the Northeast has become one of the biggest conduits of this illicit trade in the past three years. However, enforcement agencies are yet to establish their presence along the new routes of the illicit trade. They, and the conservation authorities, should get their act together. The momentum generated by the post-2007 recovery in tiger numbers should not be frittered away.

NEW DAMSELFLY SPECIES FOUND IN KERALA

A group of researchers has discovered a new species of damselfly in the Wayanad landscape of the Western Ghats, Kerala.

Named *Euphaea wayanadensis*, this species marks Kerala’s 191st recorded odonate species (including dragonflies and damselflies), and the 223rd one to be documented from the Ghats. The findings were recently published in the peer-reviewed journal ENTOMON.

Research team

The research team comprised S.S. Anooj of Kerala Agricultural University; C. Susanth and Kalesh Sadasivan, representing conservation groups Warblers and Waders, and Travancore Nature History Society respectively; Vinayan P. Nair of Alphonsa College, Pala; and Dattaprasad Sawant and Milind Bhakare from Maharashtra.

The new species belongs to the family Euphaeidae and was identified using integrated taxonomy methods. The discovery is the result of several years of field surveys. The team first observed the distinct morphotype of *Euphaea wayanadensis* at the Kalindi River, Thirunelli, in Wayanad district in 2013.

The research found the species preferred fast-flowing streams with rocks and aquatic vegetation, with evergreen and semi-evergreen tree growth on the banks. They are observed throughout the year, except during the dry seasons of March and April.



Dr. Sadasivan, a member of the IUCN Dragonfly Specialist Group, emphasised the highly restricted distribution and habitat requirement of the new species calls for targeted surveys and steps to conserve aquatic invertebrates of ecologically vulnerable landscapes like Wayanad.

THE RADICAL AND ENDURING LEGACY OF SHIVAJI

Chhatrapati Shivaji Maharaj mounted the most famous opposition to Aurangzeb's expansionism during Mughal rule in India. Shivaji began his journey as a Maratha warrior and eventually became a self-made king.

Often leading from the front, Shivaji guided his men into dangerous campaigns often at risk to his own life and limb. In doing so, he earned both the respect and loyalty of his soldiers, many of whom often sacrificed their lives in the cause of their beloved king — leading to the creation of the Hindavi Svarājya, an Indian autarky.

Starting out in the 1640s, with a small band of warriors, Shivaji had, by the mid-1660s, earned the confidence of enough fighters to have brought the number to the tens of thousands. A master of guerrilla warfare, referred to as *ganimi kawa* in Marathi, his agile *modus operandi* ran rings around the numerically superior but bulky Mughal army. Swift cavalry raids were married with disruption of enemy supply lines; and hit-and-run tactics were used in harsh terrain causing considerable damage to enemy forces.

Francois Martin, the first Governor-General of Puducherry in French India, contrasts the military organisation of the Mughal army with the Maratha army in his *Mémoires*. "The Maratha forces were mobile, light footed, and lived a life of spartan simplicity in camp," Martin notes. The warrior king's persona is also distinguished in Martin's journals by a lack of pomp and luxury generally associated with royalty, describing him as often sitting on the ground with his soldiers.

French traveller Jean de Thévenot describes Shivaji as being "short and tawny, with quick eyes that shew a great deal of wit." De Thévenot also mentions that Shivaji would eat once a day, and in common attendance with his soldiers. Abbé Barthélemy Carré says this of the man: "To his quickness of movement he added, like Julius Caesar, a clemency and a bounty that won him the hearts of those his arms had worsted."

But what sort of rule was Shivaji to usher in?

The subaltern king

In recent years, political and social organisations have often dug their heels on the subject of Shivaji's caste identity. This is a disservice to the man, the bulk of whose comrades, lieutenants, and officers were men who hailed from the so-called 'lower' castes, poor Brahmins, nomads, peasants or petty landlords. Hambirrao Mohite was Maratha, Tanhaji Malusare was Koli, Baji Prabhu Deshpande came from a Chandraseniya Kayastha Prabhu family, and Ragho Atre was Brahmin, to name but a few. The Narikurvans, a nomadic community which moves from Maharashtra to Tamil Nadu, had been warriors in Shivaji's army. Among his brave captains was Siddi Hilal, a Muslim who hailed from the Bantu people of southeast Africa. Likewise, Shivaji's naval forces liberally employed members of the Koli caste, traditional fishermen-turned-seafaring soldiers. In short, Shivaji's forces drew upon cultivators, craftsmen, tribals, fishermen et al to fill the ranks of a growing war machine.



Shivaji's rule was so progressively meritocratic that at the time of his death his Svarājya was defended by two hundred and forty forts and not one of them had a hereditary noble at the helm.

Shivaji also allowed for those who so wished to revert back into Hinduism; Netaji Palekar and Bajaji Nimbalkar are but two examples of the same. This was a full two centuries before the similar Arya Samajist reform. These actions should be understood in light of the similar affront he had caused to the orthodox Brahmins who'd opposed his coronation on account of his unverifiable caste heritage.

Cosme de Guarda in his 1695 work *Life of the Celebrated Sevagy* writes that Shivaji on his deathbed declared that his wives need not be forced to commit sati upon his demise. "I do not, however, like that you should compel any, for I do not require them to come to be burnt by force. I command you to inform them of this, as I expect and wish this courtesy from those who love me most," De Guarda writes, paraphrasing Shivaji's deathbed statements.

During his rule, Shivaji also started projects that sought to replace Persian legalese with Indian ones. In 1677, he sponsored a Sanskrit text known as the *Rājavyavahārakośa* (Lexicon of Royal Institutes), which provided Sanskrit synonyms for over 1,500 Persian administrative terms. Marathi, in either the Devanāgarī or Mōdī scripts, became both the language of the court as well as of the popular literature of the time. This allowed for ordinary people to both understand the workings of the administration without the need to learn Persian, and also helped revive an otherwise marginalised Indian language.

Shivaji's rule was an affront to the orthodoxy prevalent in the age, and provided dignity and opportunity to all those who came under his chattra (protection) regardless of their caste or creed.

The liberator

Under the rule of Aurangazeb, slavery had been a persistent feature; the *Al-Fatawa al-Alamkiriyyah*, published in 1672, describes the lawful right of Muslims to purchase, own, and have sexual relations with slaves. The text also made inadmissible all testimony of slaves in a court of law. This did not go unchallenged by Shivaji. During his rule of the Coromandel coast, Shivaji signed a charter to the Dutch banning, freeing, and stopping the import and export of all slaves under his rule. This instruction is with respect to the Dutch establishing trading posts at Porto Novo (Parangipettai, Cuddalore district) and Tevenapatam in present-day Tamil Nadu, and Puducherry. "Under the Moorish reign it had remained lawful for you to buy and transport from here male and female slaves without hindrance from anyone," the charter, signed in August 1677, recounts. "But now, so long as I am master of these lands, you should not buy or transport any men or women as slaves," the charter declares. Reminding slave traders that the practice would not be allowed to continue unimpeded and without consequence, the charter states, "And if you happen to do so and convey them to neighbouring lands, my people will set themselves against it, hinder it in all manner of ways, and will not allow of their [the slaves] being brought back to your factory; this must you observe and fulfil in the prescribed manner."

Shivaji's attitudes towards the feudal structure of his age were just as revolutionary as his attitude towards slavery. Under his rule, taxation and other sources of state revenue were reformed to be more generous to the people at large.

Shivaji abolished the 'vatandari' system, a form of landlordism prevalent in the Deccan during his time, and implemented the Ryotwari system instead. Ryot referred to the cultivator of the land who would be given a greater measure of control over the means of production.



In describing the revenue system of Svarājya, Sabhasad Bakhar, the first biography written on Shivaji in 1697, clearly says, “The ryots (peasants or tillers of land) in the country were freed from the yoke of Jamindars. Even if they intended to oppress by exercising their supremacy they could not do so.”

The Adnyapatra, a royal edict drafted by Shivaji’s Finance Minister Ramchandra Pant Amatya, is blunter when it says, “The Vatandars, etc., in a state are really its enemies. They have not got the mentality to remain content with the rights over lands (Vatan) which they already possess. They have a strong desire to go on acquiring newer and newer (estates), to wax strong, to use that strength in dispossessing others and in carrying on depredations.”

It was perhaps these dynamic socio-economic changes that earned Shivaji the moniker Shakakarta, or epoch maker, during his rule.

THE SVARĀJYA OF CHHATRAPATI SHIVAJI: THE WISE KING’S JUST RULE

Shivaji was religious, and from all accounts seems to have been proud of being a Hindu. He awarded large gifts to temples as well as priests. However, his pride in his religion does not seem have been grounded in hatred for other religions. Even in those medieval times, his faith seems pragmatic, if not outrightly rational.

Khafi Khan’s Muntakhabu-l Lubab notes, “Shivaji had made a strict rule that wherever his soldiers went they were not to harm mosques, the Quran or women. If he found a volume of the Quran, he would show respect to it and hand it over to a Muslim servant. If any helpless Hindu or Muslim were found, Shivaji would personally look after them until their relatives came to take them.” Likewise, Shivaji’s chief justice, Raghunath Pandit Rao, in a letter of November 2, 1669, writes, “Shrimant Maharaj has ordained that everybody is free to follow his religion and nobody is allowed to disturb it.”

In contrast, Aurangzeb had imposed the ‘jizya’, a mandatory tax intended for non-Muslims living under Islamic rule, in 1679. As the contemporaneous fatwa declares, this amount was to be paid “regardless of whether they agree or disagree, consent to it or not”.

Shivaji’s response to this was bold and clear. Contending that Hinduism and Islam, while different from each other, are equal creations of God, he wrote in a letter to Aurangzeb: “They are different hues used by the true Divine Painter for blending the colours and filling in the outlines of His [God’s] picture of the entire human race.”

“If it be a mosque, the call to prayer is chanted in remembrance of Him. If it be a temple, the bell is rung in yearning for Him only. To show bigotry for any man’s own creed and practices is equivalent to altering the words of the Holy Book. To draw new lines on a picture is equivalent to finding fault with the painter,” he contended.

A ruler’s responsibility

Reminding Aurangzeb of a ruler’s duty towards his subjects, Shivaji writes, “Your peasants are downtrodden; the yield of every village has declined, in the place of a lakh only a thousand, and in the place of a thousand only ten are collected.” He reminds the Mughal autocrat that under his rule “the army is in a ferment, the merchants complain, the Muslims cry, the Hindus are grilled, most men lack bread at night and in the day inflame their own cheeks by slapping them in anguish.”



Not one to back off from a righteous battle even when beseeching for fair play, Shivaji reminded Aurangzeb that many of the forts and provinces “have gone out of your possession, and the rest will soon do so too, because there will be no slackness on my part in ruining and devastating them”.

In his *Travels in the Mogul Empire: AD 1656-1668*, French traveller Francois Bernier testifies to Shivaji's conciliatory attitude towards Catholic clergymen he encountered. “I forgot to mention that during pillage of Sourate [Surat], the Holy Seva-ji, respected the habitation of the reverend father Ambrose, the Capuchin missionary. ‘The Frankish Padres are good men’, he said, ‘and shall not be attacked’. He spared also the house of a deceased Delale or Gentile broker, of the Dutch, because he was assured that he had been very charitable while alive. The incident is corroborated by De Thévenot in his *Voyages*. “All the rest of the town [Surat] was plundered except the monastery of the Capuchins.”

Shivaji's liberal and progressive attitude with regards to the various religions under his rule, particularly when contrasted with Aurangzeb's attitudes in this regard, is something that contemporary India can learn from.

The once and future king

Shivaji died on April 3, 1680. That, however, did not stop the project he had set afoot. Despite many setbacks, the discipline and zeal of those who followed managed to rout out the numerically powerful yet otherwise hollow Mughal empire. In less than a century after his death, the empire that Shivaji had brought into existence had taken over much of the erstwhile Mughal territory.

Over two decades after Shivaji had shuffled off his mortal coil, an aged Aurangzeb wrote in a deathbed letter: “The escape of the wretch Shiva took place through [my] carelessness, and I have had to labour hard [against the Marathas] to the end of my life, [as the result of it].”

Shivaji continues to fascinate the politics both of Maharashtra and India at large. During the struggle for independence, revolutionaries from across political stripes drew inspiration from him.

Mahatma Phule's ballad *Chhatrapati Shivaji Raje Bhosale Yancha Powada* reflects on Shivaji's opposition both to the orthodoxy of savarna Hindus in his age as well as Islamic fundamentalism.

The term ‘Svarāja’ was employed by the likes of Dadabhai Naoroji, Mahatma Gandhi et al to champion their causes. “Svarājya is my birth right,” was a popular maxim by Bal Gangadhar Tilak. The anti-caste agitation of the Mahad Satyagraha, which took place in Shivaji's erstwhile capital Raigad, witnessed protestors chanting ‘Chhatrapati Shivaji Maharaj ki Jai!’. Dr. Ambedkar had extensively covered the coronation controversy in his *Who are the Shudras?* explaining in detail how the contrivance of the caste Hindus almost stopped Shivaji's project from becoming a reality. The subject was recounted in Dravida Munnetra Kazhagam founder and former Tamil Nadu Chief Minister C.N. Annadurai's play *Shivaji Kanda Hindu Rajyam*, which got its lead actor the nom de guerre Shivaji Ganesan. Subramanya Bharati extolled Shivaji in his 190-line poem of the same name exhorting Indians to rise against British tyranny just as Shivaji had risen against the one in his age.

In his statement in the Sessions Court, on June 6, 1929, Bhagat Singh said that a new movement which “has arisen in the country, and of that dawn we have given a warning, is inspired by the



ideal which guided Guru Gobind Singh and Shivaji, Kamal Pasha and Riza Khan, Washington and Garibaldi, Lafayette and Lenin.”

From vituperative declamations by his opponents while he lived to overtly hagiographical accounts by his followers, the memory of the man who once wrought havoc on the Mughal empire is now a plaything for politicians hoping to garner votes by extolling his bravery, his intelligence, and his drive. A whole cottage industry of sorts has sprung up to make budget movies and pulpy novels on Shivaji; sometimes verging on the ludicrous, with the gods themselves appearing as characters therein. Many a contradiction is evidenced as self-declared democrats laud a king who ruled in feudal times.

But few visit upon what made Chhatrapati Shivaji Maharaj such a magnetic figure both while he lived and in centuries hence.

It was not through divine providence but through human will that he fought against a quantitatively larger enemy and wrought a just rule in place of an unjust one, albeit under the auspices of monarchy. It was not merely that he fought well but that he fought for what was right; to empower those who were destitute and to liberate those who were enslaved.

SHORT NEWS

PM MODI VISITS SRI LANKA

— Prime Minister Narendra Modi was awarded the ‘Sri Lanka Mitra Vibhushana’, the country’s highest civilian honour, by Sri Lankan President Anura Kumar Dissanayake on April 5. This is the Prime Minister’s 22nd international honour.

— The Sri Lanka Mitra Vibhushana honours Heads of State and government heads with whom Sri Lanka has cordial relations. It appreciates “their friendship towards and solidarity with the people of Sri Lanka”.

— Sri Lanka President Anura Kumara Dissanayake said, “I reaffirmed Sri Lanka’s stand that it will not permit its territory to be used in any manner inimical to the security of India as well as towards regional stability.”

READINESS FOR FRONTIER TECHNOLOGIES INDEX

— The 2025 Technology and Innovation Report is issued by UN Trade and Development (UNCTAD).

— According to the report, India ranked 36th in 2024 on the ‘Readiness for Frontier Technologies’ index, improving its position from 48th in 2022.

— The index combines indicators for ICT deployment, skills, research and development (R&D) activity, industrial capacity, and access to finance.

— The report noted that Brazil, China, India, and the Philippines are developing countries outperforming in technology readiness.

— The only developing countries with significant investments were China in second position, with USD 7.8 billion, and India in tenth position, with USD 1.4 billion.



— According to the United Nations Climate Change website, “Frontier technology can be defined as technology that will reshape industry and communications and provide urgently needed solutions to global challenges like climate change and have the potential to displace existing processes.”

— It encompasses a range of technologies, including blockchain, Artificial Intelligence (AI), the Internet of Things (IoT), and Virtual Reality (VR).

AMALSAD CHIKO

— The Amalsad Chikoo, which takes its name from a village in Gujarat’s Navsari district, was awarded the Geographical Indication (GI) tag in recognition of its “unique characteristics and deep rooted connection to the region

— The Amalsad Chikoo is the third fruit in the state after the Gir Kesar Mango and Kutchhi Kharek (date) to get the GI tag.

— Gujarat alone contributes 98 per cent of chikoo exports from India, and Navsari district is the largest producer of chikoos. The leading importers of Indian chikoo include the UAE, the UK and Bahrain.

— A Geographical Indication (GI) is a tag used on products that originate from a specific geographical area and have qualities or a reputation that are characteristic of that region. This tag signifies the product’s unique identity and authenticity. It helps to raise awareness and build trust among consumers.

NEW CLINICAL TRIAL OFFERS HOPE FOR PAD PATIENTS WITH DIABETES

Semaglutide, the diabetes and weight loss drug that’s commonly known as Ozempic, can help patients of peripheral artery disease walk a longer distance. This is usually common among diabetics. Peripheral Artery Disease (PAD) is a condition in which narrowed arteries reduce blood flow to the arms or legs. It is one of the most common and serious complications of diabetes and is a leading cause of disability and amputation. PAD impacts more than 230 million people globally, and there are currently no available medical treatments that can prevent or delay complications in diabetics.

SARHUL FESTIVAL

— Sarhul festival is being celebrated by adivasis in Jharkhand and the larger Chhotanagpur region.

— Sarhul, literally “worship of the Sal tree”, is among the most revered Adivasi festivals. It is rooted in nature worship and celebrates the symbolic union of the Sun and the Earth.

— The main rituals happen on day two of the three-day festival at Sarna Sthals. These communally protected “sacred groves” can be found near villages across Chhotanagpur, which includes Jharkhand, parts of Chhattisgarh, Odisha, and Bihar.

— Sarhul has been celebrated by tribes such as the Oraon, Munda, Santal, Khadia, and Ho, with unique names for the festival and particular ways of celebration.



— Mythologically, sacred groves have been regarded as a place of retreat and a source of Inspiration where sages would be enlightened.

STAR-RATING SYSTEM OF THE ENVIRONMENT MINISTRY

— The Union environment ministry has “given up” on a star-rating system it had introduced in January 2022.

— The star rating system evaluates expert environmental bodies in states on their efficiency and promptness in granting prior environmental clearances to industry and infrastructure projects.

— According to the ministry, the star-rating system was to be aligned with the Parivesh 1.0 portal, which is a single-window hub for obtaining, monitoring and streamlining various clearance processes.

LONG-SNOURED VINE SNAKE

— A rare long-snouted vine snake (*Ahaetulla longirostris*) has been rediscovered in the Dudhwa Tiger Reserve here, marking its first documented sighting in the state and only the second recorded instance in India, forest officials said.

— *Ahaetulla longirostris* had only been recorded once in Bihar and Odisha last year. The species is commonly found in Southeast Asia, officials said.

POONAM GUPTA

— Poonam Gupta has been appointed as Reserve Bank of India (RBI) Deputy Governor for a period of three years. She is currently the director general of the economic policy think tank National Council of Applied Economic Research.

— With Gupta’s appointment, the RBI now has four deputy governors, including M Rajeshwar Rao, T Rabi Sankar and Swaminathan J.

Heard Island and McDonald Islands

— Donald Trump has imposed a 10% tariff on imports from the Heard and McDonald Islands. Three other Australian external territories, Cocos (Keeling) Islands, Christmas Island, and Norfolk Island are also in the list of countries on which Trump imposed tariffs.

— The population on Heard and McDonald Islands are zero and they are home to only penguins, seals, and seabirds.

SET UP BRIDGE RESEARCH CENTRES, WINDOW FOR CLEARANCE OF ICONIC STRUCTURES: RLY PANEL

The urgent need for an advanced centre on bridge research, a special window for clearance of iconic structures, and preservation of all records of building such bridges — these are some of the suggestions made by a special committee of Railways, which was formed to look into the “lapses” flagged by the Commission of Railway Safety (CRS) regarding the construction of iconic Pamban

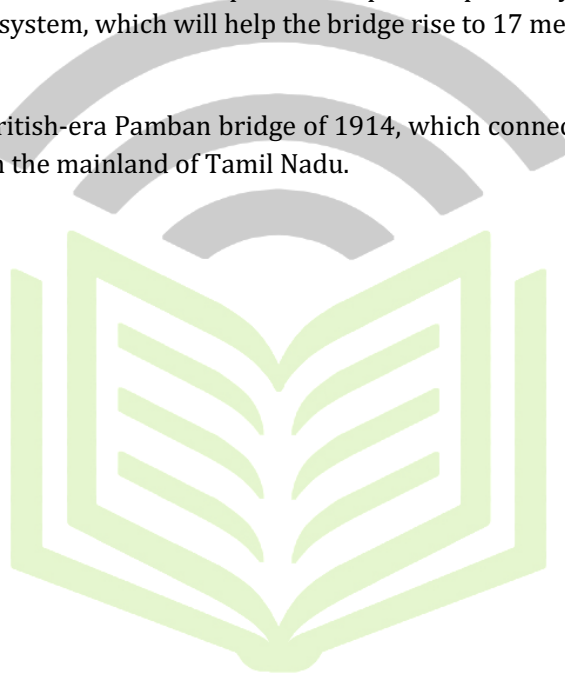
4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



bridge in Tamil Nadu in November, 2024. The bridge connects Rameswaram on Pamban island with Mandapam station in mainland India. Prime Minister Narendra Modi is set to inaugurate Pamban bridge on the occasion of Ram Navami (April 6). Sources said that Modi will also inaugurate the 15th train on the Pamban route.

PAMBAN BRIDGE

- Prime Minister Narendra Modi inaugurated the new Pamban Bridge, India's first vertical lift railway sea bridge, in Tamil Nadu.
- Built with stainless steel reinforcements and Polysiloxane Paint, the bridge is designed to withstand harsh marine conditions. Its expected lifespan is up to 58 years. It has an automated electro-mechanical lift system, which will help the bridge rise to 17 meters, allowing smooth ship passage.
- It will replace the British-era Pamban bridge of 1914, which connects Rameshwaram, located on Pamban Island, with the mainland of Tamil Nadu.



DreamIAS



BUSINESS AND ECONOMY

AMERICAN RETREAT

What United States President Donald Trump did to global trade on April 2 in Washington closely mirrors a disruptive precedent set by President Richard Nixon in 1971. On August 15, Nixon stunned the world by announcing the “temporary suspension” of the U.S. dollar’s convertibility into gold. This effectively dismantled the Bretton Woods framework that was worked out quite unilaterally in 1944, which led to the setting up of the World Bank and the International Monetary Fund, and provided an anchor for global currency stability — an avenue to address balance of payments crises, and to finance the reconstruction efforts of former colonial powers. Though announced as a temporary move, it became permanent and upended the global financial system, as nations reckoned with a new era of financial market volatility. Similarly, Mr. Trump’s reciprocal tariffs have instantly ushered in global economic uncertainty, the full extent of which will be felt in the months and the years ahead. By unilaterally altering trade relationships, he has disrupted the very system of interconnected global commerce that the U.S. helped build in the post-war era.

The international reaction has been one of shock and concern. The U.S. is the world’s largest importer of manufactured goods, accounting for about 13% of global imports in 2023. The new tariffs will reroute supply chains and force countries to diversify their export strategies. In the immediate term, the cost of imports will rise for American consumers, leading to reduced demand. The ripple effects will be global, causing production slowdowns as exporters scramble to find alternative markets. Economies such as China, Japan, India and the European Union are likely to experience a temporary decline in economic growth. Yet, unlike in the Nixon era, the U.S. today holds a diminished position in global trade. In the 1970s, it was the world’s dominant trader, with an estimated 13%-15% share of global trade. China’s presence was negligible at the time, accounting for less than 1%. Today, China commands the largest share of global trade, at around 14%, while the U.S. has slipped to roughly 10%. The international community also accepted the dollar’s supremacy in the 1970s because of America’s overwhelming economic and technological dominance. Now, although the dollar remains the preferred reserve currency, the centre of economic gravity has shifted. The world’s leading exporters of advanced technologies are now China and other Asian powers, including South Korea, Japan, and Taiwan. Thus, Mr. Trump’s turn to protectionism — an attempt to regain American economic dominance — may well hasten the country’s retreat from its hegemonic position.

HOW TARIFFS WILL HIT, WHOM

US President Donald Trump celebrated America’s “Liberation Day” on April 2 by announcing “reciprocal tariffs” against all major trading partners.

- The US runs a trade deficit of around \$1.2 trillion. Trade deficit is the difference between the value of goods the US exports and the value of goods the US imports. A trade deficit (shown with a minus sign) of more than a trillion dollars means the US imports a trillion dollars worth more of goods than it exports.
- There were two sets of tariffs announced. One, a base tariff of 10% against all countries. This in itself is a sharp increase from the pre-Trump 2.0 tariff rate of around 2.5%. This base rate of tariffs will go into effect on April 5.



- Then there are country-specific tariffs that were arrived at by estimating how much each of these countries charges on US goods and then halving it to reach “USA discounted reciprocal tariffs”. President Trump said that Americans are “kind” people and that is why he is only levying half of the tariffs that he believes other countries are imposing on the US. These country specific tariffs will be enforced from April 9 onwards.

- While speaking to the media, US Treasury Secretary Scott Bessent said that if the tariffed countries “do not panic” then these tariffs will be the cap of how high tariffs can go. In other words, if countries react and retaliate, then the US can further increase the tariffs since it is in any case going by a reciprocal logic.

- Bessent’s comment can also mean that the US is now open to negotiations, and that if the leaders of these countries rush to the US, hat in hand, promising to bring down their own tariffs, then the US may bring down its newly announced tariffs. For instance, in India’s case, to get a reprieve on tariffs, India’s leadership may have to reform its protectionist policies out of compulsion.

Do You Know:

- President Trump has unleashed a wave of protectionism that is worse than the one the US witnessed during the Great Depression of the 1930s.
- The so-called Smoot-Hawley Act had then raised import tariffs in the US in a bid to save the domestic industry and farmers. However, the move worsened and deepened the economic depression.
- An economic depression is worse than a recession both in terms of its severity — the contraction of economic output and rise in unemployment — as well as its scale — often lasting years instead of months.

Here are the likely consequences of Trump’s tariffs for the US and global economy:

1. Slower growth in the US—Even if no country retaliates, these tariffs will throw heaps of sand in the wheels of global trade, and slow down overall economic growth everywhere. In the next few days, assuming no retaliation happens, stock markets will likely fall to reflect the lower profit outlook of companies and the lower growth prospects in the broader economy. If retaliations take place, then the growth outlook becomes even worse. Expect rating agencies to raise the probability of recession in the US.
2. Higher inflation in the US—There is only one way in which US citizens can escape inflation: if the value of the dollar relative to other currencies goes up by the degree to which the tariffs have been imposed. For instance, relative to India, if the dollar strengthens by 26% in a short period of time — that is, the rupee falls from 85 to a dollar to 108 to a dollar — then the US consumer will not feel the pinch of tariffs.
3. Stagflation and its political fallout—If growth falters and inflation spikes, the US could face the worst of both worlds in the form of “stagflation” — a scenario where growth stagnates and inflation continues to remain high.
4. High inflation, slower growth, elsewhere— The rest of the world too will slow down and face higher prices, depending on countries’ dependence on the US economy and their ability to find newer trading partners and supply chains.



HOW SMOOT-HAWLEY TARIFF ACT DEEPENED THE GREAT DEPRESSION

US President Donald Trump's tariffs announcements have prompted a comparison with the Great Depression-era Smoot-Hawley Tariff Act, which ended up worsening the crisis it intended to resolve.

- In 1930, Congress passed a bill sponsored by Senator Reed Smoot of Utah and Rep. Willis Hawley of Oregon to raise import duties on 20,000 goods to protect American farmers and businesses. President Herbert Hoover signed this into law, ignoring a petition signed by over 1,000 economists asking him to veto it.
- Hoover, a Republican, had emerged victorious in 1928, having campaigned on agricultural protectionism. The tariff act was originally mooted to protect the American agricultural lobby, which thrived during World War I on the back of increased foreign demand, but now found itself battling debts and low commodity prices amid a glut of produce. The stock market crash of 1929 served as an impetus for a wider range of tariffs. The Act placed aggressive tariffs on roughly 25% of all imported goods to the US.

Do You Know:

- The Act spurred a trade war. Major trading partners, including Canada and Europe, retaliated with boycotts, quotas, and their own tariffs on American goods. American exports to retaliating nations fell by 28-32%. The Act jeopardised recovery efforts of countries trying to emerge from the impacts of WW I and the Great Depression.
- According to the Office of the US Historian, US imports from Europe declined from a 1929 high of \$1.3 billion to just \$390 million in 1932, while US exports to Europe fell from \$2,341 million in 1929 to \$784 million in 1932. Overall, world trade declined by 66% between 1929 and 1934.
- In 1934, President Franklin D Roosevelt signed the Reciprocal Trade Agreements Act, which transferred the authority for tariff policy from Congress to the White House. This allowed the President to pursue bilateral trade agreements and quickly repeal the tariffs.
- Economist Douglas Irwin, author of *Clashing over Commerce: A History of US Trade Policy* (2017), told Bloomberg that Trump's tariffs would be "much bigger than Smoot-Hawley" due to the scale of today's trade, with US imports amounting to 14% of its GDP, three times the share in 1930.

COUNTING POTENTIAL TOLL OF TRUMP'S TARIFFS ON ASIA

The trade war that U.S. President Donald Trump has escalated in his second term is a challenge for all Asian economies, large and small, in an era when the most populous region of the world is expected to drive global economic growth.

Export manufacturing and free trade helped transform China and other Asian countries into economic powerhouses over the past decades. Mr. Trump's barrages of tariffs, aimed at compelling companies to keep or set up their factories in the United States, are rupturing trade agreements often made at great political cost to trading partners.

The White House says the criteria for raising tariffs will include not just U.S. trade deficits but also various taxes, exchange rates, government subsidies and various non-tariff trade barriers.



Higher costs already have led many manufacturers to shift away from China to other economies in South and Southeast Asia, Africa and Latin America. But for now the prevailing uncertainty over what Mr. Trump will do with what he calls “reciprocal” tariffs may lead most to sit tight and see what comes next.

Here’s a look at how higher U.S. tariffs might affect some major Asian economies.

China: Despite some decrease in trade since Mr. Trump launched a trade war with China during his first term in office, the U.S. trade deficit has continued to climb, hitting \$295.4 billion last year.

China, the world’s No. 2 economy, has leaned heavily on exports to make up for weak demand at home. The ruling Communist Party has made exports of autos, especially electric vehicles, and batteries a priority, but 27.5% tariffs on auto exports and 102.5% duties on EVs have in effect closed the U.S. market for its automakers. China is the second largest supplier of auto parts to the U.S. behind Mexico.

During Mr. Trump’s first term, higher tariffs led leader Xi Jinping to champion a shift to high-tech production. That will likely continue as U.S. pressure intensifies, causing job losses due to changes in manufacturing rather than direct damage from the tariffs themselves, Raymond Yeung of ANZ Research said in a report.

Japan: Prime Minister Shigeru Ishiba said Tuesday that his government was making last ditch efforts to get the United States to exclude his country from auto tariffs. The U.S. absorbs about one-fifth of Japan’s exports, or about 1.5 million passenger cars a year.

Even though major Japanese automakers like Toyota Motor Corp, Honda Motor Co, and Nissan Motor Co have factories in the U.S. and increasingly, in Mexico, it’s an important industry back home. Nearly 5.6 million people are employed in auto-related jobs, according to the Japan Automobile Manufacturing Association.

Taiwan: More than 60% of the self-governed island’s economy comes from exports, and it ran a trade surplus with the U.S. of nearly \$74 billion last year. Computer chips are one of Taiwan’s biggest exports to the United States, along with computers and other office machines and consumer products.

Taiwan Semiconductor Manufacturing Corp is expanding its U.S. factories in Arizona, enticed by U.S. incentives and its own strategic needs. In early March, its CEO C C Wei pledged \$100 billion in new U.S. investments.

AMONG TARIFFED: ISLANDS WERE ONLY PENGUINS, US MILITARY LIVE

Donald Trump has imposed a 10% tariff on imports from the Heard and McDonald Islands. Exactly what these imports might be is anyone’s guess.

- Trump has also imposed a 10% tariff on the British Indian Ocean Territory (BIOT), which comprises the Chagos archipelago, a group of low-lying islands in the Indian Ocean, between the Maldives and Mauritius.
- The largest Chagossian island, Diego Garcia, is home to a strategic joint US-UK military base. Home to approximately 4,000 American and British military personnel, it is the only currently inhabited island in the BIOT. Chagos does not have any civilian inhabitants.

**Do You Know:**

- The volcanic islands are one of seven external territories belonging to Australia, located roughly 4,100 km to the south-west of Perth, and 1,600 km to the north of the Antarctic coast. Covered in glaciers, and barren for the most part, the archipelago is among the most remote places on the planet, home to only penguins, seals, and seabirds
- Donald Trump has imposed a 10% tariff on imports from the Heard and McDonald Islands.
- The Heard and McDonald Islands are not the only baffling entry on Trump's list of "countries" on which the United States has imposed reciprocal tariffs. In the list are three other Australian external territories: Cocos (Keeling) Islands, Christmas Island, and Norfolk Island.
- Of note here is the case of Norfolk Island, which has been slapped with a 29% tariff — 19 percentage points higher than the rest of Australia. Located roughly 1,600 km to the north-east of Sydney, the island has around 2,000 permanent inhabitants.

ECONOMIC RELATIONS WITH CHINA COULD OPEN UP SPACE FOR MANOEUVRE

Over the past few years, FDI flows to developing economies have been slowing down. In 2023, they fell by 6 per cent, and in 2024 by 2 per cent as per the Global Investment Trends Monitor by UNCTAD. In India, FDI flows had hit a record high of \$84.8 billion in 2021-22. Capital flows slowed thereafter, touching \$71.2 billion in 2023-24 and in the first nine months of this year (April-December), stood at \$62.4 billion. Some countries have, in the recent past, been more successful than India in emerging as an attractive investment destination, especially for global firms looking to diversify away from China as part of their China Plus One strategy. A Niti Aayog report had also noted that while "India has seen limited success so far in capturing the China Plus One strategy... Vietnam, Thailand, Cambodia, and Malaysia have become bigger beneficiaries of the strategy."

In an attempt to attract foreign investments, the government is now reportedly looking to either "dilute or neutralise some of the restrictions" it had imposed on trade and investments from China following clashes between Chinese and Indian soldiers in Galwan in 2020. A report in this paper suggests a "gradual opening up to China". This could involve facilitating investments by Chinese firms with domestic partners. A recent example of how this could play out may be instructive — the JSW Group has acquired a stake in MG Motors from the Chinese firm SAIC Motor. Indian industry is also said to be pushing for the easing of some restrictions that had been imposed, especially on visas for Chinese workers and technicians, along with the lifting of certain tariff and non-tariff barriers. This will be beneficial as Chinese personnel may be helpful in setting up facilities and in training staff.

That the government is considering all its options at a time of global uncertainty is welcome. A capital-scarce country needs to actively facilitate foreign investments, especially in the manufacturing sector. It must also actively ease tariff and non-tariff barriers to ensure deeper integration with global supply chains. The Economic Survey 2023-24 had also made this case, arguing that "focusing on FDI from China seems more promising for boosting India's exports to the US, similar to how East Asian economies did in the past". Moreover, with the Trump administration waging a tariff war — reciprocal tariffs are set to be operational from April 2 — this may be an opportune moment to ease restrictions. Unlike the West, which has now all but turned its back on globalisation, India stands to benefit from welcoming both trade and



investment flows. The high GDP growth that the country witnessed during the mid 2000s was facilitated by higher exports and FDI. The government would do well to move forward on this.

BATTERY BOOM DRIVES BANGLADESH LEAD POISONING EPIDEMIC

Lead poisoning is not a new phenomenon in Bangladesh, and the causes are manifold.

They include the heavy metal's widespread and continued use in paint, in defiance of a government ban, and its use as an adulterant in turmeric spice powder to improve its colour and perceived quality.

A great many cases are blamed on informal battery recycling factories that have proliferated around the country in response to rising demand.

Children exposed to dangerous levels of lead risk decreased intelligence and cognitive performance, anaemia, stunted growth and lifelong neurological disorders.

Informal battery recycling is a booming business in Bangladesh.

It is driven largely by the mass electrification of rickshaws—a formerly pedal-powered means of conveyance popular in both big cities and rural towns.

More than four million rickshaws are found on Bangladeshi roads and the country's authorities estimate the market for fitting them all with electric motors and batteries at around \$870 million.

INDIA, CHILE AGREES TO BEGIN TALKS FOR ECONOMIC PARTNERSHIP PACT

As India and Chile agreed to start negotiations for a comprehensive economic partnership agreement after a bilateral meeting with the visiting President of Chile Gabriel Boric Font, Prime Minister Narendra Modi described Chile as the “gateway to Antarctica”.

- “Today we have instructed our teams to begin discussions on a mutually beneficial comprehensive economic partnership agreement,” Modi said, adding that the India-Chile partnership will be strengthened in the field of critical minerals and work will be done to establish resilient supply and value chains. In the field of agriculture, cooperation will be done to ensure food security by combining each other's capabilities, he said.

- Describing Chile as an important partner of India in Latin America, Modi said: “India is ready to share its positive experience with Chile in Digital Public Infrastructure, Renewable Energy, Railways, Space and other areas.”

- PM Modi said they also signed a letter of Intent as Chile is seen as the “Gateway to Antarctica”. “We welcome the agreement reached today on the Letter of Intent between the two sides to enhance cooperation in this important area,” he said. Chile is considered a gateway to Antarctica primarily due to its geographic proximity and the presence of key cities like Punta Arenas, which serve as major departure points for expeditions and scientific research trips to the continent.

Do You Know:

- Home to the world's largest reserves of lithium and copper — key inputs for electric vehicle (EV) batteries — Chile plays a pivotal role in the global critical minerals supply chain.



- Chile is India's fifth largest trading partner in South America, with bilateral trade touching \$3.8 billion in 2024 from \$1.5 billion in 2020, according to a note by the Ministry of External Affairs (MEA). In 2024, exports from India totalled \$1.2 billion and imports from Chile amounted to \$2.6 billion.
- More than half of Chile's exports to India consist of copper ores and concentrates, unrefined copper, and copper scrap, followed by molybdenum ores and concentrates. Since lithium-ion battery manufacturing in India is still in its early stages, it does not import any lithium from Chile.
- "India's exports to Chile had been growing steadily since 2009, with the exception of a slight decrease in 2014, when a new carbon tax on diesel vehicles in Chile adversely affected motor vehicle exports from India, but the sector saw a big recovery later on," the MEA note said.
- "India's trade with Chile registered a negative growth over a couple of years due to the global slowdown and the domestic social crisis and labour unrest in Chile. The trade has since picked up and shown a robust recovery," it added.
- India and Chile's announcement of a potential CEPA, set to facilitate freer trade in critical minerals, follows their 2016 expansion of the India-Chile Preferential Trade Agreement (PTA) from 474 to 2,829 tariff lines.

US FED'S DELICATE DANCE, RBI'S TASK AHEAD

The US Federal Reserve chose to keep interest rates unchanged Wednesday, noting that "uncertainty around the economic outlook has increased". The target range for the federal funds rate remains at 4.25 to 4.5 per cent. While the central bank signalled the possibility of two interest rate cuts during the course of this year, Chairman Jerome Powell struck a note of caution, saying, "We're not going to be in any hurry to move." He also said that the "current policy stance is well-positioned to deal with the risks and uncertainties we face... (and that) the right thing to do is to wait here for greater clarity about what the economy is doing".

The projections released by the Fed, which point towards slower economic growth, higher inflation and unemployment, underline the challenging environment in which the central bank is operating. In December, (median) projections of GDP growth in 2025 stood at 2.1 per cent. In the latest meeting, these were revised down to 1.7 per cent. Alongside, inflation is now expected to pick up, touching 2.7 per cent, up from the earlier assessment of 2.5 per cent. And the unemployment rate is expected to inch upwards to 4.4 per cent, from 4.3 per cent earlier. In recent weeks, fears have been voiced of a deeper economic slowdown. Sentiment has weakened and there is considerable uncertainty over how US President Donald Trump's policies, especially on tariffs, deficits and immigration, will play out, and their impact on the broader economy. The issue of reciprocal tariffs, to be effective from April 2, is weighing heavy. This uncertainty will impact household and firm spending. In February, The Conference Board's consumer confidence index fell to 98.3, while the uncertainty index of the St Louis Fed has been edging upwards. Powell echoed the sentiment, saying that there is "just really high uncertainty. What would you write down?" (when making projections). "I mean it's just... really hard to know how this is going to work out." The Atlanta Fed's GDPNow model has pegged US GDP growth at -1.8 per cent in the first quarter of 2025 (seasonally adjusted annual rate as on March 18).

Trump was quick to criticise the Fed's policy stance. He posted on a social media platform Wednesday: "The Fed would be MUCH better off CUTTING RATES as US tariffs start to transition



(ease!) their way into the economy. Do the right thing.” While Powell has sought to assert the Fed’s independence, the pressure from Trump is unlikely to abate. In an increasingly uncertain global environment, there may well be external considerations to factor in, but monetary policy in India should be driven by the domestic growth-inflation dynamics.

FOREIGN INVESTORS PUMP \$6 BN INTO FULLY ACCESSIBLE ROUTE BONDS SINCE JANUARY

Despite their heavy selling in the Indian stock market, foreign portfolio investors (FPIs) have made a significant investment in Indian bonds, injecting over Rs 51,730 crore (approximately \$6 billion) through the Fully Accessible Route (FAR) since January this year.

- Of this, as much as Rs 29,044 crore came from FPIs in the month of March, according to data from the National Securities Depository Ltd (NSDL). The bond investment was also one of the reasons for strengthening of the rupee in the last a few days.
- FPIs’ bond investment has happened at a time when their selling in stock declined in March: after pulling out Rs 1.12 lakh crore in January and February, FPI outflows from stocks declined to just Rs 3,973 crore in March.
- In June 2024, JP Morgan added 29 Indian government securities under the FAR programme to its widely followed Emerging Market Bond Index (EMBI). This development was expected to enhance foreign investor participation and attract substantial inflows into the Indian bond market.
- Global Index provider FTSE Russell announced that include FAR-eligible Indian government bonds in its FTSE Emerging Markets Government Bond Index (EMGBI) from September 2025.

Do You Know:

- According to the Investopedia, Foreign portfolio investment (FPI) consists of securities and other financial assets held by investors in another country. It does not provide the investor with direct ownership of a company’s assets and is relatively liquid depending on the volatility of the market. Along with foreign direct investment (FDI), FPI is one of the common ways to invest in an overseas economy. FDI and FPI are both important sources of funding for most economies.
- FAR bonds are government securities designated under the fully accessible route, which allows foreign investors unrestricted access to invest in these bonds without any investment caps. The RBI introduced this route in March 2020 to increase foreign participation in India’s bond market.
- FAR was created to allow non-residents unrestricted access to specific G-secs, which were earlier subject to FPI limits. While FPI bond investment was expected to rise sharply as global firms added Indian bonds to their indices, the government and the Reserve Bank of India (RBI) turned cautious and excluded long-term government bonds with 14-year and 30-year tenors from FAR. The decision was apparently taken amid speculation about more unrestricted inflows by FPIs, which can trigger uncertainties and risks in the future.

BENCHMARK 10-YEAR BOND YIELDS DECLINE SHARPLY AHEAD OF RBI’S POLICY REVIEW

Ahead of the Reserve Bank of India’s monetary policy review on April 9 and US President Donald Trump’s new tariff policy, India’s benchmark 10-year bond yields on Wednesday fell sharply by



nine basis points (bps) to 6.49 per cent on a year-on-year after the central bank announced it would buy Rs 80,000 crore worth of bonds in April.

- When bond yield — the return an investor can expect to earn until maturity — falls, bond prices go up. While a decline in bond yields generally suggests that markets are expecting lower interest rates in the future, it doesn't necessarily guarantee or lead to a fall in interest rates in the near future.
- Closely following the trajectory of US bond yields, Indian bond yields have fallen 24 bps since March, after the RBI cut the repo rate by 25 bps in the February policy review. For the financial year 2024-25, the 10-year yield has plunged 62 bps so far, its biggest drop in five years.
- The 10-year US Treasury notes' yield decreased to 4.15 per cent on April 1 and to 4.12 per cent on April 2 morning, marking the lowest level since December 6, 2024. This decline is attributed to investors seeking safer assets ahead of Trump's anticipated tariff announcement on Wednesday.
- The comfortable liquidity situation as seen by a slight deficit last week has ensured that India's bond yields have come down, said an analyst. The cut-offs for all the three Treasury bills have come down to almost the same at 6.30 per cent. The 10-year bond yield is likely to go down further depending on the state of liquidity.
- The RBI's monetary policy is coming up. There is speculation of various options being implemented this time: a cut in Cash Reserve Ratio (CRR), change in stance to accommodative, and a 25-50 bps cut in repo rate.

Do You Know:

- According to the Investopedia, a bond yield is the return an investor realizes on a bond. Put simply, a bond yield is the return on the capital invested by an investor. Bond yields are different from bond prices—both of which share an inverse relationship. The yield matches the bond's coupon rate when the bond is issued. Bond yields can be derived in different ways, including the coupon yield and current yield. Additional calculations of a bond's yield include yield to maturity (YTM) among others.
- A bond is a debt instrument in which an investor loans money to an entity (typically corporate or government) which borrows the funds for a defined period of time at a variable or fixed interest rate. Bonds are used by companies, municipalities, states and sovereign governments to raise money to finance a variety of projects and activities. Owners of bonds are debt holders, or creditors, of the issuer.
- A Government Security (G-Sec) is a tradeable instrument issued by the Central Government or the State Governments. It acknowledges the Government's debt obligation. Such securities are short term (usually called treasury bills, with original maturities of less than one year) or long term (usually called Government bonds or dated securities with original maturity of one year or more). In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs). G-Secs carry practically no risk of default and, hence, are called risk-free gilt-edged instruments.
- Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 day, 182 day and 364 day. Treasury bills are zero coupon securities and pay no interest.



- Dated G-Secs are securities which carry a fixed or floating coupon (interest rate) which is paid on the face value, on half-yearly basis. Generally, the tenor of dated securities ranges from 5 years to 40 years.

SCRAPPING GOOGLE TAX: TRUMP'S AMERICA & PRAGMATIC INDIA

In 2016, the government had introduced an equalisation levy of 6 per cent on payments for digital advertisement services to non-resident entities exceeding Rs 1 lakh. The tax, colloquially referred to as the "Google Tax", affected global tech giants like Google and Meta — the two firms account for a substantial share of the digital advertising market in the country. India was, in fact, one of the first countries to have introduced such a tax. In 2020, a 2 per cent equalisation levy was also imposed on e-commerce sites offering digital services. Following this, in June 2020, the US launched an investigation under section 301 of the US Trade Act 1974 on the digital services tax levied by India, specifically the 2 per cent levy. Similar investigations were also launched by the US against other countries. On January 6, 2021, the office of the US Trade Representative released the findings of its investigation. It concluded that the levy was "discriminatory, unreasonable, and burdens or restricts US commerce." Thereafter, the Indian government did away with the 2 per cent levy from August 1, 2024. And on Monday, it moved to scrap the levy on online advertisements as part of the amendments to the Finance Bill, 2025.

The levying of such taxes is intended to ensure that multinational tech firms pay their fair share of tax to "market" countries in a "hard to tax" sector. The OECD's Pillar One project also aimed to generate consensus across countries on taxation of the digital economy. Some experts have viewed the equalisation levy imposed by India as an "imperfect solution to bring digital transactions under tax". Its abolition now also addresses concerns of its "unilateral nature". Moreover, as per reports, collections through the levy were shy of just Rs 4,000 crore, with Bengaluru accounting for a sizable share of the revenue collected through this route.

The move to scrap the levy comes at a time when the US administration is exerting pressure to cut tariffs — April 2 is the deadline for the imposition of reciprocal tariffs — and amid talks between India and the US on a bilateral trade deal. On Tuesday, a US delegation, which includes the assistant US trade representative for South and Central Asia, arrived in the country for talks. These steps being taken by the Indian government — in the recent Union budget, it had also lowered the duties on items such as high engine capacity motorcycles and high-end cars that are exported by the US — suggests that it is adopting a pragmatic approach while engaging with the Trump administration, signalling its intent to move ahead with a trade deal.

EXPRESS VIEW: ON ECONOMY, A CAUTIOUS OPTIMISM

From around 87.5 in end-February, the rupee has strengthened to a shade below 86-to-the-dollar, seemingly ending a veritable free fall over the last six months. This was a period, from October 2024 to February 2025, that saw total net sales of \$22.7 billion by foreign portfolio investors (FPI) in India's equity and debt markets. Those outflows have slowed, if not reversed, in the current month, even as the depletion of the country's foreign exchange reserves — from nearly \$705 billion in end-September to \$624 billion by mid-January — has been stemmed. Add to this a 42-month-low merchandise trade deficit in February, the overall external finances look better compared to the situation a couple of months ago. But it isn't just the rupee stabilising, the FPIs showing signs of returning to buy again and the forex reserves recovering to \$654 billion-plus are also part of the good news.



Even more heartening, perhaps, is the softening of inflationary pressures. The 3.6 per cent year-on-year increase in the official consumer price index in February was lower than the Reserve Bank of India's (RBI) 4 per cent target. The bugbear, food inflation, was also at only 3.75 per cent. Ground reports so far suggest a bumper rabi harvest this time, which should bring to an end a prolonged episode of elevated food prices from around July 2023 to December 2024. That, in turn, was largely courtesy the effects of a strong El Niño event from April 2023 through May 2024. Unlike in 2023-24, India has had both good monsoon rains and — thanks to a La Niña, albeit mild and short — no unduly delayed onset or early exit of winter. With no heat waves of the kind witnessed last March, the production prospects for most winter-spring crops — from wheat to chana and onion — are bright. Easing food inflation should, apart from making it easier for the RBI to cut interest rates, also spur consumption by releasing money that low-income households in particular can spend on other items.

It would be hasty, however, to extrapolate from the above and draw conclusions beyond cautious optimism. The potential spillovers from US President Donald Trump's trade wars, and his threats of imposing reciprocal tariffs on Indian exports, are too large to be ignored. The markets may be shrugging these off for the moment; the Sensex is 5.4 per cent up from its most recent closing low. But the government and RBI cannot take their foot off the pedal. The focus on macroeconomic stability should remain — it would mean lowering interest rates and ensuring adequate liquidity in the system accompanied by sustained fiscal consolidation. Getting domestic policy priorities right is the best insurance against risk stemming from outside.

IS A REVAMPED GST 2.0 ON THE CARDS?

The story so far:

In a report to Parliament, its Public Accounts Committee (PAC) has sought a comprehensive review of the Goods and Services Tax (GST) framework to eliminate “unnecessary procedures and requirements” that can complicate compliance. It called for a “revamped GST 2.0” to be considered after consultations with all stakeholders.

What has it observed about GST compensation to States?

The PAC observed that the absence of the mandatory CAG audit of the Compensation Fund Account for more than six years has “adversely affected” release of compensation to States. For context, GST's introduction back in 2017 had instilled fears among States about loss of fiscal autonomy and centralisation of all collections to the Union, particularly those housing heavy manufacturing units as Tamil Nadu and Karnataka, among others. The GST (Compensation to States) Act, 2017 was instituted to compensate States for this loss of revenue. About the present lack of audits, the committee observed that it was due to the CAG not receiving the relevant information of the accounts in the appropriate format containing the quantum to be paid and due thereafter, among other things. The PAC also critiqued the Ministry's “lackadaisical” approach for not responding to the audit, seeking clarification on 2,447 inconsistencies that have kept a total of ₹32,577.73 crore in balance. This was based on an examination of 10,667 cases.

What are some of the other problems?

There are issues regarding the taxation process, which is either delaying the inflow to the government, or tax refunds to businesses requiring working capital. The audit came across instances of incomplete tax refund (to businesses) owing to confusion over tax jurisdictions. The



other significant part of the problem relates to cancellation of registrations. The GST Act provides that registrations cannot be cancelled without issuing a 'show cause notice' to the concerned entity and providing it "reasonable opportunity" to argue its defence. The committee noted that of the 14,998 cases where cancellations were done suo motu, notices were not issued in 6,353 cases. The Finance Ministry apprised the committee that this process has been automated. However, the committee said it was concerned about the alleged "lack of proper documentation" and the "effectiveness of the automated system". Brijesh Kothary, partner at law firm Khaitan & Co, told The Hindu that taxpayers are not given an option to withdraw or edit the application for registration. "In some cases, the application for registration is rejected without providing clarity on the reason for such rejection," he stated.

What about filing and refunds?

With respect to filing and refunds, the committee said existing mechanisms are "inadequate", pointing at prolonged waiting periods for refunds which could result in potential cash flow challenges to businesses. The Ministry, as per the report, indicated that efforts were being made to streamline the refund process. The committee has sought the refund processing system provide clearer timelines for processing claims and regular updates on their status. At the centre of all GST functions, such as filing, registrations and cancellations or tracking, is the quality of reference data to ease scrutiny. The committee highlighted concerns about manual records not being maintained and a poor documentation rigour. The Finance Ministry said that the 'Antarang portal' would help in streamlining the procedure.

Who gets affected by such glitches?

The reported impact on micro, medium and small enterprises (MSMEs) and exporters is noteworthy. The committee expressed concerns about ensuing issues relating to exporters' cash flow requirements and MSMEs due to "complexity" of GST norms. Delays in processing of refund claims for ITC and complexities with export-related documentation requirements can potentially create cash flow constraints. The committee thus underlined a need to simplify the overall regime, pointing out that ITC claims be processed within a specified timeframe at priority. The committee said a total of 19,730 cases entailing tax implications of about ₹1.45 lakh crore were pending for investigation as of March 2022. Mr. Kothary observed that most of these cases were pending for more than two years. "The government must expediate the handling of appeals and establishment of the GST Appellate Tribunal so as to reduce pendency of cases," he stated.

WHAT RBI SAYS ABOUT EXISTING DEPOSITS UNDER GOLD MONETISATION SCHEME

After sovereign gold bonds, the Centre has drawn the curtains on another gold-related scheme — the Gold Monetisation Scheme (GMS) — amid a spike in gold prices. The Ministry of Finance in a release issued late on Tuesday said that it will discontinue medium- and long-term deposits under the Gold Monetisation Scheme from March 26.

- The Ministry cited evolving market conditions and performance of the scheme while announcing the discontinuation. However, short-term bank deposits, which are under the ambit of banks in the scheme, will continue at the discretion of individual banks based on the commercial viability as assessed by them, the Ministry said.
- The Gold Monetisation Scheme was launched in November 2015 to make idle gold productive; It let consumers to either sell their gold or store it with banks, so it could merge into the formal



economy and reduce the country's gold imports and thus, reduce the current account deficit. Idle gold held by households, trusts and various institutions in India was deposited under this scheme.

- GMS was a revamped version of an older Gold Deposit Scheme. It consisted of three components: (1) Short-term bank deposit (1-3 years); (2) Medium-term government deposit (5-7 years); and (3) Long-term government deposit (12-15 years). The minimum deposit allowed was 10 gm of raw gold (bars, coins, jewellery excluding stones and other metals). There was no maximum limit for deposit under the scheme.
- The amount of interest rate payable for short-term deposits under the Gold Monetisation Scheme is decided by the banks on the basis of the prevailing international lease rates, other costs, market conditions, etc., and is borne by the banks. For medium- and long-term deposits, the rate of interest was decided by the government, in consultation with the RBI and borne by the Central government. Gold Monetisation Scheme interest rate was fixed at 2.25 per cent for medium-term bonds and at 2.5 per cent for the long-term bonds.
- The Ministry of Finance on Tuesday said it has decided to discontinue the Gold Monetisation Scheme, except for short-term deposits that are rendered by the banks and not the government. "Based on the examination of the performance of the Gold Monetisation Scheme (GMS) and evolving market conditions, it has been decided to discontinue the Medium Term and Long Term Government Deposit (MLTGD) components of the GMS w.e.f. March 26, 2025," the statement said.
- The Reserve Bank of India (RBI) will issue detailed guidelines on this issue, the Ministry said. The RBI has not separately issued a release so far but it has updated the section on the Gold Monetisation Scheme on its website. "It may be noted that consequent to Government of India's press release dated March 25, 2025, mobilisation of MTGD and LTGD, including renewal of existing deposits, has been discontinued with effect from March 26, 2025," the RBI said.
- The Gold Monetisation Scheme is the second gold scheme to face closure by the government in recent months amid a sharp surge in gold prices. The Centre had earlier discontinued fresh issuance of sovereign gold bonds. Gold prices have risen sharply by Rs 26,530 or 41.5 per cent to Rs 90,450 per 10 gm (as of March 25, 2025) from Rs 63,920 per 10 gm on January 1, 2024.

Do You Know:

- SGBs are debt securities issued by the Reserve Bank of India (RBI) on behalf of the government, with each unit denoting a gram of gold. These bonds offer the flexibility of trading in the secondary market, providing investors with the opportunity to accrue capital gains. It is also used by the government to finance its fiscal deficit. The interest on SGBs is fixed, ensuring a predictable income stream.
- The United States has the largest gold reserves, nearly as many as the combined total of the next three countries: Germany, Italy, and France. The World Gold Council was formed in 1987 as a non-profit organisation with the aim of promoting the use and demand for gold through marketing, research, and lobbying. Its headquarters is located in London (UK), with offices around the world in New York, Shanghai, Singapore, Beijing, and Mumbai.

LABOUR AT THE CENTRE

Since 2017-18, the working-age population of India has increased by about 9 crore, while formal sector jobs rose by 6 crore — a deficit of 50 lakh jobs annually.



- Most of the recent increase in employment has come either from self-employment in rural areas or from informal services. Hence, both the quality and the quantity of work opportunities are under strain with a rising working-age population.
- The challenge of expanding work opportunities in the formal sector becomes even more daunting in the face of rapid technological progress. Data shows a persistent and steady decline in the labour intensity of production technology across sectors. This deepening of the capital intensity of the production process, including in labour-intensive manufacturing and services industries, is likely to hasten with the advent of AI.
- There can be two factors at play — one, demand-side factors, which make the adoption of capital-intensive techniques imperative for increasing productivity and value added at low cost, and two, supply-side factors, which impinge on the availability of complementary quality or skilled labour.
- If the relative cost of capital or machinery falls, it incentivises producers to invest in more capital-intensive technology, even without any gains in productivity.
- The current structure of the PLI scheme is primarily focused on expanding production of high-value products with backward linkages, which require high-skilled, specialised labour, and is relatively less focused on low- and middle-skilled labour-intensive sectors. Specifically, over 50 per cent of the PLI budget is allocated for large-scale electronics, IT hardware and drone manufacturing.
- The ELI scheme, on the other hand, intends to create jobs in the formal sector, effectively through government cash transfers via the EPFO, and in relatively labour-intensive sectors, by bearing some of the risk of hiring untrained labour by private firms.

Do You Know:

- According to Investopedia, the term “capital intensive” refers to business processes or industries that require large amounts of investment to produce a good or service. As a result, these businesses have a high percentage of fixed assets, such as property, plant, and equipment (PP&E). Companies in capital-intensive industries are often marked by high levels of depreciation.
- In order to boost domestic manufacturing and cut down on import bills, the central government introduced PLI scheme that aims to give companies incentives on incremental sales from products manufactured in domestic units. Apart from inviting foreign companies to set shop in India, the scheme also aims to encourage local companies to set up or expand existing manufacturing units.
- Finance Minister Nirmala Sitharaman announced three employment-linked incentive (ELI) schemes for two years and an internship programme in partnership with India Inc for five years in the Union Budget for 2024-25.
- The ELI scheme came as a response to political criticism of the Production Linked Incentive (PLI) scheme which sought to extend benefits to companies for higher sales turnover, even if these did not result in any employment creation.
- According to the Budget documents, the three ELI schemes will include the following features:
 - I. Scheme A— For first-timers: The scheme, which will be for two years, will provide a month’s wage to all employees entering the workforce in all formal sectors. There will be direct benefit transfer of one month’s salary — up to a limit of Rs 15,000 — in three



instalments to first-time employees as registered with the EPFO. The salary eligibility limit for this scheme will be Rs 1 lakh per month. The scheme is likely to benefit 2.10 crore youths, Sitharaman said. Employees will have to undergo compulsory online financial literacy course before claiming the second instalment and the subsidy will be refunded by the employer if the employment to the first-time employee ends within 12 months of recruitment.

- II. Scheme B—Job creation in manufacturing: This scheme will be launched with a view to incentivise additional employment in the manufacturing sector linked to the employment of first-time employees. All employers, corporate and non-corporate entities, with a three-year record of EPFO contribution, will be eligible. Incentives ranging between 8-24 per cent will be paid for four years to both employees and employers. The government expects the scheme to benefit 30 lakh youths and their employers.
- III. Scheme C—Support to employers for additional jobs: This employer-focussed scheme will cover additional employment in all sectors. All additional employment within a salary limit of Rs 1 lakh per month will be counted under the scheme. The government will reimburse to employers up to Rs 3,000 per month for two years towards the EPFO contribution for each additional employee. The scheme is expected to incentivise additional employment of 50 lakh persons.

DATA AND FEDERALISM

This week, NITI Aayog, in partnership with the National Council of Applied Economic Research (NCAER), launched the NITI NCAER States Economic Forum — a portal aggregating data and analysis on State finances. It presents State-wise reports covering macroeconomic indicators including tax and non-tax revenues, as well as human development statistics such as school dropout rates, literacy levels, employment, and historical trends in the devolution of central funds. At a time when Centre-State relations are under renewed scrutiny, particularly in the southern States, where fiscal federalism has been a long-standing flashpoint, this portal is a timely and welcome move. The data is not new, drawn as it is from established sources such as the 2011 Census, the Periodic Labour Force Survey, and the Reserve Bank of India's State Finances Report. However, its comparative presentation across States brings clarity to the diverse fiscal realities of India, offering a structured lens through which to assess disparities and development. Concerns persist about the quality of economic data in India, and this portal is not immune to these, relying as it does on existing sources. Yet, by organising the data in a user-friendly and comparative format, it can help anchor contentious debates — such as those around revenue-sharing and parliamentary delimitation — in facts rather than sentiment. While these issues are serious, they are part of a much larger set of challenges tied to fiscal relations and political power-sharing between the Union and the States.

The effective use of such data depends on ongoing engagement by States, especially through institutions such as the Sixteenth Finance Commission. For India's federal structure to work equitably, regional data must be translated into policies that ensure fair representation, resource allocation, and administrative responsibility. Unfortunately, discussions on federalism often get reduced to narrow and polarised frames such as debates around the three-language policy or calls to defer delimitation. Over-centralisation can breed discontent, while regional resistance often risks turning parochial. Navigating this balance requires cooperation rooted in evidence and mutual recognition of diverse State realities. Leaders in both New Delhi and the State capitals must engage in a spirit of transparency and trust. The new data platform is not a panacea but offers a



credible starting point — a tool for fostering informed, pragmatic conversations around governance, development, and the future of Indian federalism.

BEFORE ROLLING OUT GREEN CREDITS, MOEF SIDESTEPED LAW QUERIES

The Environment Ministry's ambitious Green Credit Programme (GCP), which aims to enhance the country's forest and tree cover and encourage "pro-planet actions", was rolled out despite apprehensions from the Law Ministry, records obtained by The Indian Express under the Right to Information (RTI) Act show.

- Under the programme, individuals, communities and private industries that engage in environment-positive actions get tradable 'green credits'. Such actions could include increasing forest cover, water management, and sustainable agriculture. These credits can then be traded on a domestic platform to meet legal obligations such as compensatory afforestation for industrial or infrastructure projects.
- Since its launch, 384 entities, including 41 PSUs such as Indian Oil Corporation Ltd, Power Grid Corporation of India Ltd, and National Thermal Power Corporation Ltd, have registered for participation under the scheme.
- According to records obtained under the RTI Act, Environment Minister Bhupender Yadav approved the final draft of the Green Credit Rules on August 18, 2023, before sending it to the Law Ministry's Legislative Department for vetting.
- On October 5, 2023, the Legislative Department, apart from suggesting tweaks from a drafting angle, noted, "Perhaps, the provisions of the Environment (Protection) Act, 1986, do not support such business objects or activity and rules to be framed for the purposes. In view of the above, the administrative ministry may examine the legality of the proposed Green Credit Rules in consultation with the Department of Legal Affairs."
- Explaining the rationale, a highly placed source in the Law Ministry drew a parallel with the Energy Conservation Act, which was amended in 2023 to enable the creation of a carbon credit trading scheme after the Law Ministry made similar observations on the market-linked mechanism.
- In response to the Law Ministry's suggestion, the Environment Ministry argued that the GCP simply supported environmental protection and improvement, placing it well within the scope of the EPA.

Do You Know:

- The Green Credits Programme is an effort to create a market-based incentive for different kinds of environment-positive actions, not just for carbon emission reductions. Such a market-based system already exists for carbon, at the national as well as international level, that allows trade in carbon credits. Companies, or nations, can claim carbon credits if they take action to reduce their carbon footprint. These credits can they be traded for money. Companies unable to achieve their emission standards pay to buy these credits and improve their performance.
- At COP28, PM Modi offered the concept to the international community, in the hope to create a market for green credits at an international level, just like the one on carbon credits exists.



CABINET CLEARS RS 23K-CR SCHEME FOR ELECTRONIC COMPONENTS, TARGETS 92K JOBS

The Union Cabinet on Friday cleared a Rs 22,919 crore incentive scheme for manufacturing electronic components, spread over a period of six years. The scheme aims to deepen India's presence in global value chains, while increasing domestic value addition in the country.

- The government is hoping that at least 91,600 direct jobs will be created as part of the scheme, and has tied participating entities' yearly subsidies to the number of jobs they create.
- The components that the government is looking to target through the scheme include display modules, sub assembly camera modules, printed circuit board assemblies, lithium cell enclosures, resistors, capacitors, and ferrites, among others.
- Components import will reduce after this scheme. We need to come out of the import substitution mindset and go forward with export led promotion. Viability comes after large scale manufacturing. Electronics manufacturing is around \$120 billion right now and we are targeting that to grow to \$500 billion in the coming years," Union IT Minister Ashwini Vaishnaw said.
- This incentive scheme differs from the government's earlier production linked incentive (PLI) scheme for electronics manufacturing in how participating companies can avail subsidies. Incentives have been linked to three key parameters: annual employment generation, capital expenditure needs and annual production.
- The components incentive scheme is a crucial next step as the PLI scheme for smartphone manufacturing is nearing its sunset. The government has identified three key challenges in terms of electronic components manufacturing. First, the current lack of domestic scale in the country. Second, a high investment to turnover ratio — in terms of finished products such as smartphones. Third, India has high domestic demand, because of which a large chunk of components are being imported.

Do You Know:

- Electronics is among India's three largest exported commodities, valued at Rs 2.5 lakh crore. That is likely to double in the next four years. Electronics is the second largest import commodity after oil, accounting for nearly 75 per cent of the total electronics production in India.
- In order to boost domestic manufacturing and cut down on import bills, the central government introduced PLI that aims to give companies incentives on incremental sales from products manufactured in domestic units. Apart from inviting foreign companies to set shop in India, the scheme also aims to encourage local companies to set up or expand existing manufacturing units.
- According to experts, the idea of PLI is important as the government cannot continue making investments in these capital intensive sectors as they need longer times for start giving the returns. Instead, what it can do is to invite global companies with adequate capital to set up capacities in India.

CAPITAL MARKETS PIP BANKS AS FIRMS TURN TO BOURSES TO RAISE MONEY

Indian corporates raised ₹6.49 lakh crore between 2016 and 2025 through banks (based on end-period closing bank outstanding), while equity markets, including qualified institutional placements (QIPs) and initial public offerings (IPOs), saw issuances worth ₹12.35 lakh crore.



Banks, which ruled the roost in the corporate credit market until about a decade ago, accounting for more than 80% of the funding accessed by India Inc. between 2006 and 2015, seem to have taken a back seat in the last few years. Cut to 2025, the share of bank funding to the corporate sector has dropped to 34% during 2016-25.

Interestingly, this cutback has, in some way, helped companies evolve to look for alternative funding options, that too at lower cost. The gush of funds from the domestic capital markets in the past decade has not only opened up diverse fundraising avenues — contributing to the nation's infrastructure development, corporate development, innovation, and financial inclusion — but also brought forth an interesting paradox!

This significant change in the corporate credit landscape has helped democratise and nurture entrepreneurship, which is set to play a pivotal role as India marches towards its ambitious vision of becoming a \$10-trillion economy in the coming years.

Despite stock market volatility, Indian capital markets remain a crucial growth driver. In 2024 alone, companies raised ₹3.5 lakh crore through 438 issuances, underscoring the growing reliance on capital markets for funding, with equity issuances and debt instruments serving as vital capital sources.

Notably, Indian corporates raised ₹6.49 lakh crore between 2016 and 2025 through banks (based on end-period closing bank outstanding), while equity markets, including qualified institutional placements (QIPs) and initial public offerings (IPOs), saw issuances worth ₹12.35 lakh crore. This fundraising momentum has laid the foundation for a robust and diversified capital market ecosystem.

Unlike traditional banks, which often rely on asset-backed lending, capital markets assess capital deployment and risk more holistically, offering companies greater flexibility in raising funds. This transition brings investment banks, securities firms, asset managers, and wealth management companies to the forefront of corporate financing, fostering a more competitive and dynamic financial ecosystem.

Banks' changing role

As companies increasingly turn to capital markets for financing, banks now focus more on retail lending than corporate credit.

Several factors have contributed to this shift. The rise of mutual funds, alternative investment funds (AIFs), and insurance players deepened capital markets, providing companies with more diverse funding options.

Moreover, the mutual fund industry has grown from ₹1.5 lakh crore in 2005 to ₹54 lakh crore today, a 35-fold increase. In contrast, the growth in banks' 'current account, savings account' (CASA) balances has been slower, with a 12.5x rise to ₹85 lakh crore in the same period.

Retail lending now accounts for a growing share of non-farm bank credit. In the late 1990s, corporate credit comprised 40% of non-farm credit, but by 2024 this fell to 18%.

This shift is positive for the economy, as it reflects rising consumption financing, which stimulates demand and fosters economic growth.



At the same time, banks are under pressure to manage cost structures and net interest margins (NIMs), prompting strategies such as outsourcing and shared services to improve operational efficiency. We saw similar trends playing out in the U.S. in the last quarter of the 20th century, with platforms like Visa getting spun off from banks

Backbone of credit flow

While capital markets are pivotal in raising funds, the banking sector remains the backbone of credit flow in India. Banks provide essential working capital, term loans, and project financing to sectors like manufacturing, real estate, agriculture and small and medium enterprises (SMEs). By 2025, Indian banks have seen encouraging credit growth, with an expansion of lending to key sectors such as infrastructure, micro, small and medium-sized enterprises (MSMEs), and technology.

The government has actively participated in capital markets, using bond issuances to finance Budget deficits and infrastructure projects. Sovereign bonds offer access to competitively priced, long-term capital, helping the government meet fiscal goals and support broader economic growth. This collaboration between the government and capital markets strengthens the financial foundation needed for sustainable development.

Business flexibility

Capital markets offer businesses flexibility, foster financial inclusion, and support large-scale infrastructure development. Meanwhile, the banking sector continues to play a critical role in credit flow, with ongoing reforms helping to manage challenges like non-performing assets (NPAs).

As capital markets attract both domestic and foreign investments, the collaboration between banks, the government and financial institutions creates a robust foundation for sustainable economic progress. This synergy is propelling India towards a more dynamic, inclusive, and globally competitive economy.

GOVERNMENT'S SUPPORT FOR VODAFONE-IDEA IS MISPLACED

In September 2021, the Union government announced a series of measures to support the ailing telecom sector. These included redefining what constitutes adjusted gross revenues, cutting spectrum usage charges, and a moratorium/deferment on unpaid dues, among others. As part of the measures, the government also created an option that allowed for the conversion of interest amounts and dues pertaining to deferred payment into equity. In early 2023, the government chose to convert Rs 16,133 crore of interest dues owed by Vodafone Idea into equity. And now, a few days ago, it decided to convert the outstanding spectrum auction dues of Rs 36,950 crore into equity. As a consequence, the government will now own roughly 49 per cent of Vodafone Idea. The existing promoter, the Aditya Birla Group (its stake in the entity will come down from 14.41 per cent to 9.5 per cent) and Vodafone Plc (whose ownership will fall to 16.07 per cent from 24.39 per cent), will, however, continue to exercise operational control over the company.

This conversion will ease the company's cash flow woes, giving it breathing space in the near term. But the question is: Will it help turn around the fortunes of the beleaguered telco? Vodafone Idea has been seeing a steady erosion in its customer base. As of December 31 2024, the company had 199.8 million subscribers, down from 215 million in the third quarter of 2023-24. Its average revenue per user (ARPU) stood at Rs 156 in September 2024 compared to Bharti Airtel's Rs 233



and Reliance Jio's 195. The company also has the lowest data usage (GB per subscriber per month) amongst the three players. Its strategy to improve its position seems to rest on undertaking capital expenditure to strengthen its 4G network and roll out 5G services speedily which could help push up subscriber numbers and revenues. But, as reported in this paper, Vodafone Idea also owes around Rs 2.3 lakh crore as of December 2024, of which Rs 77,000 crore is on account of AGR dues and Rs 1.4 lakh crore is the spectrum liability. Any further conversion of dues owed by the telco would result in the government's stake crossing 50 per cent. Should continued support be extended to the financially stressed telco?

The Indian telecom sector is dominated by two strong players — Reliance Jio and Bharti Airtel. There is a concern that in the absence of support extended to Vodafone Idea, and with public sector telcos continuing to struggle, a duopoly-like market structure would be to the detriment of consumers. But the focus of policy should be to protect competition, not financially stressed competitors. Government should facilitate the entry and exit of private players. Any other intervention will only risk distorting the market.

Do You Know:

- Telecom operators are required to pay licence fee and spectrum charges in the form of 'revenue share' to the Centre. The revenue amount used to calculate this revenue share is termed as the adjusted gross revenue (AGR).
- The financial condition of the telcos deterioration started in 1999, when the government decided to shift from a fixed to a revenue-sharing model for the telecom sector. Telecom players would pay a certain percentage of their AGR, earned from telecom and non-telecom revenues, as licence and spectrum fee.

The easing of this regulatory environment led to a number of players entering the fray. At its highest, India had more than 14 national and regional telecom service providers.

- In 2003, the Department of Telecom (DoT) raised the demand for AGR payments. It said all revenue earned by telcos as dividend from subsidiaries, interest on short-term investments, money deducted as trader discounts, discount for calls and others, which was over and above the revenue from telecom services, would be included for calculation of AGR.

The telcos approached the Telecom Disputes Settlement Appellate Tribunal (TDSAT), which in July 2006 ruled the matter must be sent back to the regulator TRAI for fresh consultation. TDSAT rejected the government's contention, and the Centre moved the Supreme Court. While the case was still ongoing, in 2012, the Supreme Court cancelled 122 telecom licences in the 2G scam case. This prompted a revamp, with spectrum now allocated through auctions.

- In 2019, the Supreme Court gave the first verdict in the case, holding that DoT's definition of AGR was the correct one, and that the telcos must pay the AGR, interest and penalty on non-payment.



LIFE AND SCIENCES

WHY THE PARKER SOLAR PROBE IS TRYING TO 'TOUCH' THE SUN

Among the various places humans have aspired to visit in the solar system, the sun remains the most foreboding. On December 24, 2024, NASA's Parker Solar Probe arrived within 6.1 million km of the star's surface. This is a short distance to be from the sun: no spacecraft has ever made such a close approach. Even the Parker Solar Probe took seven years to get here.

The probe made another approach to the sun on March 22 and will do so again on June 19 this year.

Watching the sun

Sunlight is the main source of energy for earthlife. The sun's core produces this energy using nuclear fusion. The star also has strong, dynamic magnetic fields crisscrossing its surface, and sudden changes in the way they're arranged give rise to intense explosions called solar flares. Numerous electrons, protons, and heavy nuclei are spit out of the solar corona — the uppermost layer of the sun's atmosphere — at about 900 km/s.

These particles carry an enormous amount of energy and sometimes rush towards the earth at tremendous speed in an event called a coronal mass ejection. Their effects on the earth constitute a solar storm, including electric grid failures, loss of telecommunication channels, and damage to the ozone layer. They can also damage instruments onboard satellites.

To understand the dynamics of the corona over time and their effects on the solar system at large, scientists need to observe the sun closely. This is also why the Indian Space Research Organisation launched and is currently operating the Aditya-L1 probe, stationed at about 150 million km from the star.

An able heat shield

Around six decades ago, a scientist named Eugene Parker predicted the existence of the solar wind: a stream of charged particles flowing out from the sun in all directions. NASA named the Parker Solar Probe in his honour.

The probe was launched on board a Delta IV rocket from Cape Canaveral in Florida in August 2018. Once in space, the probe's maximum speed was an astounding 692,000 km/hr.

To protect against the sun's intense heat, the probe has an 8-foot-wide, 4.5-inch thick carbon-carbon composite material shield that can withstand up to 1,370° C while weighing only 73 kg. This shield was built by researchers at the Johns Hopkins Applied Physics Laboratory. It consists of a carbon composite foam sandwiched between two carbon plates. Its sun-facing side is coated with white ceramic paint to reflect as much sunlight as possible instead of absorbing it.

Just a few metres behind the shield, in its shadow, the ambient temperature drops to 29° C, allowing the probe's scientific instruments to operate without special provisions to maintain the temperature. The probe also has two sets of solar power arrays: one in the shield's shadow that supplies power to the instruments and the other on the sun-facing side, which uses a special fluid pump to cool itself while powering the probe during its close approaches.



Touching the sun

Curiously, the first obstacle to the mission's success wasn't the sun's heat but its gravity. Since the probe flew through space at a very high speed, it had to decelerate significantly as it got close to the sun. If it didn't, the sun's gravity would have encouraged it to dive right into the star. This is why Parker's first mission profile had the probe fly towards Jupiter and swing around the gas giant to achieve an optimal speed to fly towards the sun. This idea fell out of favour because of the large travel distance.

The probe's final mission profile was more direct: to use the combined gravitational forces of the earth and Venus to slowly spiral closer to the sun's surface, in the process spending more than 2,000 hours flying through the corona and 24 times along the solar equator.

The probe has four scientific instruments: FIELDS, Integrated Science Investigation of the Sun (ISoIS), Wide-Field Imager (WISPR), and Solar Wind Electrons Alphas and Protons (SWEAP). FIELDS measures the electric and magnetic fields of the sun's atmosphere; ISoIS observes the energetic particles that cause solar storms while SWEAP records their properties; and WISPR takes pictures as it passes through the corona.

A "sun-touching" event occurred in April 2021 when Parker moved closer to the sun than its Alfvén surface — the height beyond which the solar wind can't affect the star's surface — as ascertained by the FIELDS and SWEAP instruments.

A fifth instrument, called a Faraday cup, lies outside the shadow of the heat shield and measures the density of ions and electrons in the solar wind. It is made of a molybdenum alloy with a melting point of 2,349° C.

Blowin' in the (solar) wind

Parker data has already revealed many new details about the sun. The solar system is ceaselessly coated in dust particles created when space rocks weather and scientists believed the dust ought to be everywhere. Yet Parker revealed dust-free pockets near the sun. The probe also detected magnetic switchbacks: parts of the solar wind where the magnetic field (created by the collective of charged particles) abruptly bent back on itself.

An important open question in solar astrophysics is why the sun's surface is only 6,000° C or so whereas the solar corona is 200-times hotter. Based on Parker's data of magnetic switchbacks and other related phenomena, scientists believe the answer to the mystery lies in Alfvén waves: an oscillation of ions in the plasma released by the sun, set in motion by forces in the surrounding magnetic field. During its close-approach on March 22, the Parker Solar Probe once again attempted to get within around 6 million km of the sun's surface.

SPACEX LAUNCHES FRAM2 POLAR-ORBITING MISSION

SpaceX's Falcon 9 rocket gets launched with four commercial astronauts on the Fram2 polar mission at the Kennedy Space Centre in Cape Canaveral, Florida, on Monday. The private astronauts led by a crypto entrepreneur will orbit Earth from pole to pole, a novel trajectory in which no humans have travelled before.



- The mission, SpaceX's sixth private astronaut flight, is the company's latest novel effort that expands its dominance in the global human spaceflight arena. It comes as Musk's power as SpaceX CEO.
- Fram2 is the 16th crewed mission overall using the reusable Crew Dragon, a gumdrop-shaped spacecraft that SpaceX developed with NASA funding to provide the U.S. space agency a ride for its astronauts to and from the International Space Station.
- Fram2 will be a multi-day space mission in which the Dragon spacecraft and its crew will explore Earth from polar orbit, flying over the polar regions. The astronauts will conduct 22 research studies focused on understanding human health in space. Their experiments include taking the first X-ray in space to study muscle and skeletal mass and growing mushrooms in microgravity.
- The objective of the spaceflight is to study the polar regions of Earth from the Dragon capsule which will be orbiting at 425-450 kilometres above the surface. Specifically, the astronauts will be observing unusual light emissions similar to auroras i.e. the Northern lights (Aurora borealis) and Southern lights (Aurora australis).
- The mission hopes to provide additional insights for SpaceX on how being in space affects the human body by "capturing the first human x-ray images in space, Just-in-Time training tools, and studying the effects of spaceflight on behavioral health, all of which will help in the development of tools needed to prepare humanity for future long-duration spaceflight."

According to NASA and ESA websites—

- An orbit is the curved path that an object in space (like a star, planet, moon, asteroid or spacecraft) follows around another object due to gravity.
- An object in motion will stay in motion unless something pushes or pulls on it. This statement is called Newton's first law of motion. Without gravity, an Earth-orbiting satellite would go off into space along a straight line. With gravity, it is pulled back toward Earth. A constant tug-of-war takes place between the satellite's tendency to move in a straight line, or momentum, and the tug of gravity pulling the satellite back.
- The International Space Station is in low Earth orbit, or LEO. LEO is the first 100 to 200 miles of space. LEO is the easiest orbit to get to and stay in. One complete orbit in LEO takes about 90 minutes.
- Satellites that stay above a location on Earth are in geosynchronous Earth orbit, or GEO. These satellites orbit about 23,000 miles above the equator and complete one revolution around Earth precisely every 24 hours. Geosynchronous orbits are also called geostationary.
- Polar orbits are a type of low Earth orbit, typically between 200 to 1000 km in altitude. Satellites in polar orbits usually travel around Earth from, roughly, one pole to the other, rather than from west to east. They do not need to pass exactly over the North and South Poles; a deviation of 10 degrees is still classed as a polar orbit.
- Polar orbits are particularly useful for global Earth coverage, as satellites orbiting 'up' and 'down' Earth's surface can see every inch of the planet over time as it also rotates below.



WHAT IS STATUS OF THE SPACEX MARS MISSION?

The story so far:

On March 15, Elon Musk, the CEO of SpaceX, announced on X that an uncrewed Mars landing mission will take place by the end of next year. The operation is expected to feature Optimus, a robot developed by Tesla — another company owned by Mr. Musk — as its passenger. “If those landings go well, then human landings may start as soon as 2029, although 2031 is more likely,” Mr. Musk stated on X. The billionaire entrepreneur appears determined to achieve this milestone using SpaceX’s reusable super heavy-lift launch vehicle, Starship.

Is it possible?

The project has faced multiple setbacks in recent months, including two critical Starship test flight failures, or as Mr. Musk refers to them, “rapid unscheduled disassemblies”. Despite this, he has not postponed the planned date for SpaceX’s Mars mission. Originally announced in September 2024, the plan faces technical and logistical challenges, leading experts to question its feasibility.

What are some of the challenges?

One of the main concerns is whether SpaceX will be able to develop and produce an auxiliary tanker spacecraft in time and successfully refuel Starship in orbit. To reach Mars, Starship’s second stage must traverse approximately 5.5 crore kilometres in space. Timing is crucial, as every 26 months, Earth and Mars reach a “launch window” — a period when the two planets are closest, allowing for the most efficient space travel. If SpaceX fails to launch within this window, the mission could be delayed by more than two years.

Currently, Starship has only demonstrated its ability to reach Low Earth Orbit (LEO). Its fuel storage capacity of 4,200 tonnes of propellant is insufficient for a Mars journey. To address this, SpaceX announced in April 2024 that it would use LEO tanker spacecraft to refuel Starship mid-flight. However, this plan has yet to be demonstrated, and there is no clear evidence that development is underway. With only 20 months until the next launch window, it is doubtful whether anyone can design, construct, test, and deploy these tankers in time, said Daniel Dumbacher, former Deputy Associate Administrator of NASA’s Human Exploration and Operations Mission Directorate, during a U.S. Congressional hearing in February.

Beyond the issue of readiness, there is also uncertainty over whether SpaceX can manufacture and launch enough tanker spacecraft in a short time frame, given the complexity of in-orbit refuelling. This type of refuelling involves the transfer of super-cooled liquid oxygen and methane from a full tank to an empty one, operating under extreme pressure between machinery and the vacuum of space; a feat which has never been attempted before. SpaceX would need to launch and dock Starship’s multiple tankers in quick succession to offset fuel evaporation, adding another layer of difficulty to the mission.

How has SpaceX fared so far?

SpaceX has repeatedly demonstrated its ability to accomplish seemingly impossible feats. The successful deployment of reusable Falcon 9 rocket boosters and the development of the Dragon capsule have proven its capacity to design spacecraft that can withstand the harsh conditions of space.



SpaceX's Starbase facility in Texas gives it a competitive edge, with the company reportedly manufacturing one Raptor engine per day and assembling the second stage of Starship within weeks. These production capabilities could prove essential in developing the required tanker spacecraft.

How will SpaceX land on Mars?

Given that Mr. Musk envisions Starship as a vessel for human settlement, and that the 2026 mission will carry Tesla's Optimus robot, it appears likely that the spacecraft will attempt a surface landing. However, the current version of Starship lacks features necessary for landing, such as retractable landing gear similar to Falcon 9. While Starship has successfully landed on Earth, this was only possible with the "Chopsticks" vertical catching system, which does not exist on Mars.

Additionally, Starship's high failure rate in test flights suggests that further refinements are needed before it is considered reliable enough for such a critical mission.

What has NASA said?

The Guardian reports that senior NASA officials are worried about potential conflicts of interest between SpaceX and the Department of Governmental Efficiency (DOGE), an advisory body to U.S. President Donald Trump, which Mr. Musk heads. DOGE has been pushing for extensive federal budget cuts, leading to the shutdown of NASA's Office of Technology, Policy, and Strategy, as well as the Office of the Chief Scientist. With these cuts, speculation has grown that more funding could be directed towards SpaceX's contracts with NASA, raising concerns about Mr. Musk's dual role as a government adviser and private contractor. While Mr. Musk is known for making bold claims, a successful Mars landing would solidify SpaceX's dominance in space industry. However, whether the billionaire can overcome the technical, logistical, and political challenges ahead remains to be seen.

IN THE ODYSSEY OF SUNITA WILLIAMS AND BUTCH WILMORE, A REMINDER TO FOCUS ON THE BIG PICTURE

As with all efforts to push boundaries, excursions into the unknown come with caveats. In the case of space flights, it is the tacit understanding that there is little that is routine or safe. But for those who can hang in there, buoyed by curiosity, hope and a generous splash of good fortune, there remains not just the possibility of greater glory but also a deeper understanding of the workings of this fragile cosmos that is the human inheritance. For astronauts Sunita Williams and Barry 'Butch' Wilmore, it began with a faulty Boeing Starliner test flight in June last year. But when it ended 286 days later — 278 days more than was intended because of the spacecraft's propulsion failures — it marked not just an expansion of horizons, but also the sheer, amazing potential of human adaptability and endurance.

By the time of their splashdown off the coast of Tallahassee in the Florida Panhandle, Williams and Wilmore had orbited the Earth 45,676 times and travelled 195 million kilometres. It did not qualify their mission as the longest — Russian cosmonaut Valeri Polyakov, who spent 437 days in the Mir space station in 1994, has that honour, followed by Sergei Avdeyev, who spent 379 days in Mir in 1998-1999 after an unexpected mission extension. But Williams surpassed the record of NASA astronaut Peggy Whitson for the most time spent spacewalking by a woman, when she logged 62 hours and six minutes during the mission.



In the time that the astronauts were away from Earth, the world changed one election at a time. As the second Trump administration took office, a political storm erupted over the delay in their return. Throughout, Williams and Wilmore focused on conducting experiments and fixing equipment, trusting NASA with decisions about their return. Perhaps they knew what many earthlings choose to ignore: That in the larger scheme of things, human beings are consigned to the margins, their journey to the centre dependent on empathy and a scientific temper that allow the light to shine through.

CERN REVEALS PLAN FOR LARGE HADRON COLLIDER'S SUCCESSOR

Top minds at the world's largest atom collider have released a blueprint for a much bigger successor that could vastly improve research into the remaining enigmas of physics.

For roughly a decade, scientists at CERN, the European Organization for Nuclear Research, have been making plans for a successor to the Large Hadron Collider, a network of magnets that accelerate particles through a 27-kilometre underground tunnel and slam them together at velocities approaching the speed of light.

The plans for the Future Circular Collider (FCC) — a nearly 91-kilometre loop along the French-Swiss border and below Lake Geneva — published on Monday put the finishing details on a project roughly a decade in the making at CERN.

The blueprint lays out the proposed path, environmental impact, scientific ambitions and project cost. Independent experts will take a look before CERN's two dozen member countries — all European except for Israel — decide in 2028 whether to go forward, starting in the mid-2040s at a cost of some 14 billion Swiss francs.

The FCC would carry out high-precision experiments to study "known physics" in greater detail, then enter a second phase — planned for 2070 — that would conduct high-energy collisions of protons and heavy ions that would "open the door to the unknown," said Giorgio Chiarelli, a research director at Italy's National Institute of Nuclear Physics.

"History of physics tells that when there is more data, the human ingenuity is able to extract more information than originally expected," Mr. Chiarelli, who was not involved in the plans, said.

CENTRIFUGE: GETTING TO THE GOOD URANIUM

WHAT IS IT?

The enrichment centrifuge is a device used to extract uranium-235 isotope from a sample of natural uranium. U-235 is fissile and thus useful to generate nuclear power and to build nuclear weapons.

Natural uranium consists of 99.3% U-238 and 0.7% U-235. Nuclear power reactors need the uranium fuel to contain 3-20% U-235, depending on the reactor design. Nuclear weapons need U-235 to be enriched to around 90%.

The first step for both technologies is to enrich uranium in a centrifuge. This device is named for the centrifugal force: it contains a chamber attached to a rotor. When the rotor spins the chamber very fast, the centrifugal force acts on objects inside such that the denser ones are moved more



outwards. The amount of this force is equal to the mass of the molecule multiplied by its distance from the centrifuge's centre and the square of the angular velocity ($F_c = m \times 2 \times r$).

Uranium is converted to compound form (usually uranium hexafluoride, UF_6), then to gas, and flowed into centrifuges. U-238 is slightly more dense than U-235, so as the centrifuges spin at 50,000 revolutions per minute, more U-235 collects towards the centre.

This mass is then diverted to more centrifuges to further separate U-238 out. Over multiple stages, the sample becomes more enriched in U-235.

The spinning part is made of some light yet strong material that doesn't disintegrate during such extreme motion, like carbon fibre.

WHAT IS VIBE CODING, AND HOW DOES IT HELP NON-CODERS?

The story so far:

In February, OpenAI co-founder and former Tesla employee Andrej Karpathy described a coding process by which he commanded a Large Language Model (LLM) to generate code. He ran the results, copy-pasted content, and let the system figure out errors so he could surrender to the "vibes" of coding instead of actually focusing on the highly technical details of code creation. "There's a new kind of coding I call 'vibe coding', where you fully give in to the vibes, embrace exponentials, and forget that the code even exists. It's possible because the LLMs (e.g. Cursor Composer w [sic] Sonnet) are getting too good," Mr. Karpathy posted on X. And so, "vibe coding" was coined. The term has taken on a life of its own after AI companies released a series of new models designed to help users generate code, even if they don't know coding.

How does vibe coding work?

Think of a digital tool you would like to build, or a virtual task you might like to carry out, like building an AI model that helps you learn a new language, developing an app to remind you to drink water every hour, designing a personal website with an attractive video playing in the background, or even alphabetising a list of 500 names in an Excel sheet. To a non-coder, these are daunting tasks. One may need to hire experts, carry out extensive research independently, look for workarounds that do not involve coding, or even just bite the bullet and learn how to code. With generative AI tools, users can now build an app by typing text prompts describing the kind of code they want. All they have to do is simply copy and paste the code to get the desired output. But the outcome isn't always what one expected.

For example, we asked an AI tool to generate Javascript code for a pop-up that would ask users which pizza flavour they hated the most, and praise the user's "good taste" if their answer included the term "pineapple" anywhere. While the code for this request was successfully generated, the AI tool added some extra code so that the system would comment "Interesting choice!" to users who provided other pizza flavours. This was something the original user forgot to consider.

Though a beginner can run such codes, they will have no idea whether the code generated by AI could be shorter, more efficient, or tweaked to be more user-friendly. In essence, we ran the AI-generated code, but neither created nor thought about its structure.



What are advantages of vibe coding?

When it comes to non-programmers, vibe coding can be a fun way to generate code for personal projects without formally learning the more technical parts of the skill. Vibe coding is also an option for those who dislike the coding process but require it for low-stakes projects and low-risk tasks. Vibe coding can expose newbies to a dizzying range of computer languages, coding methodologies, technical uses, and problem-solving approaches in order to ignite their interest in learning how to code the traditional way.

For programmers who have a basic idea of what to do, vibe coding can help complete simple projects, identify basic errors, or implement quick bug fixes to speed up the development process. Again, this applies to low-stakes scenarios where any coding mistakes and omissions will not lead to catastrophic consequences.

In the case of experts and highly trained software developers, vibe coding can be used in conjunction with traditional coding methods in order to channel one's time or energy into those tasks that require the most intervention, so that minor or more generic parts of the workflow are handled by the machine. Mr. Karpathy himself noted that generating code with AI was "not too bad for throwaway weekend projects." He shared a basic game and a small AI assistant/reading guide that he built when vibe coding.

What are the disadvantages?

Vibe coding becomes a major problem as well as a massive security risk when it is seen as a way to replace experienced human coders with amateurs or untrained coders who give orders to AI chatbots instead of coding from scratch or understanding existing codebases.

This is because no code exists in a vacuum. Enterprise-level codes are painstakingly written and stress-tested to serve specific business, medical, educational, scientific, or technological needs. While human project managers and coders can precisely frame how the code needs to take shape in order to best serve a specific use case, an AI code generator may not understand the larger context of what it is creating. In other words, a gen AI tool may indeed produce the code that the user requested, but this generated code might be too slow to run, too expensive to maintain, and too long to scan regularly for security risks. This will require further fixes and customisation in the future, either by the AI model or even a human.

Mr. Karpathy himself noted that AI-generated code "grows beyond my usual comprehension, I'd have to really read through it for a while." Similarly, a product such as an app or a website that relies on huge banks of AI-generated code created with just "vibes" will be harder — and more expensive — for humans to maintain and upgrade at periodic intervals. Though experienced users like Mr. Karpathy can review their AI-generated code, spot errors, shorten it, plug security vulnerabilities, increase speeds, edit the text prompts, or carry out other advanced processes, untrained vibe coders will not be able to make sense of the letters, numbers, and symbols in the code.

Another major disadvantage of AI-generated code is that it is difficult to hold someone responsible when there are incidents such as major bugs or security exploits.

On a separate note, the very idea of AI-generated code may be abhorrent to those who see coding as a creative art form. This is similar to the way many creators object to AI-generated stories, music, or art. Other critics have claimed that vibe coders are simply copying or scraping older



codes generated by other humans, raising ethical and plagiarism concerns when such machine-generated code is used in competitions, hackathons, job applications, or funding ventures.

Will vibe coding replace traditional coding?

This is highly unlikely. AI coding tools are still highly experimental at this point in time. Though machine-generated code is being used to build everything from apps to AI models, their generators are still prone to making mistakes or producing unwieldy code due to a lack of context regarding why the code is being generated. Furthermore, it is exceedingly reckless to turn over your entire database to an LLM just to give it more context for basic code generation. However, AI coding tools are rapidly improving, with offerings like Cursor considering the user's context and their coding style.

The essence of vibe coding is that the coder is not engaging seriously with their results and lacks line-by-line comprehension of their own code. While such a half-baked approach may work out for playful apps or games meant for personal use, businesses and enterprises that serve real users need their code to be coherent to those who make it and manage it. Mr. Karpathy himself noted that vibe coding had an element of laziness and involved making low-intelligence queries. "I ask for the dumbest things like "decrease the padding on the sidebar by half" because I'm too lazy to find it. I "Accept All" always, I don't read the diffs anymore. When I get error messages I just copy paste them in with no comment, usually that fixes it," he had posted on X.

It is not likely that well-established or well-funded companies would allow their products to be built in such a shoddy fashion. Vibe coders also cannot compete with professional human coders who leverage AI coding in a skilled manner. But as an increasing number of codebases become AI-generated, it is high time to scrutinise the viability of vibe coding.

AN INTEL SNAFU

Imagine this: you're a journalist invited to a secret group chat with some of the most influential figures in the U.S. government. Among them are the National Security Adviser (NSA), the Secretary of Defense, and even the Vice President. They're all discussing a potential plan to launch an attack in a foreign country.

This is what happened with Jeffrey Goldberg, the editor-in-chief of the Atlantic magazine. He initially got a connection request on the Signal app from NSA Michael Waltz on March 11. Two days later, Mr. Goldberg received a notification from Mr. Waltz on being added to the 'Houthi PC small group' in the app. This group was set up to establish a principals committee "for coordination on Houthis, particularly for over the next 72 hours".

What followed was a series of messages from high-ranking U.S. officials, regarding air strikes in Yemen. The exchanges in the group provided intricate details about military operations, raising questions on whether government officials can use Signal, a privately-owned, end-to-end encrypted communication tool, particularly when it comes to sensitive information.

Co-founded by Moxie Marlinspike and WhatsApp co-founder Brian Acton, Signal is a free and encrypted communication platform for calls and instant messages. Supported by the non-profit Signal Foundation, the app prioritises privacy and security by ensuring past communications remain secure even if the encryption keys are compromised.



High level of trust

The app is widely regarded as more secure than other messaging apps like WhatsApp. Signal's code is open-source, which means its security protocols are transparent and subject to public review. This openness helps maintain a high level of trust among users, including many government officials in several parts of the world.

Signal encrypts both content and metadata, while WhatsApp encrypts only the content of the communication, meaning users' profile information can be accessed by the Meta-owned application.

Numerous security experts and anti-surveillance activists have strongly recommended Signal for secure communication. Edward Snowden, the U.S. whistleblower known for exposing the National Security Agency's surveillance capabilities, uses Signal regularly. The app was also endorsed by Trump adviser and world's richest man Elon Musk.

Signal's popularity has grown in recent years, particularly since WhatsApp updated its privacy policy in 2021, forcing users to opt in to sharing their metadata with Facebook. Millions of users worldwide flocked to Signal and Telegram over privacy concerns.

Despite its reputation for security, Signal is not immune to vulnerabilities. In 2022, a phishing attack targeted a company that provides phone number verification service for Signal, and exposed the phone numbers of 1,900 users. However, this attack affected only a small percentage of Signal users, and it did not compromise the private and secure information related to the affected users.

In February, Google's Threat Intelligence Group warned that Russian intelligence services had attempted to compromise Signal users by exploiting the app's ability to link multiple devices. Once again, this phishing attack exploited human error rather than technical vulnerabilities within the app.

However, the real risk arises when a user's device is already compromised, for instance, through the installation of malware. In such scenarios, hackers could potentially monitor the user's keystrokes and view the screen before encryption is applied.

This is why U.S. officials are generally required to discuss sensitive matters in specially designated, secure facilities known as Sensitive Compartmented Information Facilities. These rooms are designed to prevent electronic eavesdropping and are equipped with safeguards to ensure that devices cannot be used to compromise the integrity of classified information. Despite these precautions, some officials travel with special equipment that allow them to access classified systems while on the move.

Ultimately, the 'Signalgate' underscores the complexities of balancing security with the need for effective communication among high-ranking officials. While apps like Signal offer significant protection against interception, they cannot mitigate all potential risks.

CHATGPT'S STUDIO GHIBLI-STYLE IMAGES GO VIRAL HIGHLIGHTING AI COPYRIGHT CONCERNS

Fans of Studio Ghibli, the famed Japanese animation studio behind "Spirited Away" and other beloved movies, were delighted this week when a new version of ChatGPT let them transform



popular internet memes or personal photos into the distinct style of Ghibli founder Hayao Miyazaki. But the trend also highlighted ethical concerns about artificial intelligence tools trained on copyrighted creative works and what that means for the future livelihoods of human artists.

- Miyazaki, 84, known for his hand-drawn approach and whimsical storytelling, has expressed skepticism about AI's role in animation.
- ChatGPT maker OpenAI, which is fighting copyright lawsuits over its flagship chatbot, has largely encouraged the "Ghiblification" experiments and its CEO Sam Altman changed his profile on social media platform X into a Ghibli-style portrait. In a technical paper posted Tuesday, the company had said the new tool would be taking a "conservative approach" in the way it mimics the aesthetics of individual artists.
- "We added a refusal which triggers when a user attempts to generate an image in the style of a living artist," it said. But the company added in a statement that it "permits broader studio styles — which people have used to generate and share some truly delightful and inspired original fan creations."
- As users posted their Ghibli-style images on social media, Miyazaki's previous comments on AI animation also began to resurface. When Miyazaki was shown an AI demo in 2016, he said he was "utterly disgusted" by the display, according to documentary footage of the interaction.
- He said he would "never wish to incorporate this technology into my work at all." "I strongly feel that this is an insult to life itself," he added.
- Josh Weigensberg, a partner at the law firm Pryor Cashman, said that one question the Ghibli-style AI art raises is whether the AI model was trained on Miyazaki or Studio Ghibli's work. That in turn "raises the question of, 'Well, do they have a license or permission to do that training or not?'" he said.
- OpenAI didn't respond to a question Thursday about whether it had a license. Weigensberg added that if a work was licensed for training, it might make sense for a company to permit this type of use. But if this type of use is happening without consent and compensation, he said, it could be "problematic."
- Weigensberg said that there is a general principle "at the 30,000-foot view" that "style" is not copyrightable. But sometimes, he said, what people are actually thinking of when they say "style" could be "more specific, discernible, discrete elements of a work of art," he said.
- "A 'Howl's Moving Castle' or 'Spirited Away,' you could freeze a frame in any of those films and point to specific things, and then look at the output of generative AI and see identical elements or substantially similar elements in that output," he said. "Just stopping at, 'Oh, well, style isn't protectable under copyright law.' That's not necessarily the end of the inquiry."

Do You Know:

- Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. IP is protected in law by, for example, patents, copyright and trademarks, which enable people to earn recognition or financial benefit from what they invent or create. By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish.



- Artificial intelligence (AI) refers to the field of computer science which aims to make computer systems think, reason, learn, and act to solve a complex system like humans.

YOU DON'T NEED A TINDER GAME – JUST GO SAY HI

Something important was lost, romantic Luddites argue, when the thrill of approaching someone new — of striking up a conversation and feeling the charge of that intangible thing called “chemistry” — was digitised and made algorithmic. A generation has come of age in the era of “swiping” left and right, of thinking love can be found on an endless cyber menu card. That the mystery of connection is a function of interests and tastes, displayed in emojis and cliches like “wanderlust” and “sapiosexual”. However, it turns out that the art of conversation still matters. But the solution some are proposing to bring it back is part of the problem.

Earlier this week, Tinder — one of the OG hook-up and dating apps — released a game called The Game Game (having “game” is a euphemism for an ability with the opposite sex). In it, users have a simulated conversation with a chatbot in “real life” situations — meeting at the airport, for example — as practice for the real thing. The goal is to score a date or a phone number within a time limit. Apart from Tinder, other dating apps like Hinge and Grindr, too, have AI assistants to help people talk to strangers. Ironic, because one of the reasons they can't is that they spend their lives glued to a smartphone.

It bears repeating, perhaps, that apps, bots and their developers don't care about your happiness. They are in the “engagement” — as in keeping you hooked to their product, not a precursor to marriage — game. There is a simpler solution for those who want to talk to a real person and spend time with them. Fight through the butterflies and the nervousness and just go say “hi”. The rest will follow, if it's meant to be.

SHE, THE OLYMPIC PRESIDENT

I have been dealing with ... difficult men in high positions since I was 20 years old.” That was double Olympic medalist swimmer Kirsty Coventry responding to a question about the potential impact of Donald Trump's policies on the 2028 Los Angeles Games after being elected International Olympic Committee (IOC) president. Trump's new visa regulations and his stand on transgender athletes have made the IOC uneasy. Coventry, the youngest IOC chief, is the first woman to head the 131-year old institution.

Coventry was up against a long list of formidable rivals, all men. Prominent among them was Juan Antonio Samaranch, the son of a former IOC president by the same name, and Britain's Sebastian Coe, another double Olympic gold medalist and the president of World Athletics. Coventry's march to the top should open more doors for women in leadership roles given that the opportunities so far have been few and far between. For decades, women have played sports by the rules laid down by mostly white, European men who dominate decision-making positions in most international federations. According to a Sport Integrity Global Alliance survey in 2023, cited in a UN report, women held only 26.9 per cent of executive positions in international sports federations. Of the 31 federations surveyed, only three had women at the helm and out of 206 National Olympic Committees, only 24 were chaired by women — India was one of them, with P T Usha as the president.

Coventry will be in charge of world sport at a precarious time. The shadow of conflict and war looms over the sporting field in several continents. There are growing calls to “protect” — as she



put it – the women’s category at the Olympics in the wake of the participation of transgender and DSD athletes. And then, there’s Trump, in the lead-up to the LA Olympics. With Coventry at the helm, however, sports will be in good hands.

LESSONS FROM A QUAKE

Rescue operations are in full swing following the devastating 7.7-magnitude earthquake centred in Myanmar, which, according to official estimates, has claimed more than 1,600 lives. With the death toll rising from the hundreds to over a thousand in just 24 hours, and information continuing to trickle in, a significantly higher casualty count cannot be ruled out. The number of injured stands at around 3,400. The damage to infrastructure has been massive, with large sections of densely populated cities such as Mandalay and Naypyitaw left without electricity. Hospitals are overwhelmed, and people are camping in the streets, their homes reduced to rubble. Myanmar’s neighbours have responded swiftly, dispatching warships and aircraft loaded with relief materials and rescue personnel. India, China, and Thailand (casualties were reported after a skyscraper that was under construction in Bangkok collapsed despite being over 1,000 kilometres from the epicentre) are among the countries that have sent aid. Indian military aircraft made multiple sorties into Myanmar over the weekend, ferrying supplies and search-and-rescue crews to Naypyitaw, the capital, parts of which were devastated by the quake. Several Chinese rescue teams have also arrived, including one that crossed overland from Yunnan province, according to China’s embassy in Myanmar.

Myanmar lies in a seismically active region at the convergence of four tectonic plates — the Eurasian, Indian, Sunda, and Burma microplate. The constant shifting and collision of these plates are responsible for most earthquakes in the region. Quakes of the magnitude witnessed on Friday are not uncommon; the Sagaing Fault, which is one of Myanmar’s most active, has produced six to eight earthquakes of similar intensity since 1900, according to the United States Geological Survey. The Myanmar quake brings back memories of the 7.8 magnitude quake in Türkiye and Syria, in 2023, that killed at least 55,000. While accurately predicting the timing, location, and intensity of earthquakes remains beyond current scientific capability, probabilities can be estimated, and it is possible to strengthen existing infrastructure to withstand seismic events. Myanmar’s political instability since the coup in 2021 has diverted attention from essential governance issues such as enforcing building codes. While the current damage is irreversible and recovery will take months, the existing ceasefire offers an opportunity to push for political stability. This can foster investment, attract expertise, and ensure better regulatory enforcement — critical steps in protecting the country against future disasters.

HOW DID THE MYANMAR EARTHQUAKE OCCUR?

The story so far:

The powerful earthquake in Myanmar on March 28 had its source in central Myanmar, about 20 km from Mandalay, the country’s second-largest city. Mandalay, located on the east bank of the Irrawaddy River, is close to one of the most seismically active faults in the region, called the Sagaing fault, named after a town not far from Mandalay on the river’s opposite side. The earthquake of magnitude 7.7 struck around 12:50 pm local time, followed by several strong aftershocks, including one of magnitude 6.4, which occurred 11 minutes after the major event.



What effect did the quakes have?

The quakes were very devastating: they affected the entire region, left thousands of people dead, and destroyed many homes. The damage zone extended to Bangkok, the capital of neighbouring Thailand, which is about 1,000 km from the earthquake's epicentre.

However, the damage in Bangkok was minimal, confined to the complete collapse of a 33-storey high-rise under construction, and causing water from a swimming pool on the top of another high-rise building to overflow. However, these incidents were given much hype because of the city's place on the global tourism circuit. The outpouring of water from the rooftop pool was due to seismic seiches — oscillations in the water triggered by the passage of seismic waves through the area. Even though the building was located far from the earthquake's source, slower, long-period seismic waves can cause the top floors to sway more and amplify the seiches, as observed in this case.

The damage prediction models of the U.S. Geological Survey estimated that the total death toll in the region could reach well over 10,000. Mandalay itself is home to over 1.5 million people and was hit the hardest, with many buildings, including pagodas, mosques, and bridges, either partially damaged or completely collapsed. A review of the damage pattern reveals that much of the devastation was concentrated in the southern areas of the Sagaing fault because this region is sitting on a thicker pile of alluvium, deposited by the Irrawaddy, which amplifies the seismic energy, as compared to the northern parts of the fault. This also explains why China's southwest Yunnan Province, which is north of the fault, escaped earthquake-induced damage. The depth to the source of the 2025 earthquake on the Sagaing fault was only 10 km, which is another contributing factor for the heavy damage and a large felt area (area where the earthquake's shaking is felt).

The neighbouring eastern parts of India also escaped damage because the energy released by the earthquake dispersed in a north-south direction, following the trend of the fault.

Are quakes common in South Asia?

South Asia, including Myanmar, is highly prone to earthquakes due to its proximity to the complex assemblage of some of the largest tectonic features on earth, including the Himalayas, the Shillong Plateau, the Southern Indo-Burman Range, and the Andaman-Nicobar subduction zone. Originating from the collision of the Indian and the Eurasian Plates some 40 million years ago, the plate boundary in Southeast Asia is an active tectonic feature that generated one of the largest earthquakes in history, of magnitude 9.2, and a transcontinental tsunami in 2004.

The tectonic stress accumulating on these plate boundaries is the cause of frequent seismic activity in the region. The earthquake of 1792 was also a great 'megathrust' earthquake of magnitude 8.5, with its epicentre located somewhere along the Arakan coast of Myanmar. This seismic event generated a tsunami in the northern Bay of Bengal and caused widespread soil liquefaction in the Chittagong areas of Bangladesh. The large thrust fault extends further north onto the Chittagong-Tripura fold belt, where several moderate earthquakes continue to occur. It is still not clear whether this part of the deformation front can generate future great earthquakes.

Southeast Asia is a tectonic museum that exhibits structures that host earthquakes of varying faulting mechanisms, occurring at depths ranging from as shallow as 5 km to 200-400 km. The deeper ones occur in the southern regions closer to Indonesia or the Indo-Burmese regions in the north, bordering the subduction front along the Indo-Eurasian plates



ARCTIC MELTING: INDIA'S POLAR RESEARCH AGENCY CHIEF WARNS OF IMPACT

When the Arctic Ocean becomes ice-free in summer in the coming decades, the region will become a “hotbed” of international geopolitics, said Dr Thamban Meloth, director of the Goa-based National Centre for Polar and Ocean Research (NCPOR) Goa, the nodal agency for India's polar expeditions.

- At an event to commemorate the 25th Foundation Day of NCPOR on Thursday, Meloth said Antarctica and the Arctic are important in controlling the global weather patterns
- “Recent studies have shown that melting of Arctic sea-ice can impact the Indian monsoon precipitation and its extremes. Antarctica houses nearly 70% global freshwater in frozen form... If it melts, it can lead to an increase in sea level by about 60 metres, potentially sinking all the coastal cities. Although melting of ice happens in the polar regions, the actual rise in sea level is much higher in tropical regions like ours, due to various compounding factors. So, what happens in Antarctica or the Arctic does not stay there. It seriously affects us,” he said.
- Meloth said that as “the Arctic sea-ice will disappear during the summer in the coming decades, the region will become a hotbed of international geopolitics due to the availability of mineral and fishery resources hidden below the frozen sea as well as by potentially opening a northern sea route”.
- At the event, officials reminisced about India's first scientific expedition to Antarctica and the circumstances around setting up India's first research station – Dakshin Gangotri – in Antarctica in 1983.

Do You Know:

- On December 6, 1981 a 21-member crew of scientists, technicians and Navy personnel aboard a chartered Norwegian ship MV Polar Circle set sail from Goa's Mormugao harbour. Part of India's first scientific expedition to the ‘White Continent’, the crew set foot on the coast of Queen Maud Land a little over a month later, on January 9, 1982, and hoisted the Indian flag.
- Sea ice refers to the free-floating ice in the polar regions. While it generally expands during the winter and melts in the summers, some sea ice remains year-round. Note that this is different from icebergs, glaciers, ice sheets, and ice shelves, which form on land.
- Sea ice plays a crucial role in cooling the planet by trapping existing heat in the ocean, and thus precluding it from warming the air above. Therefore, a reduction in sea ice cover can have disastrous consequences for Earth.
- Currently, Arctic sea ice is at its lowest recorded extent for the time of year. Meanwhile, Antarctic sea ice is close to a new low, based on satellite records going back to the late 1970s. But given historical trends, this is not all that surprising. Since the late 1970s, NSIDC has estimated that some 77,800 sq km of sea ice has been lost per year. Between 1981 and 2010, Arctic sea ice extent in September — when it reaches its minimum extent — shrunk at a rate of 12.2% per decade, according to the National Aeronautics and Space Administration (NASA).
- In the Antarctic, the situation is a bit different. Until 2015, the region actually witnessed a slight year-on-year increase in sea ice. Between late 2014 and 2017, however, the Antarctic lost two



million square km of sea ice — an area equivalent to roughly four times the size of Spain, according to the Copernicus Marine Service. Sea ice levels again increased in 2018.

- In 2023, maximum Antarctic sea ice reached historically low levels. Sea ice cover was more than two million sq km lower than usual — an area about 10 times the size of the UK.
- Last year, the cover was higher than in 2023 but still 1.55 million sq km below the average maximum extent from 1981-2010.
- The Arctic is warming at a rate four times faster than the global average, leading to an unprecedented loss of sea ice, as well as the thawing of permafrost. Continued Arctic change risks losing the North Pole's "great white shield" and unleashing vast quantities of stored carbon, rivaling the cumulative emissions from the US at its current rate. This can trigger multiple catastrophic and irreversible climate tipping points. Protection of the Arctic is, therefore, crucial to protect the world from the worst effects of the climate emergency.

WHAT A NEW STUDY FOUND ABOUT THE LONG-TERM IMPACT OF DEEP-SEA MINING

A strip of the Pacific Ocean seabed that was mined for metals more than 40 years ago has still not recovered, according to a new study. It said that the mining had led to long-term sediment changes and reduced the populations of many of the larger organisms living there.

- Deep sea mining involves removing mineral deposits and metals from the ocean's seabed. There are three types of such mining: taking deposit-rich polymetallic nodules off the ocean floor, mining massive seafloor sulphide deposits, and stripping cobalt crusts from rock.
- These nodules, deposits and crusts contain materials, such as nickel, rare earths, cobalt and more, that are needed for batteries and other materials used in tapping renewable energy and also for everyday technology like cellphones and computers.
- Engineering and technology used for deep sea mining are still evolving. Some companies are looking to vacuum materials from the seafloor using massive pumps. Others are developing artificial intelligence-based technology that would teach deep sea robots how to pluck nodules from the floor. Some are looking to use advanced machines that could mine materials offside of huge underwater mountains and volcanoes.
- Companies and governments view these as strategically important resources that will be needed as onshore reserves are depleted and demand continues to rise.
- The study examined the impact of a small-scale mining experiment on a part of the Pacific Ocean's seafloor. Carried out in 1979, the experiment involved removing polymetallic nodules off the seabed. The scientists analysed the 8-metre strip during an expedition in 2023.
- They found that the experiment had led to long-term changes in the sediment of the area, and a dip in the population of the organisms living there.

Do You Know:

- The intense oceanic activity around the world over the past two decades has focused on the Deep both for its economic resources and as the theatre of possible future conflicts.



- According to the United Nations Convention on the Law of the Seas (UNCLOS), the Exclusive Economic Zone (EEZ) of a country extends from the baseline of its coast to 200 nautical miles (about 370 km) into the sea. A nation has exclusive rights to living and non-living resources in the waters and on the seabed within its EEZ.

BRAIN + GLITCH = DOUBLING TYPO

Q: I often make typing errors that follow a consistent pattern. One error involves an apparent pre-empting of double letters, for example 'betwwen' or 'floopy disc.' This does not happen when I write. Why does this happen?

A: Analyses of large corpora of typed text reveal that these doubling errors are a common class of typographical errors. They only arise in words that have adjacent double letters, or geminates, and are attributed to a special repetition marker in the brain. This marker is associated with a particular position in a word and causes immediate repetition of the letter at that position. Sometimes the marker may be triggered too early or too late, causing incorrect repetition of a nearby letter. Thus, 'between' appears as 'betwwen'.

Repetition markers are assumed necessary by the suppression of actions during the production of a well-learned sequence. The temporary suppression of each action immediately after its execution prevents it from persevering or competing with subsequent action. This suppression is problematic when immediate repetition is required, which explains the need for the special repetition marker.

Doubling errors occur in handwriting but are less frequent. This probably reflects the slower pace of handwriting and the fact that repeated letters don't necessarily arise from the same, single action. The exact form of each handwritten letter depends on the context of surrounding letters, suggesting several component actions in the writing of a letter, in contrast to the single depression of a key on a keyboard.

WHAT BONOBO CAN TEACH US: MAKE LOVE, NOT WAR

Effective communication, it is widely believed, is among the most efficient tools in resolving human conflict. It takes people years of trial and error, maybe a therapist or two, to perfect the art. Yet, human beings have long held the arrogant belief that they are the pinnacle of evolution. Turns out, their close evolutionary cousins, bonobos, are also capable of complex meaning-making, previously thought of as a uniquely human ability. Several bonobo calls during mating rituals and tense social situations — according to a new study published in *Science* — resemble complex human sentence structures. And they use this ability for a call to "find peace".

This discovery is in a series that has shattered the idea that evolution is a ruthless, violent enterprise. Raymond Dart's "killer ape theory" argued that human evolution has been propelled by aggression and the ability to kill. Chimpanzees, another close cousin of *Homo sapiens*, are also known to employ violence both with other species as well as among themselves. Bonobos — long thought to be a variety of chimpanzees who also share over 99 per cent of their DNA with humans — privilege cooperation over competition. These "hippie apes" survive by sticking together, negotiating and choosing affection and physical comfort over violence. They offer an alternative imagination of survival: One built on kindness, cooperation — and communication.



For too long, humans have seen themselves in the chimps and too many people continue to promote aggression as a way to get ahead. Perhaps it's time to go the bonobo way. They don't kill for resources but rather use language to "encourage others to build their night nests," as the study observed. Clearly, human beings are not nearly as unique or superior as they think. And intelligence is only what you make of it. Instead of creating borders and hiking tariffs, it may be better to help each other build nests.

PRIMATE TECH

How do chimpanzees choose materials to make tools?

employ a degree of engineering when making their tools, deliberately choosing plants that provide materials that produce more flexible tools for termite fishing, researchers discovered. Termites are a good source of energy, fat, vitamins, minerals and protein for chimpanzees. To eat the insects, chimpanzees need to use relatively thin probes to fish the termites out of the mounds where they live. Given that the inside of the mounds is made up of winding tunnels, the scientists hypothesised that using flexible tools would be more effective for chimpanzees at fishing out the insects than using rigid sticks. Researchers took a portable mechanical tester to Gombe and measured how much force it took to bend plant materials used by the apes compared to plant materials that were available but never used. Findings showed that plant species never used by chimpanzees were 175% more rigid than their preferred materials.

U.S. MEASLES CASES TILL MARCH SURPASSES ALL OF 2024

Since the first measles case was reported on January 23, 2025 in Texas, the number of cases has risen sharply and the virus has spread to New York City and 17 other States in the U.S.

As of March 20, the total number of cases reported across the U.S. stands at 378, with Texas and New Mexico alone reporting 327 and 43 cases, respectively. There have been two deaths so far and both were in unvaccinated individuals. With 301 cases reported as of March 14, the total number of cases reported in less than two months since the first case was reported this year surpassed 285 cases reported for all of 2024.

The first outbreak of measles in the U.S. this year has been in the Mennonite community in Gaines County, West Texas. So far about 226 cases have been reported from Gaines County, and many have been tied to a Mennonite community with low vaccine uptake.

The Mennonite community is largely unvaccinated due to cultural and historical reasons. The Mennonite community in Gaines County has reported nearly 14% vaccine exemption rates for school-aged children.

Of the 378 confirmed measles cases reported as of March 20, CDC noted that 124 (33%) cases have been in children aged under five years and 159 (42%) cases have been in individuals aged 5-19 years; in Texas, 63 adults have been infected. As expected, 95% of individuals infected with measles are either unvaccinated or with unknown vaccination status. While 3% of individuals infected with measles have taken only one dose of the MMR vaccine, 2% have taken both doses of the MMR vaccine.

That 2% individuals got infected with measles despite being fully vaccinated is not unexpected—even two doses of the MMR vaccine does not provide 100% protection. According to the CDC, one dose of the MMR vaccine is 93% effective against measles, while the effectiveness increases to



97% with two doses. “Some [fully] vaccinated people may still get measles, mumps, or rubella if they are exposed to the viruses. It could be that their immune system didn’t respond as well as they should have to the vaccine; their immune system’s ability to fight the infection decreased over time; or they have prolonged, close contact with someone who has a virus,” the CDC says. However, fully vaccinated people generally have milder disease symptoms and are also less likely to spread the virus to others. But almost everyone who has not been vaccinated will get infected if they are exposed to the virus and get sick.

Though the MMR vaccine is primarily meant to prevent measles infection, individuals exposed to measles virus can still take the vaccine. The MMR vaccine can offer some degree of protection against the disease or reduce the severity of illness if vaccinated within 72 hours of exposure to the measles virus.

On March 13, the WHO said that 1,27,350 measles cases were reported in 2024 in the European region (53 countries in Europe and central Asia), double the number of cases reported in 2023 and the highest number since 1997. There were 38 deaths as of March 6, 2025, the WHO said. The European region accounted for a third of all measles cases globally in 2024.

BIPOLAR DISORDER: COMPLEX BUT SURMOUNTABLE BY EARLY DIAGNOSIS

The second phase of India’s National Mental Health Survey is currently underway. The first phase identified mood disorders as an important diagnostic category in terms of prevalence in India. March 30 is celebrated worldwide as World Bipolar Day.

Mood disorders are psychiatric disorders characterised by a pathological alteration in one’s mood, energy, and activity levels. The two most common mood disorders are major depressive disorder and bipolar disorder. Major depressive disorder is characterised by a persistent and pervasive sadness of mood, anhedonia (disinterestedness in activities that were pleasurable before the onset of the affliction), easy fatigability, cognitive difficulties, hopelessness, worthlessness, inappropriate guilt, and crying spells. More severe forms include suicidal ideas, slowness of bodily movements and thinking, delusions, and hallucinations.

Major depressive disorder is one pole in the gamut of presentations of bipolar disorder. The other pole, which defines bipolar disorder in a way, is mania. Mania is typified by an elevated, expansive or irritable mood, higher energy levels, inflated self-esteem, decreased need for sleep, pressured speech, subjective experience that thoughts are racing (‘flight of ideas’), being easily distracted, increased goal-directed activity, unrestrained buying sprees, and sexual indiscretions.

Normal mood fluctuations are specific to situations and last for short durations. For instance, one may feel down for some time after a difficult day at work. But people with mood disorders present with persistent pathological alterations in their mood and energy levels. These perturbations are not transient but last for weeks, months or longer and impair one’s socio-occupational functioning.

Causes of mood disorders

The genesis of mood disorders is complex and multifactorial. The affliction comes to the fore during development and manifests as individuals mature. Bipolar disorder generally has its clinical onset between the ages of 15 and 30 but its origins go back to early life. An individual’s vulnerability to mood disorders is likely to be genetically coded, as is the case with most psychiatric disorders.



That said, genetic vulnerabilities alone do not always suffice. Environmental factors play a crucial role in precipitating the affliction. There is a complex and dynamic interaction between one's genetic vulnerability and the environment. This is why clinicians evaluating people with mood disorders spend time understanding a person's early childhood experiences, developmental history, stressors, and life events. These critical windows during development act as triggers and maintaining factors for mood disorders.

It is useful to conceptualise the origins of mood disorders in terms of stress, gene-environment interactions, and circadian functioning. Proximal stressors include adverse childhood experiences such as abuse, loss, neglect, and domestic violence. Distal stressors seen in adulthood include a life-threatening illness, financial difficulties, unemployment, bereavement, violence, and trauma. Childhood maltreatment is associated with twice higher chances of receiving a psychiatric diagnosis. Studies have even shown abnormalities in the spermatozoa of victims of childhood maltreatment.

In bipolar disorder, negative life events are associated with depressive relapses while goal-attainment life events are associated with manic relapses.

Chronic stress is associated with dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis. When a person perceives stress, the hypothalamus releases the corticotropin-releasing hormone (CRH). CRH stimulates the pituitary gland to release the adrenocorticotrophic hormone (ACTH). ACTH moves to the adrenal glands, which then release cortisol, the stress hormone.

Cortisol primes the body to respond to stress. Once the stressor abates, the HPA axis shuts down its activity via a negative feedback loop, where cortisol levels signal the hypothalamus and pituitary to reduce CRH and ACTH release. Chronic stress dysregulates the HPA axis such that the negative feedback loop is disrupted. Cortisol keeps getting released even after the stressful event has gone, rendering a chronic low-grade inflammatory state in the brain and the body.

Bipolar disorder is highly heritable: 60-85% of the affliction can be attributed to genetic factors. But genes do not act independently of the environment. Genetic mechanisms likely involve thousands of genetic variants in reciprocal interaction with each other, the environment, and random factors. To date, no single candidate gene has been identified in the causation of psychiatric disorders. Likewise, neither neuroscience nor genetics has yet produced a laboratory test for mood disorders. Psychiatric disorders are inherently complex, polygenic, and multifactorial.

The circadian system coordinates the body's internal clock with the planet's 24-hour cycle. Bipolar disorder is characterised by marked disturbances in circadian rhythms — including body temperature and melatonin secretion — which are evident during particular mood episodes such as depression and mania as well as periods of remission. Researchers are yet to determine whether these perturbations are the causes or the effects of the mood dysfunction.

Diagnostic challenges

More often than not, bipolar disorder begins with periods of depression, and sometimes a decade may elapse before the onset of hypomanic or manic episodes. The average time from the onset of symptoms to the first diagnosis of bipolar disorder ranges from six to 10 years. Hypomania is difficult to pick up on clinically because patients do not always seek help during these episodes. They frequently lack insight into their condition and may even enjoy hypomanic or manic episodes, until they become debilitating.



Clinicians keep an eye out for the symptoms or tendencies of bipolar disorder in patients with early-onset of multiple brief periods of depression; a family history of bipolar disorder; with attention deficit and hyperactivity disorder; with substance misuse; with abrupt onset and offset of depression; and who don't respond as expected to antidepressants.

Delayed diagnosis is common in bipolar disorder due to poor awareness and associated stigma. But with the right treatment, individuals can lead fulfilling and productive lives. Examples abound of people having overcome its challenges to chart fulfilling lives.



DreamIAS