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INTERNATIONAL

TIME FOR TRUCE

Ukraine's decision to accept an 'immediate, interim' 30-day ceasefire with Russia, which can be extended upon mutual agreements, is an important first step towards shutting down the three-year-long war. The decision, announced in a joint statement issued by the U.S. and Ukraine, after senior-level talks in Jeddah, Saudi Arabia, also shows that U.S. President Donald Trump's heavy-pressure tactics seem to be working on Kyiv, at least for now. Until recently, Ukraine had ruled out any ceasefire, arguing that Moscow would use a truce to rearm itself. Ukraine, which had demanded a complete Russian withdrawal from all the territories it had captured, including Crimea, as a pre-condition for talks, had floated the idea of freezing the conflict on the current line of contact in return for NATO membership. Later, Kyiv's demand shifted to security guarantees from the West. But the Trump administration ratcheted up the pressure by halting all military assistance and intelligence sharing. Up against the wall in Jeddah, Ukraine accepted the American proposal and agreed to sign a mineral deal "to expand Ukraine's economy" and guarantee its "long-term prosperity and security". The U.S. immediately resumed military and intelligence assistance for Kyiv.

But more complicated is the next step. The ball is now "in Russia's court", said Marco Rubio, the U.S. Secretary of State, after the Jeddah talks. U.S. officials are expected to travel to Moscow to discuss the proposal. If there is a ceasefire, Russia and Ukraine are expected to begin direct talks, to bring the war to a definite end. But, both sides have escalated their air war. Last week, Russia launched massive missile and air strikes on Ukraine, targeting its energy infrastructure. On Tuesday, hours before the Jeddah talks began, Ukraine unleashed its largest drone strike on several parts of Russia, including Moscow. Russia is also making dramatic advances in its Kursk region, where Ukraine still holds on to some territory. If Mr. Trump had leverage over Ukraine with which he forced Kyiv into accepting his proposal, he has very little influence over the Kremlin. But Russia should see the tilt in Washington and the U-turn in Kyiv as an opportunity. It has also suffered huge losses and its relationship with the West, in particular with Europe, has been badly damaged. Its economy is under heavy sanctions. The U.S. has already accepted some of Vladimir Putin's demands, such as ruling out NATO membership for Ukraine. Instead of continuing this disastrous, illegal war, which has claimed tens of thousands of lives on both sides, the Kremlin should respond positively to the offer for truce and start direct talks with Ukraine to find a lasting solution to the conflict.

WHY TRUMP WANTS TO START TALKS ON IRAN N-DEAL HE WRECKED IN 2018

US President Donald Trump said that he has written to Iran's Supreme Leader Ali Khamenei about renegotiating a nuclear deal. "I've written them a letter, saying I hope you're going to negotiate, because if we have to go in militarily it's going to be a terrible thing for them," Trump said in an interview aired on the Fox Business Network on Friday.

- The technical expiry of the JCPOA is in October 2025. But the European failure to lobby a US re-entry, new American sanctions, and Iran's incremental rollback of its commitments in response has ensured the deal's progressive weakening.



- The Joe Biden administration began to engage in indirect negotiations with Iran in Vienna in 2021. But these failed to reach a decisive outcome despite reportedly coming “closer than ever” in 2022, according to Tehran’s then top nuclear negotiator, Ali Bagheri.
- Meanwhile, Iran’s “resistance economy” crumbled with the riyal in free-fall against the US dollar, leading to popular disaffection in the street further flamed by other triggers — such as the death of Mahsa Amini in September 2022 after she was taken into custody by Iran’s morality police.
- By late 2024, the Iranian economy was in dire straits. Newly-elected President Masoud Pezeshkian said that the country faced “very dire imbalances in gas, electricity, energy, water, money and environment.”
- This is likely the principal trigger for Iran’s openness to engage with the US. Seemingly siloed from the entrenched and expanding conflict with Israel, the new Iranian government’s outreach to Washington has continued both through third-party-facilitated back-channels and overt publications, policy statements, and declarations by Iranian officials calling for engagement and sanctions relief.
- But despite economic stresses and Israeli attacks, Iran’s ability to wield influence through its proxies has remained significant — especially with the Houthis’ continued ability to choke global trade and attack Arab energy infrastructure — bringing new diplomatic arrangements across the Gulf, and supplementing Iran’s nuclear card.
- The new and deepening rapprochement between Iran and its Gulf partners, in no small part propelled by Israel’s increasing unpopularity in the Arab world, has meant that Trump now faces a dramatically different Middle East than he had done in his first term, when tensions between Saudi Arabia and Iran were soaring. It is in this context that Trump’s latest comments must be seen.

Do You Know:

- In 2015, the five permanent members of the UN Security Council, Germany, the European Union, and Iran signed the ‘Joint Comprehensive Plan of Action’ (JCPOA), more commonly known as the Iran nuclear deal. The Obama-era deal provided Iran with sanctions relief in return for Tehran severely limiting the scope of its nuclear program — Iran agreed to not enrich its uranium beyond 3.67%, a level suitable for peaceful nuclear power applications but not for weapons production — and signing a roadmap agreement with the International Atomic Energy Agency (IAEA).
- Trump unilaterally withdrew the US from the deal in 2018, during his first term as president.
- Having deemed the JCPOA one of “the worst and most one-sided transactions” for the US, Trump’s withdrawal was part of his broader undoing of his predecessor’s signature policy achievements. This was especially evident in Trump’s targeting of the terms of the deal — not the idea itself — and his assertions of being a better deal-maker than Obama.

**IRAN INCREASING ELECTRONIC SURVEILLANCE OF WOMEN FOR HEADSCARF VIOLATIONS:
UN**

Iran increasingly relies on electronic surveillance and the public to inform on women refusing to wear the country’s mandatory headscarf in public, even as hard-liners push for harsher penalties for those protesting the law, a United Nations report released on Friday found.



The findings of the Independent International Fact-Finding Mission on the Islamic Republic of Iran come after it determined last year that the country's theocracy was responsible for the "physical violence" that led to the death of Mahsa Amini. Her death led to nationwide protests against the country's mandatory hijab laws and the public disobedience against them that continues even today, despite the threat of violent arrest and imprisonment.

"Two and a half years after the protests began in September 2022, women and girls in Iran continue to face systematic discrimination, in law and in practice, that permeates all aspects of their lives, particularly with respect to the enforcement of the mandatory hijab," the report said.

"The state is increasingly reliant on state-sponsored vigilantism in an apparent effort to enlist businesses and private individuals in hijab compliance, portraying it as a civic responsibility."

Iran's mission to the U.N. in New York did not immediately respond to a request for comment on the findings of the 20-page report.

App to report violation

In it, U.N. investigators outline how Iran increasingly relies on electronic surveillance. Among the efforts include Iranian officials deploying "aerial drone surveillance" to monitor women in public places. At Tehran's Amirkabir University, authorities installed facial recognition software at its entrance gate to also find women not wearing the hijab, it said.

Surveillance cameras on Iran's major roadways also are believed to be involved in searching for uncovered women. U.N. investigators said they obtained the "Nazer" mobile phone app offered by Iranian police, which allows the public to report on uncovered women in vehicles, including ambulances, buses, metro cars and taxis.

"Users may add the location, date, time and the license plate number of the vehicle in which the alleged mandatory hijab infraction occurred, which then 'flags' the vehicle online, alerting the police," the report said. "It then triggers a text message (in real-time) to the registered owner of the vehicle, warning them that they had been found in violation of the mandatory hijab laws, and that their vehicles would be impounded for ignoring these warnings."

Those text messages have led to dangerous situations. In July 2024, police officers shot and paralysed a woman who activists say had received such a message and was fleeing a checkpoint near the Caspian Sea.

The Noor plan

Amini's death sparked months of protests and a security crackdown that killed more than 500 people and led to the detention of more than 22,000. After the mass demonstrations, police dialled down enforcement of hijab laws, but it ramped up again in April 2024 under what authorities called the Noor — or "Light" — Plan. At least 618 women have been arrested under the Noor Plan, U.N. said, citing a local human rights activist group in Iran.

Meanwhile, Iran executed at least 938 people last year, a threefold increase from 2021, the U.N. said. While many were convicted of drug charges, the report said the executions "indicate a nexus with the overall repression of dissent in this period."

As Iran continues its crackdown on the hijab, it also faces an economic crisis over U.S. sanctions due to its rapidly advancing nuclear program. While U.S. President Donald Trump has called for



new negotiations, Iran has yet to respond to a letter he sent to its 85-year-old Supreme Leader Ayatollah Ali Khamenei. Social unrest, coupled with the economic woes, remains a concern for Iran's theocracy.

UN ACCUSES ISRAEL OF GENOCIDAL ACTS, SEXUAL VIOLENCE IN GAZA STRIP

Israel carried out “genocidal acts” against Palestinians by systematically destroying women’s healthcare facilities during the conflict in Gaza, and used sexual violence as a war strategy, United Nations experts said in a report on Thursday.

“Israeli authorities have destroyed in part the reproductive capacity of the Palestinians in Gaza as a group, including by imposing measures intended to prevent births, one of the categories of genocidal acts in the Rome Statute and the Genocide Convention,” said the UN Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel. Those actions, in addition to a surge in maternity deaths due to restricted access to medical supplies, amounted to the crime against humanity of extermination, the commission said.

The report accused Israel’s security forces of using forced public stripping and sexual assault as part of their standard operating procedures to punish Palestinians following the Hamas-led attacks on southern Israel in October 2023.

Israel’s Prime Minister Benjamin Netanyahu rejected the report’s findings, saying they were “biased” and “antisemitic”.

Attacked state of Israel

“Instead of focusing on the crimes against humanity and war crimes committed by the Hamas terrorist organization...the United Nations once again chooses to attack the state of Israel with false accusations,” he said.

A previous report published by the Commission in June 2024 accused Hamas and other Palestinian armed groups of serious rights violations in the October 7, 2023 attack. In March last year, a team of UN experts said there were “reasonable grounds to believe” sexual violence, including rape, occurred at several locations during the militant group’s assault.

Israel is party to the Genocide Convention and was ordered in January 2024 by the International Court of Justice to take action to prevent acts of genocide during the war against Hamas. South Africa has brought a genocide case against Israel’s actions in Gaza at the International Court of Justice.

Israel is not party to the Rome Statute, which gives the International Criminal Court jurisdiction to rule on individual criminal cases involving genocide and crimes against humanity.

MUSLIM NATIONS REJECT TRUMP’S GAZA PLAN, EU LEADERS BACK ARAB PROPOSAL

Foreign ministers from Muslim nations on Saturday rejected Trump’s calls to empty the Gaza Strip of its Palestinian population and backed a plan for an administrative committee to govern the territory to allow reconstruction to go ahead.



- Meanwhile, Hamas reported “positive signals” in talks with Egyptian and Qatari mediators on starting negotiations on the delayed second phase of its ceasefire deal with Israel.
- The foreign ministers gathered in Saudi Arabia for a special session of the Organization of Islamic Cooperation to address the situation in Gaza. The gathering supported a plan to rebuild Gaza put forward by Egypt and backed by Arab states. The OIC has 57 nations with largely Muslim populations.
- Without mentioning Trump, the ministers’ statement said they rejected “plans aimed at displacing the Palestinian people.”
- Since Sunday, Israel has barred all food, fuel, medicine and other supplies from entering Gaza for its more than 2 million people, demanding Hamas accept the revised deal. Hamas has said the cutoff will affect the remaining hostages as well. The foreign ministers of France, Germany, Italy and Britain said in a joint statement they welcome the Arab initiative for a Gaza reconstruction plan, calling it “a realistic path.”

Do You Know:

- During a joint press briefing with Israeli Prime Minister Benjamin Netanyahu, Donald Trump said that the US will “take over the Gaza Strip” and turn it into “the Riviera of the Middle East”, for “world people” to live in. He said that he saw the United States taking “a long-term ownership position” in Gaza. Saudi Arabia and Turkey have rejected the idea of the USA taking over Gaza and displacing Palestinians. Hamas, which controls Gaza, said Trump’s proposal was a “recipe for creating chaos and tension in the region.” Netanyahu, however, backed Trump, saying, “After the jaws drop, people scratch their heads and they say, ‘You know, he’s right.’”
- Gaza is a strip of land, just 365 sq km in size, wedged between the Mediterranean Sea to the west, Israel to the north and east, and Egypt to the south. It is 41 km long and 12 km wide at its widest point.
- It has been under military occupation since 1967, and even though Israel maintains that it pulled out in 2005, the United Nations, the European Union and other international organisations still consider Gaza as occupied territory. There are three functional border crossings between Gaza and the outside world – Karem Abu Salem Crossing and Erez Crossing controlled by Israel, and Rafah Crossing controlled by Egypt.

TOLL CROSSES 1,000 IN SYRIA COMMUNAL CLASHES AS INTERIM LEADER CALLS FOR PEACE

More than 1,000 people have been killed in Syria amid clashes between anti-government groups and security forces and a spate of “revenge killings”, in one of the deadliest episodes of violence in the country since its civil war erupted 14 years ago.

- According to the Britain-based Syrian Observatory for Human Rights, those killed include 745 civilians, 125 government security force members, and 148 militants of pro-Bashar al-Assad groups.
- In December, Syria’s long-time leader Bashar al-Assad was unseated by rebel groups. The violence coming months after has cast a shadow on the hopes of a stable future for Syria.



- Bashar al-Assad belongs to the Alawite community, a Shia sect of Islam. The Alawites, a minority, had dominated government posts under Assad, and are still loyal to him.
- The group that has come to power after his fall, Hayat Tahrir al-Sham (HTS), is an al-Qaeda offshoot. Alawites and other Syrian minorities, such as Christians and the Druze, fear they will face persecution under this hardline Sunni regime, although interim President Ahmed al-Sharaa has pledged to carry everyone along.
- On Thursday (March 6), pro-Assad militias attacked government forces in the coastal area of Jableh, dominated by Alawites. The militias targeted security patrols and checkpoints, killing 13 personnel.
- In the government crackdown that followed, scores of civilians were killed. The government forces were joined by armed Sunni fighters, who are reported to have targeted and killed Alawite people in revenge for atrocities under the Assad regime.

Do You Know:

- From 1971, Syria was in the control of Hafez al-Assad, Bashar's father and all-powerful President, seen by many as a dictator. Bashar took over in 2000 after Hafez died. In 2011, when the Arab Spring saw dictators being toppled across West Asia, protests began against Assad too.
- Many in Syria believed that while Sunnis were the majority, power and resources were concentrated in the hands of the Alawites. After coming to power, Assad had opened up the economy, but the gains had largely been limited to the elites. Thus, when protests began — initially peacefully — price rise and unemployment were among the major issues.
- According to DW, estimates suggest that, before the civil war started in 2011, Alawites made up somewhere between 10% and 13% of Syria's total population. As a religious sect, the Alawites are often referred to as an offshoot of Shia Islam. But their background is more complex than that. Alawi Islam emerged in the ninth century in northeastern Syria, a rich mixture of belief systems at the time, according to religious experts. The sect is notoriously secretive, but those who have been able to study it say Alawites have a differing interpretation of several pillars of Islam, which are considered foundational by orthodox Muslims.

BALUCH REBELS HIJACK PAK TRAIN, SAY 30 KILLED, 100 ARE HOSTAGE

Separatist militants launched an attack on the Jaffar Express, a passenger train carrying around 500 people in southwestern Pakistan's Balochistan province on Tuesday. Radio Pakistan has reported that 27 militants have been killed so far and 155 passengers have been rescued.

- Insurgents of the Balochistan Liberation Army (BLA) stopped a long-distance train in a rugged, mountainous area south of Quetta and took passengers hostage on Tuesday (March 11). In a statement, the BLA said they had killed 20 Pakistani Army personnel, shot down a military drone, and were holding 182 people hostage, Reuters reported on Tuesday evening.
- The nine-coach Jaffar Express, which was headed to Peshawar from Quetta, was targeted between Pehro Kunri and Gadalar in the Bolan area of Kachhi district, a Balochistan government spokesperson said. Armed men stopped the train with around 500 people on board in Tunnel No. 8, Controller Railways Muhammad Kashif said.



- The train, named after Mir Jaffar Khan Jamali, a Baloch tribal leader who was close to Pakistan's founder Muhammad Ali Jinnah, began running between the capital of Balochistan province and Rawalpindi more than 20 years ago. In 2017, the train was extended to Peshawar in Khyber Pakhtunkhwa for a journey of more than 1,600 km, touching several important Pakistani cities along the way.

Do You Know:

- The BLA are a Baloch ethnonationalist group who emerged in the early 2000s with the aim of achieving independence for Balochistan. Pakistan banned the organisation in 2006, and the United States designated it as a global terrorist organisation in 2019.
- The Majeed Brigade has been active since 2011, and has been involved in other strikes, including on a complex near Balochistan's Gwadar port in March 2024, which resulted in the deaths of several security personnel and militants.
- Balochistan is the largest but least populated of Pakistan's four provinces – Balochistan, Sindh, Punjab and Khyber Pakhtunkhwa. It has substantial reserves of oil and gas, alongside gold and copper deposits, but has lagged in economic growth compared to other regions in the country.
- Leaders of the ethnic Baloch minority have long blamed the central government for the region's economic backwardness, as well as the stranglehold of Punjab over the country's resources.
- After Partition, Balochistan remained independent until March 1948 as part of a friendship treaty with the new state of Pakistan. The Khan of Kalat, the main tribal leader whose writ ran over much of the region, was keen to remain independent, but came under tremendous pressure to join Pakistan, including from his feudatories, the rulers of Makran, Las Bela, and Kharan.
- He signed the instrument of accession, but the sentiment in favour of Baloch independence remained alive.
- Tens of thousands of Baloch nationalists and civilians have been killed in the insurgency over the past decades. Pakistan has accused India of aiding the Baloch insurgent groups – an allegation that India has strongly denied.

BANGLADESH'S PROTESTING STUDENTS HAVE A PARTY. THEIR CHALLENGE BEGINS

Following the Liberation War in 1971, a secular nation-state based on linguistic nationalism was established in Bangladesh. It was, in many ways, a rejection of the religious nationalism that continues to define Pakistan. Since its inception, however, Bangladesh has navigated a dual identity where Bengali linguistic nationalism has coexisted, often uneasily, with the influence of orthodox Islam in its political culture. Since Sheikh Hasina's ouster in August 2024, the latter has been regaining prominence. A stark example of this was visible in an incident in January when a women's football match was cancelled after students from a religious school vandalised the venue. Earlier, in November, a mystic sect promoting religious inclusivity had to cancel their music festival after Islamist threats. Post-Hasina, emboldened Islamist groups have been returning to the mainstream after facing crackdowns for years. Against this backdrop and ahead of the elections expected to take place this year, the student-led movement that spearheaded the protests that led to Hasina's downfall has launched the Jatiya Nagorik Party or the National Citizens' Party (NCP).



The NCP's promise of a "second republic" reflects a determination to reshape Bangladesh's political framework. The immediate challenge for the country is safeguarding its democratic credentials, which hinge on free and fair elections. Hasina's Awami League has been isolated. However, the support that the interim government initially enjoyed has also begun to fade, as Muhammad Yunus now faces pressure to deliver tangible results. Since Hasina's ouster, Bangladesh has been gripped by political turbulence and economic hardship, along with a deteriorating law-and-order situation. The NCP is entering the political scene at a time when the dust hasn't fully settled, and the people seek a strong and stable governance.

The transformation from an anti-establishment movement into a mainstream force is never easy. The NCP has made a strong start, with its display of religious inclusivity at its rally, where recitations from both the Quran and Bhagvad Gita sought to deliver a message of unity — significant, given concerns over the security of Hindu minorities in post-Hasina Bangladesh. If it pursues multiculturalism and secularism, it could pose a formidable threat to the right-wing Bangladesh Nationalist Party. The true test for the NCP will be whether it can fight for a more just, inclusive, and democratic Bangladesh.



DreamIAS



NATION

WHY VANUATU BOASTS ONE OF THE MOST POPULAR 'GOLDEN PASSPORT' SCHEMES

Former IPL chief Lalit Modi has applied to surrender his passport to the Indian High Commission in London, and acquired the citizenship of Vanuatu, a tiny island nation in the South Pacific, the Ministry of External Affairs confirmed on Friday.

— Vanuatu has a popular citizenship by investment (CBI) or “golden passport” program, which allows wealthy individuals to purchase its passport.

— CBI or economic citizenship allows individuals to acquire citizenship in a country by making significant financial contributions to its economy. Countries around the world offer foreigners citizenship to attract investment and stimulate economic growth.

— The cost of Vanuatu citizenship ranges from \$135,500 to \$155,500 (Rs 1.18 cr to 1.35 cr), with options to also purchase citizenship for a family of four.

— As of 2025, a Vanuatu passport allows visa-free entry to 113 countries. The Henley Passport Index ranks the Vanuatu passport as the 51st strongest in the world (out of 199 countries), ahead of Saudi Arabia (57), China (59), and Indonesia (64). India ranks 80th.

Do You Know:

— Comprising 83 fairly small volcanic islands, of which only 65 are inhabited, Vanuatu lies to the east of Australia and the north of New Zealand. Its northern- and southern-most islands lie 1,300 km apart — roughly the distance between Delhi and Kolkata as the crow flies.

— The country boasts a total land area of 12,199 sq km, about one and a half times that of the Andaman and Nicobar Islands (8,249 sq km). Only 14 of Vanuatu’s islands have an area greater than 100 sq km. The largest, Espiritu Santo, boasts an area of 3,955 sq km or roughly 32% of the land area of Vanuatu.

— The country’s capital Port Vila lies on the island of Efate, the third largest in Vanuatu with an area of nearly 900 sq km. Port Vila is also the largest city in Vanuatu, with a population of 49,034 according to the 2020 Census. It is located 2,394 km east of Cairns, Australia.

— The Constitution of India came into effect on January 26, 1950. However, it’s worth noting that the sections regarding citizenship were only put into effect on the day of the Constitution’s adoption, which was November 29, 1949.

— Although the term citizenship is not explicitly defined in the Constitution, Articles 5-11 outline the framework for citizenship at the time of the Constitution’s commencement. These provisions delineate the methods of acquiring citizenship, such as birth, domicile, and descent, as well as circumstances that disqualify individuals from obtaining Indian citizenship.

IN THE TERROR WEB

The United States Supreme Court on Thursday rejected the plea of the 2008 Mumbai terror attack accused Tahawwur Hussain Rana against his extradition to India. Rana, 64, had filed an “Emergency Application For Stay” after President Donald Trump approved his extradition



following his meeting with Prime Minister Narendra Modi last month. Rana will be extradited on the basis of the India-US Extradition Treaty signed by the two countries in 1997.

— Rana was arrested in Chicago in October 2009 for his involvement in the 26/11 attacks and the foiled attack on Danish newspaper Jyllands Posten that same year.

— The treaty established a legal framework for the extradition of individuals charged with or convicted of serious offences in either country. An offence is extraditable if it is punishable by imprisonment for more than one year under the laws of both countries.

— Political offences are not extraditable under the treaty. However, certain actions such as the murder or other willful crime against a Head of State/ Government or a member of their family, aircraft hijacking and aviation sabotage, crimes against internationally protected persons, and hostage-taking, etc., are not construed as political offences under the treaty.

— There have been only two extraditions of alleged terrorists from the US to India so far — alleged Khalistanis Charanjeet Singh Cheema and Kulbeer Singh Kulbeera in February 2005 and June 2006 respectively.

Do You Know:

— According to UNODC, Organized crime is a continuing criminal enterprise that rationally works to profit from illicit activities that are often in great public demand. Its continuing existence is maintained through corruption of public officials and the use of intimidation, threats or force to protect its operations.

— India and Bangladesh signed an extradition treaty in 2013, in the context of several Indian and Bangladesh fugitives hiding and operating out of the other country.

— According to the treaty, extradition may be refused if the offence is of “political nature”, although the list of offences which cannot be deemed “political” is rather long.

CENTRE ASKS GUJARAT COURT TO SERVE U.S. SUMMONS ON ADANI

The Union Law and Justice Ministry in February forwarded a summons from the U.S. Securities and Exchange Commission to a sessions court in Ahmedabad for it to be served on industrialist Gautam Adani at his address in the city, the Union government confirmed to The Hindu.

“Under consideration is a request for service of summons received from the Central Authority USA, under the Hague Convention for Service of Judicial and Extrajudicial Documents in Civil and Commercial Matters, 1965,” the government said in an internal note provided to The Hindu. “The documents have been checked and found to be in consonance with the Hague Convention. We may, if approved, forward the documents to the District & Sessions Court, Ahmedabad, Gujarat for effecting service upon the respondent.”

The letter to the sessions court is dated February 25. The Hague Convention allows a signatory country to directly request an agency in another country for assistance in serving legal papers for cases filed abroad.

In conjunction with federal prosecutors in the Eastern District of New York, the SEC sued Mr. Adani and his nephew Sagar Adani, in their capacities as executives of Adani Green Ltd, for allegedly concealing from American investors “the equivalent of hundreds of millions of dollars in



bribes to Indian government officials to secure their commitment to purchase energy at above-market rates that would benefit Adani green and Azure Power”, a solar energy plant operator. The case is ongoing at the U.S. District Court for the Eastern District of New York.

While the lawsuit led to considerable uncertainty for the Adani Group, the firm is reportedly acting on hope that the new administration in the U.S. under President Donald Trump — which has paused all enforcement of the Foreign Corrupt Practices Act, 1977 — would lead to less movement in the legal matters against Mr. Adani. The Financial Times reported recently that the Adani Group has resumed scouting for business opportunities in the U.S.

OLD TIES, NEW PRIORITIES

Prime Minister Narendra Modi’s visit to Mauritius this week, and his meeting with its newly elected Prime Minister Navin Ramgoolam, marked a decade since his last visit. His trip aimed to strengthen the India-Mauritius strategic partnership and launch new economic and development initiatives. While Mr. Ramgoolam’s previous tenure (2005–14) overlapped briefly with Mr. Modi’s, the two leaders have maintained close ties. Even during India’s strict COVID-19 lockdown, the Indian government facilitated Mr. Ramgoolam’s medical evacuation to India. Acknowledging this support, Mr. Ramgoolam warmly welcomed Mr. Modi as a guest at Mauritius’ National Day celebrations where he was also conferred the highest national award. Though not India’s closest geographical neighbour, Mauritius remains deeply connected to India. Over 70% of Mauritians are of Indian descent, with enduring cultural ties to India. While Mr. Modi’s engagements highlighted these shared historical and cultural bonds, the visit was primarily focused on strategic priorities. India seeks to strengthen its partnership with Mauritius as a key player in the Indian Ocean, an African nation, and a link to the Global South.

As part of this deepening partnership, the two leaders upgraded their strategic ties and committed to increased defence cooperation. India also announced several major economic initiatives, that include bilateral trade in national currencies, support for a new Mauritius parliament building, and a ₹487 crore credit facility to improve water infrastructure. These projects build upon previous Indian-led developments, such as an airstrip and jetty in the Agalega islands, the Mauritius Metro rail project, and the New Supreme Court Building. The visit also carried geopolitical implications. Mr. Ramgoolam has expressed a desire to renegotiate Mauritius’ agreement with the U.K. regarding sovereignty over the Chagos Archipelago, home to a U.S. military base in Diego Garcia. While India helped broker the previous deal under Prime Minister Pravin Jugnauth’s government, it has assured Mr. Ramgoolam of its full support in whatever course he chooses. Meanwhile, India is also watching China’s growing footprint. China’s strategic partnership with Mauritius includes a free trade agreement and bilateral trade worth \$1.1 billion — double that of India-Mauritius trade at \$554 million. With the PLA Navy’s increased presence in the Indian Ocean, Mr. Modi’s announcement of the MAHASAGAR doctrine is significant. At a time when shifting U.S. foreign policy threatens the international rules-based order, disrupts trade, and risks fragmenting global alliances into rigid spheres of influence, Mr. Modi’s visit has underscored India’s commitment to strengthening regional ties and reinforcing partnerships with trusted friends.

Do You Know:

- China’s assertion and its expanding footprint in the Indian Ocean has been closely tracked by Delhi. For this very reason, it has been firming up alliances, especially those related to maritime security, with island nations in the region.



- The decision to develop infrastructure in Agalega Islands was taken during the tenure of the Jugnauths. Delhi is now making an effort to reach out to the government led by Ramgoolam. Mauritius has been ruled by the Ramgoolams and the Jugnauths ever since the country became independent in 1968.
- For India, China's increasing footprint in the Indian Ocean region has been a cause of concern, and it wants to work closely with island countries like Mauritius. Notably, Mauritius faced the devastating Cyclone Chido last year, particularly affecting Agalega. India managed to mobilise its naval assets and utilise the facilities created in Agalega to deliver assistance and relief material.

THE STORY OF CHAGOS

Ahead of Prime Minister Narendra Modi's two-day visit to Mauritius this week, India affirmed its support for the island country's claim over the Chagos archipelago.

- "We support Mauritius in its stance on its sovereignty over Chagos, and this is obviously keeping with our long-standing position with regard to decolonisation and support for sovereignty and territorial integrity of other countries," Foreign Secretary Vikram Misri said last week.
- Mauritius had long claimed sovereignty over the Chagos islands, and raised the "illegal" British occupation at various international fora.
- 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"
- 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".

Do You Know:

- Chagos has long been the subject of a dispute between Mauritius and the UK, which held on to these islands for decades after granting independence to Mauritius in 1968.
- It was only last year that London officially recognised Mauritius' sovereign rights over all of Chagos, although it retained control over Diego Garcia, the largest island in the archipelago and home to a strategically important joint UK-US military base. The deal — which awaits final confirmation from Washington — has its critics not only in the US and the UK, but also in Mauritius, and among native Chagossians.
- 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.
- 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.

NEW DELHI CONSIDERS RESTORING HIGH COMMISSIONER TO CANADA TO RESET TIES

The government is considering restoring a High Commissioner to Canada, sources said, in signs that the exit of Canadian Prime Minister Justin Trudeau from office could signal a thaw in bilateral ties that have been virtually frozen since 2023 over the Nijjar case. Canadian Security Intelligence Service (CSIS) chief Daniel Rogers is set to visit India next week to attend a meeting of intelligence chiefs in Delhi.

The meeting will be the first such since the heated, extended exchange over the case between Indian and Canadian national security teams headed by National Security Adviser Ajit Doval and his Canadian counterpart in Singapore last October.

According to sources, the Ministry of External Affairs has discussed possible candidates to replace previous High Commissioner to Canada Sanjay Kumar Verma, as the position remains vacant since he was expelled along with five Indian diplomats a few days after that Singapore meeting. The Trudeau government called them “persons of interest” in the June 2023 killing of Khalistani separatist leader Hardeep Singh Nijjar, but the Modi government denied all the charges, and said no evidence has been shared of the claims, including those linking Home Minister Amit Shah to the plot.

New Delhi then withdrew its diplomats and expelled six Canadian diplomats including the Acting High Commissioner in retaliation. It is unclear whether a new Canadian High Commissioner to India will be appointed by the newly elected leader of the Liberal party and Prime Minister-designate, Mark Carney, after he is sworn in in the next few weeks, or after Canadian federal elections are held later this year, but sources said “diplomatic movements” are already underway.

In addition, both Mr. Carney and his Conservative Party rival Pierre Pollièvre have indicated they would like to rework ties with India.

Last week, Mr. Carney said there were “opportunities to rebuild relationships with India” as Canada diversifies trade ties in the wake of tensions with U.S. President Donald Trump over tariffs. “There needs to be a shared sense of values around that commercial relationship [with India]. If I am Prime Minister, I look forward to the opportunity to build that,” he said at a public event in Calgary.

Diplomats meeting

Some former diplomats from Delhi and Ottawa have met in the past few months for Track 2 discussions on how to rebuild ties that have skidded downhill since September 2023, when Mr. Trudeau announced in Parliament that Indian “government agents” were suspected to have orchestrated the killing of Nijjar outside a gurdwara in Brampton. They have said Mr. Trudeau’s departure is an opportunity for the relationship.

“Given the existential crisis Canada faces from Trump, India has to be an important piece of Canada’s diversification strategy. The lowest hanging fruit is the speedy return of High Commissioners to both capitals,” said former High Commissioner to Canada Vikas Swarup.



Former Canadian diplomat David McKinnon, who served in Delhi, concurred, while noting that the Nijjar case is now before the courts, and there would be some “twists and turns” in the trial that could still affect ties.

“Given his background, I would like to think Mark Carney will be inclined to engage in international relations more thoughtfully and quietly. But he is completely untested in the political realm, of course, and he will be relying on much of the same party apparatus that served Justin Trudeau as leader,” he added.

HOW, WHY APEX COURT LIMITED THE POWER OF ARREST UNDER GST, CUSTOMS ACTS

The Supreme Court last month curtailed the powers of officers making arrests under the Customs Act, 1962, and the Central Goods and Services Tax Act, 2017.

- The court in *Radhika Agarwal v Union of India* ruled that the powers exercised by custom officers under these acts are “analogous” to the powers of arrest, search and seizure exercised by police, that is, they are subject to the same restrictions and procedural standards that apply to police under the Code of Criminal Procedure, 1973.
- Among other things, these procedural standards include the right of an arrestee to be presented before a magistrate within 24 hours of her arrest, the obligation of an official to inform a friend or family member of the arrestee, and the right of an arrestee to have an advocate present in the vicinity during an interrogation.
- The recent ruling comes as a part of the SC’s ongoing effort to limit the broad powers of prosecuting agencies under stringent laws such as the Prevention of Money Laundering Act, 2002. The apex court last year in *Arvind Kejriwal v Directorate of Enforcement* laid down requirements for ED to legally arrest someone under the PMLA. In *Radhika Agarwal*, the court effectively transplanted these requirements to arrests being made under the Customs and CGST Acts.

Do You Know:

- Both the Customs and CGST Acts classify specific offences as being ‘cognisable’, for which arrests can be made without a warrant from the Magistrate. Section 104(4) of the Customs Act, for instance, classifies serious offences such as evading customs duty of over Rs 50 lakhs to be cognisable.
- But this does not mean that agencies have unfettered power to make arrests in such cases, as the SC held in *Kejriwal*. While granting bail to the former chief minister, the court had made several observations regarding the ED’s powers of arrest under Section 19 of the PMLA.
- The court referred to these in *Radhika Agarwal*, and expanded their scope to the Customs and CGST Acts.
- The requirements under Section 19 of the PMLA, as expanded by the court in *Kejriwal* and applied in *Radhika Agarwal*, are as follows.

—**MATERIAL IN POSSESSION:** The court in *Kejriwal* held that an arrest can only take place when the evidence in an officer’s possession “enables them to form an opinion, by recording reasons in writing that the arrestee is guilty”. The court said that all the material must be considered before making an arrest, and that an officer cannot ignore evidence that “exonerates” the arrestee.



—REASONS TO BELIEVE: The SC in Kejriwal held that the officer must record in writing their “reasons to believe” that an arrestee is guilty of an offence based on the material in their possession. While the court cannot examine the merits of these reasons, it can see if they are clearly connected to the case material, the court held. While the Customs and the CGST Acts do not contain a requirement to record reasons, the SC held that this was implicit.

—PROVIDING GROUNDS OF ARREST: The court in Kejriwal held that the grounds for arrest must be provided to the arrestee so that she can challenge the arrest or apply for bail in court. Without this information, the court said that an arrestee would be on the backfoot as she would not have the necessary information to file her case.

HC DISALLOWS DEVOTEE FROM ROLLING OVER USED PLANTAIN LEAVES AFTER ANNADHANAM

A Division Bench comprising two judges of the Madras High Court on Thursday set aside a single judge’s order dated May 17, 2024, which had permitted a devotee of a saint to roll over the plantain leaves left behind by people after an annadhanam (donation of food).

Justices R. Suresh Kumar and G. Arul Murugan allowed a writ appeal filed by the Karur Collector against Justice G.R. Swaminathan’s verdict that the devotee had the fundamental right to perform angapradakshanam on the used banana leaves after the guests had partaken of the meal.

The Bench held that devotees could not be permitted to follow the practice of rolling over the plantain leaves till the Supreme Court decides a related case.

It also said the single judge ought not to have granted permission when another Division Bench led by Justice S. Manikumar (since retired) had ruled against the practice in 2015. The Division Bench led by Justice Suresh Kumar had reserved the verdict in the Madurai Bench of the Madras High Court on July 30, 2024, but delivered it at its principal seat in Chennai, since both judges had since returned to the principal seat after the completion of a three-month tenure in Madurai.

The issue relates to a writ petition filed by P. Naveen Kumar in the Madurai Bench last year seeking a direction to the Collector to grant permission to him to offer annadhanam and perform angapradakshanam over the plantain leaves used for consuming food.

The petitioner had intended to perform the angapradakshanam on May 18, 2024 — the Jeeva Samadhi day of saint Sri Sadasiva Brahmendral, who had been buried alive at Nerur village in Manmangalam taluk of Karur district.

Justice Swaminathan had allowed the writ petition and held that the devotee need not seek anyone’s permission for performing the ritual, since Article 25(1) of the Constitution guarantees the right to freedom of conscience and freely profess and practise religion.

“As regards the question of human dignity, I can only remark that in religious matters, it is not open to third parties, except in exceptional circumstances, to make peremptory declaration as to what is dignified and what is not,” the single judge had said.

HC verdict cited

However, in his grounds of appeal, the Collector recalled that a Division Bench of Justices S. Manikumar and S. Velumani (both retired now) had, in 2015, directed the Karur district administration not to allow anyone to roll over used plantain leaves after annadhanam.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



That order was passed in a public interest litigation (PIL) petition, and it had attained finality on not being challenged by anyone before the Supreme Court. Therefore, the single judge ought not to have allowed Mr. Naveen Kumar's writ petition, the Collector argued.

"When a Division Bench had given a judgment in consensus, a single judge cannot overrule the same or nullify the order," the Collector had said, and brought to the notice of the court that the angaprada kshanam takes place on a public road and not inside the saint's tomb in Nerur.

ARE UNIQUE ELECTORAL ID NUMBERS BEING DUPLICATED?

The story so far:

On February 27, West Bengal Chief Minister Mamata Banerjee alleged that the ruling BJP was "with the blessings of Election Commission of India [EC]" including voters from other States in the West Bengal voters' list. She cited multiple voters with the same Electors Photo Identity Card (EPIC) numbers. The EC responded that irrespective of the EPIC number, a person can cast a vote only at their designated polling stations in their respective States or UTs. The poll body said it would remove these duplications. The Trinamool Congress rejected the clarification stating that it was a "cover-up".

What is an EPIC card?

The EPIC number is a 10-digit voter ID card number issued by the EC to each voter. The number is a unique alphanumeric code assigned to each registered elector to prevent impersonation. It was introduced in 1993 under the Registration of Electors Rules, 1960, to enhance electoral transparency. It is assigned via the ERONET digital platform when a new voter registers, after which it is linked to State and constituency data to ensure regional uniqueness. The ERONET is a web-based platform which was developed for election officials, in multiple languages and scripts, to handle all processes pertaining to registration, migration, and deletion of names from electoral rolls. The platform automates the process of electoral roll management.

What was the EC's response?

The Commission said that the allotment of identical EPIC numbers to some voters from different States or UTs was due to the decentralised and manual mechanism being followed prior to shifting the electoral roll database of all States/UTs to the ERONET platform. "This resulted in certain State/UT CEO offices using the same EPIC alphanumeric series and leaving a scope for the possibility of duplicate EPIC numbers being allotted to electors in different Assembly Constituencies in different States/UTs".

However, it clarified that while EPIC numbers of some of the electors may be identical, the other details including demographic details, constituency and polling booth are different for voters with the same EPIC number. It said that irrespective of the EPIC number, an elector can cast a vote only at their designated polling station in their respective constituency in their State/UT where they are enrolled in the electoral roll and nowhere else. In order to allay any apprehensions, the EC said that it would ensure allotment of unique EPIC numbers to registered electors. "Any case of duplicate EPIC number will be rectified by allotting a unique EPIC number. The ERONET 2.0 platform will be updated to aid and assist in this process".



What has Trinamool Congress said?

The Trinamool Congress has countered the EC clarification. Trinamool MP Saket Gokhale said that a voter was linked to his photo by the EPIC number. So, when a voter in Bengal goes to cast his vote, his photo on the electoral roll will be different if the same EPIC number has been allotted to a person in another State. This will lead to the refusal of voting due to a photo mismatch. He alleged that by allotting the same EPIC numbers in different States, voting can be denied to those who are likely to vote for non-BJP parties due to photo mismatch. He added that the EC rules mandate that the software used for issuing EPIC cards keeps track of every used and unused number to ensure that the same EPIC number is not allotted to multiple people.

“This clearly reeks of a conspiracy to conduct voter suppression in favour of the BJP, where voters in non-BJP areas are being targeted by issuing their EPIC numbers to people in other States” Mr. Gokhale said. The Trinamool Congress has promised to give more ‘evidence’ on the voter ID row.

WELCOME GESTURE

The initiative by the newly appointed commissioners of the Election Commission of India (ECI) to invite political party representatives and leaders for an interaction to “strengthen electoral processes” is a welcome move. The move was precipitated by the rising complaints and grievances raised by the Opposition relating to voter registration and turnout, and other matters concerning the conduct of elections. The ECI has also asked parties to submit suggestions on issues concerned besides instructing provincial officials to interact with party representatives on a regular basis. In the recent past, the ECI had taken an unusually aggressive posture in responding to the Opposition’s complaints, which included being dismissive of genuine grievances such as undue delays in publishing voter turnout figures and even going on to admonish its critics. Such gestures only deepened distrust among political parties. While the Opposition has sown so much doubt on issues such as the functioning of the Electronic Voting Machine, resulting in an atmosphere of scepticism seeping into the minds of a majority of voters, the ECI could also have done more to reassure voters about the robustness of the electoral process related to electronic voting. Other legitimate issues, which include regulation of campaigns, action against hate speech, and the timing of elections at various levels also need a thoroughgoing review, and the ECI must be receptive to the critique of its functioning on these issues. There is also the question of the constitution of the ECI and the appointment of the Chief Election Commissioner, but that is a matter now in the hands of the Supreme Court.

One of Indian democracy’s most salient features since Independence has been the ECI’s evolution and its autonomous role in the conduct of periodic elections, leading to increased voter participation and more faith in electoral democracy. This conduct, as the processes evolved, has emphasised transparency, accountability, and the clear and robust release of relevant and verifiable information related to elections. While the Electors Photo Identification Card issue related to duplicate numbers for voters across States is largely trivial — as the ECI has averred — the more serious issues related to voters being registered in different polling locations require to be rectified. The ECI must also ensure a level playing field during campaigns so that there is no undue advantage for the ruling party — a grievance widely expressed by Opposition forces across States. Regular interactions with political party representatives and a clear release of verifiable information will go a long way in allaying fears about the tried and tested electoral process in the country.



POLICE ORDER CRACKDOWN ON PUBLIC BROADCAST OF 'DOUBLE-MEANING' BHOJPURI SONGS IN BIHAR

Days after a song by popular rapper Yo Yo Honey Singh kicked up a row in the state, the Bihar Police have ordered a crackdown on the public broadcast of “vulgar” Bhojpuri songs. The songs, according to an order from March 7, “undermine the safety and dignity of women”.

- The order from Bihar ADGP for Weaker Sections Amit Kumar Jain directs senior officers to conduct special campaigns and file FIRs to eliminate the broadcasting of “vulgar” songs.
- The order states: “You are all instructed to conduct a special campaign to completely eliminate the broadcasting of obscene Bhojpuri songs in your respective areas, identify such cases, and direct all subordinates to register FIRs under Section 296/79 of the Bharatiya Nyaya Sanhita, 2023, and other relevant sections”.
- While Section 279 deals with ‘obscene acts and songs’, Section 79 deals with ‘word, gesture or act intended to insult the modesty of a woman’.
- Saying such songs, “broadcasted freely and without interruption”, have adverse effects, the order asks all Senior Superintendents of Police (SSP), Superintendents of Police (SP), including the railway police, to implement campaigns at all public spaces.
- “The cheap double-meaning Bhojpuri songs contribute to a culture of disrespect towards women, making them feel unsafe or experience shame in some way. Additionally, these songs send inappropriate messages to children, potentially influencing their behaviour negatively,” the ADG stated.

Do You Know:

- The Oxford dictionary defines obscene as ‘offensive or disgusting by accepted standards of morality and decency’.
- Section 294 of the BNS punishes those who sell, import, export, advertise, or profit from obscene material such as books, paintings, and figures and also includes the “display of any content in electronic form”.

EVERY DAY IS WOMEN’S DAY — WITH OR WITHOUT SUPPORT

It is often easy to lose sight of the struggles and assertions that paved the way to International Women’s Day. In 1909, spurred by labour movements across the world, close to 20,000 female garment factory workers took out a march in New York, demanding better pay, shorter work hours and voting rights. The New York Shirtwaist Strike would become the inspiration for the International Women’s Day proposed by German activist Clara Zetkin during the Second International Conference of Working Women in Copenhagen in 1910 and adopted over time across the world. The Indian Constitution guaranteed many of these hard-won rights — universal suffrage and equality before the law, among them — to women from the moment it came into existence. But, in practice, like their counterparts elsewhere, Indian women have had to work twice as hard, and more, to make themselves seen and heard. It is, therefore, a mark of their remarkable resolve and determination that, today and going ahead, women-led development has become one of the foundational promises of governance in the country. Political parties across the



spectrum are reaching out to them with competing promises and schemes, which keep their aspirations at their core.

In a sense, political parties have only acknowledged, and responded to, an upsurge from below. The Female Gross Enrolment Ratio (GER) has overtaken Male GER since 2017-18. In medicine, for every 100 men, there were 100 women enrolled in medical colleges in India in 2020-21. At premier institutes of higher education such as the IITs, there is an increasing representation of women, supported by good-faith affirmative action. These changes signal an innate resilience where progress is achieved despite hurdles, with or without the support of men. Their irrepressible force has ensured that every day is women's day in the country. A female gaze that nurtures their passage from home to the larger world is being empowered and institutionalised in the system.

Yet, the male gaze continues to constrict the imagination of women's rights — in the way that the same schemes that address women and acknowledge their agency, such as the Ladki Bahin Yojana and the Mahalakshmi Scheme in Maharashtra, the Kanyashree in West Bengal or Ladli Behna Yojana in Madhya Pradesh, can also reduce the woman to a mere beneficiary of doles; or, in the design of public spaces and transport systems that don't take into account women's safety. A report published by the UN on March 6 shows that in 2024, nearly a quarter of governments worldwide reported a backslide on women's rights. In India, legal provisions such as the Uniform Civil Code introduced in Uttarakhand, for instance, infantilise their choice by insisting upon regulating who they fall in love with or choose to share a home with. The Time Use Survey 2024 (January-December), released by the MoSPI last month, shows that women spend more time in unpaid work at home compared to men, that despite a rise in labour force participation – 41.7 per cent as per data from the Periodic Labour Force Survey 2023-24 — they still account for a small proportion of the total workforce and much of it remains self-employment. Despite the roadblocks, like the Maya Angelou poem, she still rises.

A VOLUNTARY MANDATE

The introduction of an Automated Permanent Academic Account Registry (APAAR) ID by the Ministry of Education, to digitise the academic transcripts of every student, aims to ensure a “single source of truth” for all their records throughout their life in the academic ecosystem in India. Linked with Aadhaar, APAAR is far from the first such step towards a rapid digitisation of school records in India: since the implementation of the National Education Policy, 2020, education authorities have pushed the Unified District Information System for Education Plus (UDISE+) and the Student Database Management Information System. While these radically novel technocratic overhauls of record-keeping are one thing, the blatantly unlawful ways in which they are being pushed on parents and wielded as weapons at the State level are quite another. The description of APAAR as unlawful is no mere interpretation: the Education Ministry's website is clear that the programme is not mandatory, with no law mandating its usage. But schools and district education administrators do not seem to be operating within that reality.

In Uttar Pradesh and Karnataka, schools have been given an unambiguous target: 100% “saturation,” or complete enrolment of all students. In their fervour to attain this target, schools have warned parents of consequences in the event of non-enrolment, and State education authorities have rattled their sabres at religious minority institutions and even at fellow administrators, alleging a mismatch of enrolment data between APAAR and existing records. In the initial days of what has now been rechristened as Digital Public Infrastructure (DPI), the government had similarly been all too keen to propagate Aadhaar and services such as Digi Yatra



to an unsuspecting (and too often non-consenting) public, achieving such broad coverage that a formal mandate later becomes a fait accompli. All-too-familiar issues such as name mismatches, leading to failure of enrolment, have also emerged. It is important for informed consent to be the bedrock of any DPI. Else, it risks being mandated de facto. Collecting and digitising this data — with tall claims of security and convenience — should be alarming when the Digital Personal Data Protection Act, 2023 has yet to take effect. More importantly, the Supreme Court of India has ruled, in its right to privacy judgment, that Aadhaar cannot be mandated for basic education. APAAR is an ill-disguised proxy that steers clear of the text — but not the spirit — of that judgment. If the government wishes to undertake the goal of improving the reliability and accessibility of education records, it should back its administration of that effort with legislation.

WHAT DOES NEP, 2020 STATE ABOUT LANGUAGES?

The story so far:

Tamil Nadu's resistance to adopting the three-language policy as mandated under the National Education Policy (NEP, 2020) has brought the age-old language debate back under the limelight.

What does NEP 2020 state about language instruction?

Formed after five years of consultations, NEP, 2020 which replaces the previous education policy of 1986 has stated that wherever possible, the medium of instruction, for students in both public and private schools, until at least Grade 5, but preferably till Grade 8 and beyond, will be in the home language or the mother tongue or the local language or the regional language. Thereafter, the home or local language shall continue to be taught as a language wherever possible. Experts who penned the NEP, 2020, led by former Indian Space Research Organisation (ISRO) chairman K. Kasturirangan, suggested that young children learn and grasp non-trivial concepts more quickly in their home language or mother tongue. The NEP 2020 document states, "Research clearly shows that children pick up languages extremely quickly between the ages of two and eight and that multilingualism has great cognitive benefits to young students, children will be exposed to different languages early on (but with a particular emphasis on the mother tongue), starting from the Foundational Stage onwards." To that end adopting bilingualism (mother tongue along with English) is encouraged in the NEP.

In Haryana for instance, pre-school educators in anganwadis use study material like colourful textbooks to teach alphabets and numbers in Hindi and English, with both Hindi and English fonts printed on the same page accompanied with vivid imagery.

What did the AISES find regarding languages taught in schools?

The eighth All India School Education Survey (AISES), carried out by the National Council of Educational Research and Training (NCERT), remains the latest country-wide survey on the medium of instruction and languages taught. It points out that even though a majority number of schools have their mother tongue as the medium of instruction, this number has been coming down over the years (between 2002 to 2009). The eighth survey points out that 86.62% schools teach via the mother tongue at the primary stage as compared to 92.07% schools in the seventh survey. Pointing at the urban-rural divide, the eighth AISES points that 87.56% schools in rural and 80.99% schools in urban areas have their mother tongue as the medium of instruction as compared to 92.39% schools in rural and 90.39% schools in urban areas in the seventh survey.



What is the three-language formula?

The current three-language formula proposed by NEP 2020 has considerably departed from the previously enunciated policy in 1968 which emphasised study of Hindi, English and a modern Indian language (preferably one of the southern languages) in Hindi-speaking States and Hindi, English and a regional language in non-Hindi speaking States. In contrast, the NEP 2020 states that it provides greater flexibility in the three-language formula, and that no language will be imposed on any State. But it does encourage some languages. The policy document dedicates an entire section to lauding Sanskrit and pushes for its inclusion as an option in the three-language formula. The policy document also goes on to say that classical languages, including classical Tamil, Telugu, Kannada, Malayalam, Odia and additionally Pali, Persian, and Prakrit should be available as options.

Additionally, NEP 2020 mentions that in order to promote learning in mother tongue, high-quality textbooks, including in science, will be made available in home languages/mother tongue. To improve access to such educational materials, the NCERT released a set of digital books in 104 regional languages and dialects in 2024, which include Bengali, Khandeshi, Tulu, Ladakhi, Pashto, Bhili, Dogri, Lahuli (Pattani), Car Nicobarese among others. NCERT officials have said that it is the responsibility of the respective State Councils of Educational Research and Training (SCERTs) to facilitate translations in their respective languages. Last year, Assam following the NEP call, launched bilingual textbooks for Science and Maths in English, Assamese, Bodo as well as Bengali. Andhra Pradesh too introduced bilingual textbooks consisting of Telugu and English in 2023.

However, the implementation of the three-language formula has been poor. For instance, while Tamil was made the second language in 1969 by Haryana's former Chief Minister Bansi Lal, the language was removed from its status in 2010 due to lack of Tamil speakers. Similarly, State education officials in Himachal Pradesh have been unable to offer Telugu and Tamil as language options due to inability to find teachers for these languages.

What about foreign languages?

NEP 2020 states that foreign languages, such as Korean, Japanese, Thai, French, German, Spanish, Portuguese, and Russian, will also be offered at the secondary level. According to a plan formulated by the Central Board of Secondary Education (CBSE), students are to learn two Indian languages till Class 10, and in Class 11 and 12 they have an option to choose to learn one Indian language and one foreign language.

T.N. OPTS FOR TAMIL LETTER 'ரூ' INSTEAD OF '₹' SYMBOL IN STATE BUDGET LOGO

Stepping up the campaign to promote Tamil, Chief Minister M.K. Stalin on Thursday released a promotional logo for the Tamil Nadu Budget for 2025-26, replacing the Indian currency symbol, ₹, used in the previous financial year's Budget with the Tamil letter 'Roo' ('ரூ') to denote 'Roobai' (the Tamil word for the currency).

The Budget will be presented on Friday.

The logo, shared on the official X page of the Chief Minister, carried the slogan Ellarkum Ellam (everything for everyone) conveying the idea of inclusiveness. The promotional video produced by the Information and Public Relations Department has included the Sangam period Purananooru verse in praise of the Chera King Cheraman Palai Paadiiya Perumkadungo.



Official sources said the Tamil Nadu government, in its Budget document, was using the Tamil letter 'ரூ' and the English word rupees and had not opted for the symbol ₹ in the text.

"The Chief Minister has used Tamil, one of the 15 languages in the Indian currency. It is not against the Constitution," an official source said.

BJP slams the move

BJP State president K. Annamalai criticised the DMK government for replacing the rupee symbol ₹, which is a blend of the Devanagari 'Ra' for rupiah and the Roman 'R' for rupees in English.

The symbol ₹ was designed by D. Udaya Kumar, who won a national contest to design a symbol for the rupee in 2010. He is the son of former DMK MLA N. Dharmalingam, who won from Rishivandiyam in the 1971 election.

CENTRE, STATE, PARTY

There are potential minor and major storms brewing around federalism in India. The question of delimitation and the balance of representation between the states of North and South India requires political finesse.

— The horizontal imbalance between states in terms of development continues to remain a challenge. The functional division of powers between the State, Central and Concurrent lists needs to be renegotiated in light of current development predicaments.

— A general tendency towards growing authoritarianism will also, in its broad contours, undermine federalism. And occasionally, the politics of cultural representation — appalling stereotypes of states — also rears its head.

— The practice of federalism is, in effect, always a messy affair. There are many different angles from which the problem can be addressed. There is a vast literature on what might be called the "first principles" administrative approach to federalism.

— It has to be said that in the history of Indian federalism, the centralisation that we see was increasingly co-produced by the Centre and states. The ascendancy of centrally sponsored schemes, the new bone of contention between the Centre and the states, was largely a function of the fact that health and education, the two items that used to be on the State List, were for decades amongst the most significant failures of states.

— The politics of federalism is also complicated by the fact that political, cultural, administrative and economic federalism are not governed by a single logic.

— The legislature's functioning has been more or less superseded by the political party, especially after the introduction of the anti-defection law. Parliament cannot effectively exercise oversight over the executive because party government and partisanship supersede all other formal allocation of powers. This is also a big challenge for federalism.

— When we think of federalism, we often think of the relationship between the Centre and individual states. But in a way, there are three actors here (ignoring local government, for a moment). There is the Centre, individual states, and the states taken together.



— In a way, the GST is a perfect example, where states together take collective decisions that are binding on all states: Technically, the determination of GST rates is not a Centre versus state issue.

Do You Know:

— The journey of India towards federalism began with its struggle for independence from colonial rule. The demand for autonomy and self-governance had a significant influence on a variety of linguistic, cultural, and geographical groupings. The framers of the Indian Constitution recognised the need to uphold our ethos, i.e. unity in diversity.

— Consequently, the Indian Constitution established a federal system of governance. It possesses all the traits of a federation such as bicameralism, two governments (the Union and the State), a written constitution that is neither too easy nor too stiff to amend, and an independent court to uphold the system of checks and balances.

ISM DHANBAD, 4 IITS, 2 IIMS AMONG 9 INDIAN INSTITUTES IN QS GLOBAL TOP 50

The Indian School of Mines in Dhanbad, which is an IIT, has secured the highest rank for an Indian institution in the QS World University Rankings by Subject 2025, standing at rank 20 globally in Engineering (Mineral and Mining)—an improvement from rank 41 last year.

- Global higher education analysis Quacquarelli Symonds (QS) released the rankings on Wednesday. Seventy-nine Indian institutions featured in the rankings this year, 10 more than the 69 in 2024.
- Nine Indian institutions featured in the top 50 across subjects. This also included the Indian Institutes of Technology in Delhi, Bombay, Madras, and Kharagpur; the IIMs in Ahmedabad and Bangalore; and Jawaharlal Nehru University (JNU). The only private Indian institution in the top 50 was Saveetha Institute of Medical and Technical Sciences, Chennai, ranked 26 in Dentistry.
- While it remains in the top 50, IIT Madras has seen a drop in its ranking, from 16 last year to 31 in Petroleum Engineering.
- IIT Delhi was ranked 26 in Engineering and Technology, making it the best-performing Indian institution in the subject, followed by IIT Bombay at rank 28. Both IITs have performed better compared to their ranking of 45 last year.
- IIM Ahmedabad was ranked 27 in Business and Management Studies, while IIM Bangalore secured rank 40 in the same subject. Both institutions have dropped in their rankings compared to last year— IIM Ahmedabad ranked 22, while IIM Bangalore secured a rank of 32 last year.
- JNU has also seen a drop in its ranking from 20 last year to 29 in Development Studies.

Do You Know:

- The QS World University Rankings is a portfolio of comparative college and university rankings compiled by Quacquarelli Symonds, a higher education analytics firm.
- Its first and earliest edition was published in collaboration with Times Higher Education (THE) magazine as Times Higher Education–QS World University Rankings, inaugurated in 2004 to provide an independent source of comparative data about university performance.



- In 2009, the two organizations parted ways to produce independent university rankings, the QS World University Rankings and THE World University Rankings.

WHY ARE INDIAN FIRMS RACING TO BUILD LOCAL AI?

The story so far:

On March 6, the Ministry of Electronics and Information Technology's IndiaAI Mission launched AI Kosha, a national dataset platform that will gather non-personal data from various ministries and departments in order to develop Artificial Intelligence models and tools. It also launched the Common Compute portal to allow startups and academia to access a shared pool of Graphics Processing Units (GPUs) to build and run AI models and tools.

What is the IndiaAI Mission?

The IndiaAI portal was initially set up as a joint initiative between the Ministry of Electronics and Information Technology and the Indian tech industry association Nasscom in 2023. The portal has evolved into a mission led entirely by the Union government, announced last March with an outlay of ₹10,371.92 crore. The mission was approved by the Union Cabinet amid the rapid proliferation and development of generative AI models like ChatGPT and an increased global enthusiasm to develop AI. The key objectives of the mission were: "Making AI in India and Making AI Work for India".

While the mission works on many interventions and resources for private companies and academia to research and build AI, a key one that has emerged in recent weeks has been the Common Compute facility to provide GPUs to startups that may not be able to buy them independently in a large volume.

GPUs, also known as graphics cards, are a key component in many PCs and phones that allow these devices to render images and graphics. However, AI researchers have long used GPUs to run enormously complex calculations involving massive volumes of data. Generative AI models, which can only be created ("trained") and run when they have access to such computing resources, have become a major use case of GPUs. This is what has enabled firms like Nvidia to foray far beyond video gaming to become an essential component of AI infrastructure around the world. However, GPUs are expensive. Blackwell, a GPU made by Nvidia, is reportedly sold out until this October. As such, the IndiaAI Mission has started empanelling data centres in India that have GPUs to provide access to their computing resources to startups and researchers. This access will be handled by the mission, which will decide which entities will get how much computing resource access, and for how long. As of now, 14,000 GPUs have been acquired and commissioned for use by empanelled data centres so far, according to IT Minister Ashwini Vaishnaw, with more to be acquired on a quarterly basis.

What is AI Kosha?

AI Kosha is the implementation of another pillar of the mission: the IndiaAI Datasets Platform. One of the main issues with building AI models from scratch — or to some extent even adapting existing models to India — is that they are largely trained on Western models that are heavily biased towards English and developed countries. The fact that many internet users are navigating the web and contributing to discussions online in English even if it is not their main language in India — as The Hindu has reported — has been a major challenge in putting together such data. The AI Kosha is the beginning of an attempt, therefore, to make India-specific data much more

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widely available. The datasets that have so far been uploaded — such as translation models between several “pairs” of Indian languages — are an effort to diminish this bias by giving researchers and firms building AI tools in India wider access to local content.

Many open source AI models would theoretically allow an Indian firm to build their own powerful generative AI tools, such as chatbots. But local data, policymakers and developers have argued, are critical to ensure that such deployments are actually useful over what foreign firms like OpenAI and Google already offer.

What else does the IndiaAI Mission work on?

The mission has seven pillars overall. While the Common Compute facility and AI Kosha have been under particular focus due to developments like DeepSeek — the Chinese AI model that was trained at a far lower cost than competing models from the U.S. — there are other aspects that policymakers have targeted.

One is the AI Safety Institute of India, which is yet to be formally launched. Such institutes are being created or accredited around the world to develop guardrails around unintended consequences of AI deployments, and to study the risks of the mushrooming use of AI across the industry and government. These include everything from making sure that a chatbot doesn’t give away a recipe for a bomb (for example), to making sure that specialised AI tools, like those used in biomedical research, are reliable and can “explain” their output.

Other pillars include the IndiaAI Innovation Centre, which aims to create “domain-specific foundation models”; an application development initiative to help develop use-cases that can be commercialised or put to productive use; Futureskills, an initiative to develop AI labs in smaller cities; and startup financing.

A key effort that dovetails with many of these pillars is the request for proposals put out by the mission to develop an indigenously developed foundation model. Building a foundational model — the main program that a generative AI tool runs on — is highly resource-intensive and accounts for the bulk of developing AI models. The Union government is keen on facilitating this process in a matter of months, Mr. Vaishnav has said, and 67 applications have already been received by the mission, which is evaluating these at present.

ISRO UNDOCKS SPADEX SATELLITES IN FIRST ATTEMPT

Nearly two months after the Indian Space Research Organisation (ISRO) carried out the docking of the two satellites which are part of the Space Docking Experiment (SpaDeX) mission, the space agency on Thursday accomplished their undocking.

The space agency said that it had accomplished the feat in its very first attempt. The undocking operation was executed at 9.20 a.m.

“The undocking of the satellites took place in a 460 km circular orbit with 45-degree inclination. The satellites are now orbiting independently and their health is normal,” the agency said.

“With this, ISRO has now successfully demonstrated all the capabilities required for rendezvous, docking and undocking operations in a circular orbit.”

It said that the in-orbit performance of the docked satellites was extensively analysed and an immediate opportunity was found to be feasible from March 10 to 25.

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“All operations were monitored through ground stations located in Bengaluru, Lucknow and Mauritius. Having accomplished this major milestone of undocking, further experiments with satellites are planned for the coming days,” the ISRO said.

It further said that exhaustive ground simulations and analysis were the cornerstones of achieving the undocking in the first attempt itself. “Various tests replicating on-orbit conditions were meticulously planned and carried out in preparation for the earliest opportunity for undocking operations,” it said.

On January 16, the ISRO successfully executed the SpaDeX docking experiment, making India the fourth country after the U.S., Russia and China to achieve this historic feat.

The two satellites SDX01 (Chaser) and SDX02 (Target), which were launched by the PSLV C60 on December 30, were successfully docked on January 16.

Following this historic feat, the space agency had said that the undocking would be carried out in the coming days.

The SpaDeX mission is an important project by the ISRO. It is designed to develop and demonstrate the technology needed for spacecraft rendezvous, docking and undocking using two small satellites.

Objectives of mission

The demonstration of this technology is essential for futuristic missions such as sending an Indian astronaut to the moon, returning samples from the moon, and building and operation of an Indian Space Station.

The other objectives of the SpaDex mission include demonstration of the transfer of electric power between the docked spacecraft, which is essential for future applications, such as in-space robotics, composite spacecraft control and payload operations after undocking.

NEW DELHI IS MOST POLLUTED CAPITAL, BYRNIHAT IN MEGHALAYA TOPS LIST OF CITIES

NEW DELHI continues to be the world’s most polluted capital while Meghalaya’s Byrnihat is the world’s most polluted metropolitan area, according to the 2024 World Air Quality Report released on Tuesday.

- With an average annual PM 2.5 concentration of 91.8 $\mu\text{g}/\text{m}^3$, New Delhi remained the most polluted capital city followed by Chad’s N’Djamena (91.6) and Dhaka (78).
- In fact, between 2018 and 2024, New Delhi has topped the list — except in 2022 when N’Djamena edged past it.
- PM (Particulate Matter) 2.5, which remains suspended in the air, has significant adverse effects on health, causing and worsening respiratory illnesses as well as leading to an increased risk of cardiovascular diseases.
- While the World Health Organization (WHO) annual guideline for PM 2.5 is 5 micrograms per cubic metre ($\mu\text{g}/\text{m}^3$), India’s Central Pollution Control Board has set it at 40 $\mu\text{g}/\text{m}^3$.
- Major sources of PM 2.5 include combustion engines, power generation, industrial activities, crop burning and agricultural practices, and wood and coal burning.

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- According to the latest report, prepared by Swiss air quality technology company IQAir, 13 of the world's 20 most polluted cities are in India, with Byrnihat topping the chart with an annual average PM 2.5 concentration of 128.2 $\mu\text{g}/\text{m}^3$.
- The other cities are Mullanpur (Punjab), Faridabad, Loni, Gurgaon, Ganganagar, Greater Noida, Bhiwadi, Muzaffarnagar, Hanumangarh, Noida, New Delhi (Central Delhi) and Delhi (average for the rest of the city).
- India is the fifth most polluted country, with an average PM 2.5 of 50.6 $\mu\text{g}/\text{m}^3$ — 10 times higher than the WHO annual PM 2.5 guideline value of 5 $\mu\text{g}/\text{m}^3$. In 2023, India was the third most polluted country.
- The report has relied on data from over 40,000 air quality monitoring stations at 8,954 locations in 138 countries, territories and regions. It was analysed by IQAir's air quality scientists.

Do You Know:

- According to the 7th annual World Air Quality Report, thirteen of the world's 20 most polluted cities are in India. The most polluted city in the world is Byrnihat on the border of Assam and Meghalaya, according to the report. IQAir examined data collected from 40,000 air quality monitoring stations in 138 countries.
- The report looked specifically at concentrations of fine particulate matter, or PM_{2.5}, one of the smallest but most dangerous of pollutants. PM_{2.5} comes from sources such as the combustion of fossil fuels, and can cause respiratory problems, chronic kidney disease, cancer, and stroke or heart attacks
- Airborne particulate matter (PM) is not a single pollutant, but rather is a mixture of many chemical species. It is a complex mixture of solids and aerosols composed of small droplets of liquid, dry solid fragments, and solid cores with liquid coatings. Particles vary widely in size, shape and chemical composition, and may contain inorganic ions, metallic compounds, elemental carbon, organic compounds, and compounds from the earth's crust. Particles are defined by their diameter for air quality regulatory purposes. Those with a diameter of 10 microns or less (PM₁₀) are inhalable into the lungs and can induce adverse health effects. Fine particulate matter is defined as particles that are 2.5 microns or less in diameter (PM_{2.5}).
- Only seven countries met the WHO guidelines for annual average PM_{2.5} level. They are Australia, Bahamas, Barbados, Estonia, Grenada, Iceland, and New Zealand. Oceania is the cleanest region, with 57% of the regional cities meeting the WHO guideline value. The region comprises three countries — Australia, French Polynesia and New Zealand.
- No city in East Asia, South East Asia and West Asia met the WHO guidelines, the report said.

Other key findings of the report are:

- Only 17% of cities across the world met WHO air pollution guidelines. —Out of the 138 countries and regions, 126 (91.3%) exceeded the WHO annual PM 2.5 guideline value of 5 $\mu\text{g}/\text{m}^3$.
- Central and South Asia were home to the top seven most polluted cities in the world.
- The most polluted major city in the US was Los Angeles.



—The five most polluted countries, according to the report, were Chad, Bangladesh, Pakistan, Congo, and India, with annual average PM2.5 concentrations of 91.8 µg/m³, 78 µg/m³, 73.7 µg/m³, 58.2 µg/m³, and 50.6 µg/m³ respectively.

EXPRESS VIEW ON WORLD AIR QUALITY REPORT: SOBERING NEWS FOR INDIA

The latest edition of the World Air Quality report released by Swiss Air Technology major IQAir has sobering news for India. The country has 13 of the 20 most polluted cities in the world. The study is a reminder that though governments have taken significant steps to clean air — at times after being nudged by courts — the interventions have not led to appreciable improvements. The country is ranked the fifth-most polluted country, after Chad, Bangladesh, Pakistan and the Democratic Republic of the Congo (DRC). The IQAir list comprises not just urban centres whose trysts with toxic air are well known — Delhi and its adjoining areas for example — it also features small towns such as Byrnihat in Assam and Mullanpur in Punjab. This is not a new finding. In recent years, towns such as Bhiwadi in Rajasthan and Begusarai in Bihar have topped the IQAir list. But the country's pollution challenge continues to be framed largely in terms of a crisis in big city governance.

A knowledge base on pollutants in some Tier 2 cities is being built up gradually. The number of pollution monitoring stations has increased from 37 in 2015 to more than 1,000 (including manually operated ones) in 2023. These, however, represent less than a quarter of the country's requirement. Small cities remain underrepresented in research and policy. There is very little micro data on most of the 74 Indian cities listed in the IQAir report. According to a 2023 study by the Centre for Science and Environment (CSE), barely 12 per cent of India's 4,000 census towns and cities are covered under air quality monitoring mechanisms. The analysis by the New Delhi-based organisation shows that 62 per cent of the country's population is outside the real-time monitoring network. The other major problem is that despite the National Clean Air Programme's emphasis on targeted interventions over large areas, pollution continues to be seen as a local problem. Individual cities and states are, by and large, left to their own devices and even emergencies such as Delhi's annual health crisis do not lead to a modicum of cooperation.

The IQAir report underlines that pollution affects even the developed economies. However, the least developed and emerging economies are the most affected. India's neighbours, Pakistan, Bangladesh and Nepal, are among the poor performers. The problem's transboundary nature has been evident for long. In recent times, experts have been advocating interventions in multiple airsheds — contiguous regions — whose geography makes it difficult for them to disperse pollutants. However, cooperation between the South Asian neighbours has been underwhelming. The IQAir report is another reminder that such intransigence doesn't work.

CONSUMER FORUM NOTICE TO SRK, AJAY DEVGN, TIGER SHROFF OVER 'MISLEADING' PAN MASALA ADS

The District Consumer Disputes Redressal Commission, Jaipur II, has issued notices to Bollywood actors Shah Rukh Khan, Ajay Devgn and Tiger Shroff as well as Vimal Pan Masala manufacturers, J B Industries, over an alleged misleading advertisement for the pan masala.

- The commission issued notices following a complaint by Jaipur based advocate, Yogendra Singh Badiyal. He claimed that the actors indulge in misleading publicity about the mixing of saffron in Vimal "whereas the truth is that the price of saffron in the market is Rs 4 lakh per kg and gutkha costs only Rs 5. So let alone mixing saffron, even its fragrance cannot be added" to the said product.

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- He has filed the complaint under two sections of the Consumer Protection Act, 2019: section 35 (a complaint, in relation to any goods sold or delivered or agreed to be sold or delivered or any service provided or agreed to be provided) and section 89, which states that “Any manufacturer or service provider who causes a false or misleading advertisement to be made which is prejudicial to the interest of consumers shall be punished with imprisonment for a term which may extend to two years and with fine which may extend to ten lakh rupees.”
- He claimed that the product is injurious to health “is known to the manufacturing company as well. Despite this, on the basis of false and misleading advertisements”, the general public is being invited to purchase the masala in the name of saffron. He said that the general public is facing loss of life and health due to this disinformation, and that it will have “serious consequences in the future.”

Do You Know:

- The Consumer Protection Act, 2019 replaced the Consumer Protection Act, 1986. The Act recognises offences such as providing false information regarding the quality or quantity of a good or service, and misleading advertisements. It also specifies action to be taken if goods and services are found “dangerous, hazardous or unsafe”.
- The Section 2(28) of the Consumer Protection Act, 2019 defines “misleading advertisement” in relation to any product or service which— (i) falsely describes such product or service; or (ii) gives a false guarantee to, or is likely to mislead the consumers as to the nature, substance, quantity or quality of such product or service; or (iii) conveys an implied representation which, if made by the manufacturer or seller or service provider thereof, would constitute an unfair trade practice; or (iv) deliberately conceals important information.

AMID DEFICIENCY, GOVT LOOKS TO DEVELOP ‘SMART PROTEINS’

DEVELOPING PROTEINS in the laboratory to supplement the diet in households across the country is one of the areas in which the Department of Biotechnology is looking to fund research under the government’s recently launched BioE3 initiative.

- The move to develop the “smart proteins”, which will taste like and have the texture of real protein sources, is aimed at making food sources climate resilient.
- The Department of Biotechnology, which has already invited applications for grants from scientists, will fund research aimed at developing these proteins as well as addressing gaps in scaling up production. It aims to create an ecosystem that can enable safe, affordable, and efficient manufacturing of the proteins.
- The department will focus on proteins manufactured largely through three methods.
- One, fermentation-derived proteins, which are essentially proteins from microbes. Many strains of algae, bacteria, and fungi are known to generate proteins that can be used as substitutes for meat. The challenge, however, is to develop cost-effective bio-manufacturing processes that can make it commercially viable.
- Research in this method, according to the department document, should aim at designing and developing recombinant microbial systems for fermentation, streamlining pathways for higher yield, using gene editing to improve strain productivity and reduce by-products, and optimising



processes to remove allergens and toxins. The research would also focus on developing processes that can utilise agricultural by-products or other sources for the fertilisation process instead of glucose.

Do You Know:

- The objective of the BioE3 Policy is to set forth a framework that ensures the adoption of cutting-edge advanced technologies, and aligning innovative research for promoting Biomanufacturing.
- The BioE3 Policy outlines guidelines and principles for enabling mechanisms for 'Fostering High Performance Biomanufacturing' in the country across diverse sectors.
- The Policy aims at revolutionizing the biomanufacturing process for enhanced efficiency, sustainability, and quality while also accelerating the development and production of bio-based high-value products.
- The BioE3 Policy is aligned with India's vision of Green Growth (announced in the Union Budget 2023-24) and also with the clarion call of the Hon'ble Prime Minister on 'Lifestyle for Environment (LiFE)' that envisions collective approach towards sustainability.
- The Policy also aligns with the Hon'ble Prime Ministers vision of 'Net-Zero' carbon economy of the country. Further, the Biomanufacturing and Biofoundry initiative has been announced as a scheme during Government's Interim Budget for 2024-25.

A CHHATTISGARH DISTRICT THAT SET OUT TO ADDRESS MENTAL HEALTH ISSUES SEES RESULTS

In 2023, the district administration in Chhattisgarh's Durg district decided to address on a war footing cases of mental health illness that often go unnoticed. And thus started Samvedana (sensing), a campaign in which health workers conducted door-to-door surveys, screened patients, and identified thousands of people either suffering from mental health issues or in need of physiotherapy.

- Before the campaign started, community health workers and 22 doctors from the district received online and in-person training from the National Institute of Mental Health and Neuro-Sciences (NIMHANS).
- To begin with, community health workers, the first point of contact for patients, were asked to find out if there were people showing signs of mental health issues. This was followed by a door-to-door survey by rural health organisers (RHOs), who had to fill a Google form with ten questions, which helped ascertain if a person needed treatment. Awareness was also created through visits to schools, markets and fairs.
- The initiative bore fruit. As per government data, over 3 lakh households were covered in the campaign, and around 3,000 patients were identified. Treatment was provided to 2,721 patients, and 1,376 received follow-up care.
- While mental health issues such as depression and insomnia were higher in urban areas, rural areas threw up cases of developmental issues and substance abuse. As many as 3,884 people in need of physiotherapy were also identified and treated, including 2,900 at home and another 800-odd at hospitals.



Do You Know:

- Durg District Magistrate Pushendra Meena has been recognised for the initiative in the Excellence in Governance Awards 2024, organised by The Indian Express, under the Healthcare category.
- “The biggest challenge was the stigma around mental health issues. Staff had to be trained to identify them. The volunteers did a wonderful job, and we reached 100% saturation. A girl suffering from schizophrenia was identified and helped. We identified people who had tried to die by suicide. We brought these issues into the mainstream. There is a lack of awareness; many individuals think this is just how they’re born. But that’s not true,” he said.

BEHIND ASHA PROTESTS IN KERALA: DEMAND FOR HIKE IN HONORARIUMS, OTHER BENEFITS

Congress MPs from Kerala protested outside Parliament on Tuesday, demanding increased honorariums and retirement benefits for ASHA workers.

- Accredited Social Health Activists, or ASHAs, are community health volunteers serving in rural areas under the NHM.
- On February 10, the Kerala ASHA Workers’ Association (KAHWA) began a sit-in protest outside the state secretariat to press three demands: release of pending dues, increasing the honorarium – the amount paid to ASHA workers – from the current Rs 7,000 to Rs 21,000, and retirement benefits of Rs 5 lakh.
- The protesters reiterated the long-standing demand for ASHA workers to be made regular employees.
- Kerala’s CPM-led government has accused the Centre of not disbursing Rs 100 crore in health funds due to the state for 2023-24. However, Nadda said on Tuesday that all dues had been cleared, and alleged that Kerala had delayed the process by not furnishing a ‘utilisation certificate’ saying the funds had been used for their intended purpose.

Do You Know:

- The National Rural Health Mission (NRHM), which was launched in 2005, mooted ASHAs as a new band of community health functionaries who would work in rural areas alongside the anganwadi workers (AWWs) of the Integrated Child Development Scheme (ICDS). (NRHM and National Urban Health Mission were subsumed in the NHM, which was launched in 2013.)
- The ASHA programme was based on Chhattisgarh’s successful Mitandin programme, in which a Community Worker looks after 50 households. The ASHA was to be a local resident, looking after 200 households. The programme had a very robust thrust on the stage-wise development of capacity in selected areas of public health.
- Over 98 per cent ASHAs belong to the village where they reside, and know every household. Their selection involved the community and key resource persons. Educational qualification was a consideration. With newly acquired skills in health care and the ability to connect households to health facilities, she was able to secure benefits for households. She was like a demand-side functionary, reaching patients to facilities, providing health services nearer home.

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- There have been challenges with regard to the performance-based compensation. In many states, the payout is low, and often delayed. The original idea was never to deny the ASHA a compensation that could be even better than a salary — it was only to prevent “governmentalisation”, and promote “communitisation” by making her accountable to the people she served.

INDIA'S OBESITY PROBLEM

A pair of studies published in The Lancet medical journal on Monday (March 3) have estimated that 380 crore people, or over half of all adults globally, and 74.6 crore people, or a third of all children and adolescents worldwide, will be overweight or obese by 2050.

- The studies have calculated the prevalence of overweight and obese individuals (adults and children) globally, with forecasts till 2050.
- As of 2021, nearly 211 crore people, about 45% of the global population, were reported as obese or overweight. About half of these people were found in just eight countries: China (40.2 crore), India (18 crore), the USA (17.2 crore), Brazil (8.8 crore), Russia (7.1 crore), Mexico (5.8 crore), Indonesia (5.2 crore), and Egypt (4.1 crore).
- India ranks on top of many lists concerning these metrics, with both studies estimating that the country's number of overweight and obese people will keep increasing till 2050. India may even overtake China in absolute numbers in certain categories.

Do You Know:

- The study on obese and overweight adults categorises adults with a Body Mass Index (BMI) – the ratio of a person's weight to their height squared – as obese if their BMI is greater than 30, and overweight if their BMI is between 25 and 30. In the parallel study, the scientists considered the International Obesity Task Force's weight recommendations by age and gender for children and young adolescents aged 5-17.
- In January, a Lancet commission had proposed changes to the definition of obesity to introduce two new categories: 'clinical obesity' and 'pre-clinical obesity'. The definition included physical parameters like height, weight, waist circumference, muscle mass, and the functioning of various organs.
- The new definition aims to comprehensively determine the impact of obesity — a person with a BMI less than 30 may still have a lot of abdominal fat and face the complications of obesity, whereas someone with muscle mass and a BMI over 30 may be healthy.

PM MODI CHAIRS HIS FIRST WILDLIFE BOARD MEETING: HISTORY, ROLE, IMPACT OF THE BODY

More than 10 years after assuming office, Prime Minister Narendra Modi chaired his first-ever meeting of the National Board for Wildlife (NBWL) last week, on World Wildlife Day on March 3.

— The last full-body NBWL meeting was held on September 5, 2012, chaired by then PM Manmohan Singh. The PM is the ex officio chairman of the NBWL.



— The present-day National Board for Wildlife was created in 2003 after amending The Wild Life (Protection) Act, 1972.

— After the BJP government came to power in 2014, the NBWL was reconstituted. The move faced allegations of dilution of powers, as only three non-governmental members were appointed, of which one was the Gujarat Ecological Education and Research Foundation (GEER), an autonomous body under the Gujarat government.

— Over the past decade, the NBWL has cleared several development projects in and around wildlife habitats, leading to controversy and protests from ecologists. These include the Ken Betwa river linking project's Daudhan Dam and an oil exploration project of Vedanta in the eco-sensitive zone of the Hollongapar Gibbon sanctuary.

— The NBWL basically restructured the Indian Board for Wildlife (IBWL), established in 1952. The intent was to give it more teeth by making it a statutory body and giving it a more regulatory character to implement the Wild Life Protection Act.

— The NBWL's predecessor, the Indian Board for Wildlife, took birth in March 1952 as the Central Board for Wildlife. It was named IBWL in its first meeting held at the Lalitha Mahal Palace, Mysore, from November 24 to December 1, 1952. The IBWL was formed to address the decline of wildlife populations.

Do You Know:

— The NBWL is the country's apex body on matters of framing wildlife policy, conservation of wildlife and forests, and on giving recommendations to set up new national parks and sanctuaries.

— The NBWL consists of 47 members with the Prime Minister as its chairperson and the Union environment minister its vice-chairperson.

— The NBWL has a standing committee, to which are delegated key tasks such as appraising projects situated on forest lands inside and around national parks and sanctuaries as well as projects within 10-km of protected areas. The standing committee's decisions are recommendatory, which the environment ministry can overrule.

— The Wild Life Protection Act (WLPA) laid down the framework for notifying national parks, provided a legal backing for wildlife and habitat conservation, banned hunting and poaching of endangered species, and regulated wildlife trade. This also paved the way for Project Tiger in 1973.

CENTRE SANCTIONS 116 NEW TOURIST SPOTS ACROSS THE COUNTRY

The Centre has sanctioned 116 new tourist destinations across the country under various schemes in partnership with State governments which would be developed at a cost of ₹4,088 crores.

Out of these, 34 have been sanctioned under the Swadesh Darshan 2.0 scheme, 42 have been identified under the "Challenge Based Destination Development (CBDD)", a sub-scheme of Swadesh Darshan, and 40 would be developed under Special Assistance to States for Capital Investment (SASCI).



The Swadesh Darshan scheme aims to develop sustainable and responsible tourism destinations by focusing on theme-based circuits and providing financial assistance to State governments for infrastructure development. The scheme was revamped as Swadesh Darshan 2.0 (SD2.0) with the objective to develop sustainable tourism destinations.

The Ministry has also formulated CBDD as a sub-scheme under SD2.0 aiming for holistic development of destinations to enhance tourist experience.

The Centre, through the Union Finance Ministry, sanctioned 40 projects in 23 States for ₹3,295.76 crore in 2024-25 under the 'SASCI – Development of Iconic Tourist Centres to Global Scale' scheme with the objective to comprehensively develop iconic tourist centres in the country, branding, and marketing them at global scale, Union Minister for Culture and Tourism Gajendra Singh Shekhawat informed Parliament earlier this week.

Tribal homestays

The Centre has also approved the initiative to develop tribal homestays under the Swadesh Darshan scheme as part of the Pradhan Mantri Janjatiya Unnat Gram Abhiyan.

COUNTING OUR VULNERABLE DOLPHINS

Earlier this week, the Ministry of Environment, Forests and Climate Change released the findings of a population study of dolphins found in Indian rivers, putting their numbers at 6,327. These playful creatures with their torpedo-like bodies generate excitement whenever they are spotted. People flock to see them. Urban teenagers describe them as 'cute'.

There are two kinds of river dolphins. Facultative river dolphins occur in both marine and fresh waters. In India, Irrawaddy dolphins are seen around the Chilka lake, where an estimated 155 of these are a major tourist attraction, and off the Sunderbans. The smaller tucuxi is found in the Amazon and Orinoco rivers, and the Yangtze finless porpoise is about 1 metre long.

Obligate river dolphins are found only in fresh water bodies. The Yangtze river dolphin of China is presumed to be extinct, having been last spotted in 2007. The distinctively pink Amazon river dolphin is over 2.5 metres long. The equally large Ganges river dolphin has a widespread habitat, and is found in the main bodies and some tributaries of the Ganges and the Brahmaputra.

Closely related to the Ganges dolphin, the Indus river dolphin is the State aquatic animal of Punjab. Here, it is found in the river Beas and its Harike wetlands in the Tarn Taran district. The Environment Ministry study could locate only three of these dolphins, indicating their precarious existence. Only about 1,800 survive in the Indus in Pakistan.

Muddy water

Dolphins and toothed whales have a prominent, fatty mass on their foreheads called the melon. It acts as a lens that focuses sound, and is very important in echolocation. Our river dolphins prefer waters that are muddy, with low salt content. An unusual feature of the Ganges and Indus river dolphins is their poor eyesight. Navigation and feeding is done by echolocation, where ultrasound waves, in the form of distinctive clicks, are emanated from their vocal chords, and the melon on the forehead is used to sense the echoes of these waves bouncing off nearby objects. These dolphins also show a tendency to swim on their sides, using the fins on the sides of their bodies to feel along the bottom of riverbeds in their search for food.



In our river dolphin species, the eye is barely a centimeter across, and has a thick cornea and no eye lens. The retina has very few cells for registering light, and the optic nerve that carries visual sensations to the brain is thin, barely a filament. Visual perception seems restricted to detecting light, and the direction from which light is coming. Comparisons of brain regions involved in sensory perception in these river dolphins with the marine bottlenose dolphin show that the sight areas are unusually small, and the hearing areas much larger. This indicates a reliance on their biosonar for echolocation. In experiments, Indus river dolphins can detect a 4 mm ball bearing suspended on a nylon thread, and quickly head for it.

Human danger to river dolphins comes from the use of their oil in remedies for conditions ranging from muscular strains to arthritis. Overfishing deprives their food supply, and they are snared in fishing nets as unwanted bycatch. Chemical pollutants pose another danger.

Despite increasingly refined counting methods, river dolphin population trends remain unclear. Either way, their numbers are critically low. We must foster greater public awareness of these remarkable creatures.

HOW IS A CENSUS OF RIVER DOLPHINS CARRIED OUT?

The story so far:

The first ever census of Gangetic dolphins, the only riverine dolphins in India, which began four years ago, has found 6,327 of the species in the river Ganga and its tributaries.

What did the census survey find?

The Environment Ministry on March 3, commemorated as World Wildlife Day, released a report by the Wildlife Institute of India (WII), a Ministry body, that said there are 6,324 Ganges river dolphins, and three Indus river dolphins (a related species). There are an average 3,275 dolphins in the main stem of the Ganga; 2,414 in the Ganga tributaries; 584 in the Brahmaputra mainstream; 51 in the Brahmaputra tributaries; and three dolphins in the river Beas. The effort began in 2021 and spanned a cumulative distance of 8,507 km along the stretches of the river and its tributaries. The maximum number of dolphins were reported in Uttar Pradesh (2,397), followed by Bihar (2,220), West Bengal (815) Assam (635) Jharkhand (162) Rajasthan and Madhya Pradesh (95) and Punjab (3).

Why was such a survey necessary?

River dolphins grow slowly and are found in some of the most threatened habitats, vulnerable particularly to getting entangled in the nets of fishermen. Project Dolphin was launched on August 15, 2020 by Prime Minister Narendra Modi to evolve a programme to conserve both marine and riverine dolphins by engaging multiple stakeholders such as the forest department, fishermen, fisheries department. In all, 58 rivers were surveyed, of which 28 were traversed by boat and 30 by road survey where Gangetic dolphins have been sighted historically.

How was the survey conducted?

Nearly all wild animals that are surveyed from time to time are land animals. Observational techniques and statistical modelling methods have evolved over the years to estimate their numbers using camera traps, line transects, tracking their excreta, pug marks, traces of their DNA. However, dolphins present a unique challenge. They are primarily under water animals, and



emerge for air only for seconds. This leaves very little time for an observer to characterise them. Being water-borne, they don't leave traceable biological samples that can be collected for analysis. This doesn't mean that wildlife research scientists haven't attempted to count them. The number of Ganges river dolphins have been estimated to be between 4,000 and 5,000 towards the end of the 20th century. This dropped to 1,800, according to a 2008 study. More recent studies estimate it to be between 3,500 and 4,500 though these are said to be "guesstimates," and primarily based on counting the number of dolphins seen from a boat on pre-defined stretches. For the Project Dolphin survey, the scientists used a combination of "visual and acoustic surveys." Here, two teams of observers on a boat, coasting at a constant speed, independently recorded a dolphin sighting. Every time they sighted a dolphin, they noted the distance of the sighting from their boat, whether the animals were adults or 'neonates', and whether it was the same dolphin sighted before. Then, these observations were correlated with an acoustic survey. Dolphins are largely blind and communicate via sounds, or echo-location like bats. Scientists used a hydrophone, or an underwater microphone, that can record these sounds. Using signal processing, it is possible to identify with a fairly high accuracy, unique individuals, the WII report said. For their final assessments, results from both these methods were combined with mathematical techniques.

What are the threats faced by the dolphins?

Accidental deaths from being entangled in fishing nets are a major threat. Unlike in poaching, where certain animals are actively hunted, dolphins wade into these nets and are unable to free themselves to break into the surface for air and are thus suffocated. Large-meshed gillnets made from nylon and polythene monofilament are particularly dangerous for them, says a report from the Wildlife Conservation Trust of India (WCT). According to the International Union for Conservation of Nature's Red List, the Ganges river dolphin (*Platanista gangetica*) are classified as 'Endangered.' Studies estimate that 4%-5% of dolphins die this way. The WCT report, however, mentions that there have been instances where the dolphins, once caught in these nets, are sometimes "opportunistically killed." The oil extracted from their fat, or blubber, is used as a bait in India and Bangladesh for catching catfish.

LIMITED-OVERS FORM

India's latest triumph in the ICC Champions Trophy carried an air of inevitability. In Sunday's final, they overcame a gritty New Zealand side by four wickets with an over to spare. As fireworks lit up the Dubai sky and the 252-run target was chased down, the victory reaffirmed India's dominance in white ball cricket. Across 24 ICC tournament matches — including the 2023 ODI World Cup, the 2024 T20 World Cup, and the Champions Trophy — Rohit Sharma's men have secured 23 wins, an astounding 95.83% success rate. Stationed in Dubai for three weeks due to the Indian government's refusal to allow play in Pakistan, the official host, India benefited from a fixed venue and minimal travel fatigue. However, their success was not merely circumstantial — they executed their plans with precision. Group stage wins against Bangladesh, Pakistan, and New Zealand, followed by a semifinal triumph over Australia, set the stage for the final against the Black Caps. Despite concerns about New Zealand's history of upsetting India — most notably in the 2019 World Cup semifinal — the Men in Blue handled the challenge adeptly.

On a sluggish pitch, India's strategy of fielding four spinners proved decisive. Varun Chakaravathy, Ravindra Jadeja, Axar Patel, and Kuldeep Yadav stifled New Zealand's scoring, though Mitchell Santner's team still managed a competitive 251 for seven. In a high-stakes final, scoreboard pressure is always a factor, but Rohit's composed 76 set the tone, and India's deep batting line-up ensured a comfortable finish. While India has faced setbacks in Test cricket,



including losses to New Zealand at home and Australia away, their limited-overs form remains formidable. The squad's depth is evident — Rishabh Pant was left out of the playing XI, while talents such as Suryakumar Yadav and Ishan Kishan did not even make the squad. Contributions from Shreyas Iyer, K.L. Rahul, and Hardik Pandya underscored the collective effort, while Mohammed Shami's return offset the absence of the injured Jasprit Bumrah. Virat Kohli's consistency and Rohit's leadership suggest that retirement is not imminent for either stalwart, but selectors must look ahead to the 2027 ODI World Cup. Honest assessments and strategic planning will be crucial to ensuring India's sustained dominance in the years to come.

SHORT NEWS

HOMEGROWN BEYOND-VISUAL-RANGE MISSILE ASTRA SUCCESSFULLY TEST-FIRED FROM LCA TEJAS

The Aeronautical Development Agency (ADA) of the Ministry of Defence on Wednesday successfully test-fired the homegrown Astra, a beyond visual range air to air missile, from the Tejas Light Combat Aircraft Air Force Mark-1 prototype fighter aircraft.

HOW THE US SUPPORTS ITS FARMERS

The US, unlike India, does not provide subsidies on fertiliser, electricity or water in order to underprice these inputs used by farmers. Nor does its government intervene much on the output side through physical procurement and stocking of produce.

Government support to agricultural producers in the US, instead, takes place mainly via direct payments.

CHINA IMPOSES RECIPROCAL TARIFF ON CANADA

China has announced new tariffs on over \$2.6 billion worth of Canadian agricultural and food products, responding to trade measures introduced by Canada in October. The tariffs, which will take effect on 20 March, mark a new chapter in ongoing trade tensions, largely influenced by US policies.

TENTATIVE LIST OF UNESCO WORLD HERITAGE SITES

— **Six properties** have been added to India's Tentative List by Unesco's World Heritage Centre in 2025.

— These are **Mudumal Menhirs** of Telangana, Kanger Valley National Park in Chhattisgarh, Ashokan Edict Sites in multiple states, Chausath Yogini Temples in Madhya Pradesh and Odisha, Gupta Temples in multiple states, and the Palace-Fortresses of the Bundelas in Madhya Pradesh and Uttar Pradesh.

— The term 'menhir' is derived from the Brittonic "**maen**" meaning "stone", and "**hîr**" meaning "long", and entered the archaeological lexicon in the late 18th century.



LAKHPATI DIDI SCHEME

- On the occasion of International Women’s Day, while addressing the ‘Lakhpati Didi Sammelan’, Prime Minister Narendra Modi said the government has set a target of “making three crore Lakhpati Didis in the next five years”. He further said that the first step in the development of society and the country is the respect for women.
- The Lakhpati Didi scheme was launched by the Union government in 2023 and recognises women members of SHGs, who have an annual income of at least Rs 1 lakh from agriculture, animal husbandry, and small industries, as ‘Lakhpati Didis’.
- The scheme aims to empower women in Self-Help Groups (SHGs) through a comprehensive approach. This includes fostering collective unity among women, enhancing the strength of their federations, and equipping them with the necessary knowledge and skills for livelihood improvement.

GREAT NICOBAR INFRASTRUCTURE PROJECT

- During the ongoing Rajya Sabha session Union Tribal Affairs Minister Jual Oram said that the government has not received any information about objections to the Great Nicobar Infrastructure project.
- The Great Nicobar Island (GNI) infrastructure project was conceived by NITI Aayog and launched in 2021. It is implemented by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
- The key plans include the construction of the International Container Transshipment Terminal (ICTT), a greenfield international airport with a peak hour capacity to handle 4,000 passengers, a township, and a gas and solar-based power plant spread across 16,610 hectares.

PM-ABHIM

- The Delhi government is set to sign a Memorandum of Understanding (MoU) with the Ministry of Health and Family Welfare to implement the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM), under which the government will operationalise Urban Ayushman Arogya Mandirs (U-AAMs) in the city.
- PM-ABHIM is a central government scheme that aims to strengthen public health infrastructure to respond to future pandemics and outbreaks.

DHARMA GUARDIAN

- India and Japan’s 6th joint military exercise successfully concluded at the East Fuji training area in Japan.
- It is an annual event conducted alternatively in India and Japan. The 5th Dharma Guardian exercise was held in Rajasthan, in 2024.
- Both countries have shared commitment towards regional security, peace, and stability with a common vision of a free, open, and inclusive Indo-Pacific. This exercise underscores this commitment.



MARITIME SECURITY BELT 2025

— **China, Iran, and Russia** conducted a joint naval exercise in the Gulf of Oman, near the strategic **Strait of Hormuz** with the intention of deepening “military trust and pragmatic cooperation”. The drill marked the fifth year the three countries took part in the drills.

— The Strait of Hormuz is the waterway that separates Iran and Oman, linking the Gulf to the Gulf of Oman and the Arabian Sea. The Strait is 21 miles (33 km) wide at its narrowest point, but the shipping lane is just two miles (three km) wide in either direction.

CAR-T CELL THERAPY

— The clinical trial results of India’s first CAR T-cell therapy, published in The Lancet, show that it worked for nearly 73 per cent of patients.

— CAR-T cell therapy, chimeric antigen receptor T-cell therapy, is an immunotherapy-based cancer treatment that uses the power of a patient’s own immune system to fight cancer.

— The CAR-T cell therapy starts by collecting a patient’s T-cells through a process called **apheresis**, which separates these cells from the blood. These T-cells are then sent to a lab where scientists modify them to add special receptors called chimeric antigen receptors (CARs).

— These receptors help the T-cells find and kill cancer cells. This modification process takes a few weeks. Afterward, the modified T-cells are grown in large numbers before the modified T-cells are given back to the patient’s bloodstream.

BLOOD MOON

— A rare ‘blood moon’ total lunar eclipse was witnessed across parts of Asia, Africa, Australia, South America, the Pacific, and parts of the United States.

— It is a lunar eclipse which happens when the moon is fully in the Earth’s shadow, and some light from the planet’s sunrise and sunset falls on the surface of the moon. Since these light waves usually stretch out, they give the moon a deep reddish colour, justifying the name Blood Moon.

DIOXINS AND FURANS

— The second trial incineration run of hazardous waste brought from Union Carbide Bhopal factory ended on 8th March at Dhar district, Madhya Pradesh.

— During the first trial incineration emissions of seven pollutants and gases – Particulate matter, Sulphur Dioxide, Nitrogen Oxides, Carbon Monoxide, Hydrogen Flouride, Hydrogen Chloride, and Total Organic Carbon – were monitored and all were found within prescribed standards.

— The emission analysis of toxic chemicals dioxins and furans is yet to be completed. Long-term low-level exposure to dioxin and furans may lead to the impairment of the immune system, nervous system, endocrine system, reproductive functions, and even cancer.



ENZYME POLYPHENOL OXIDASE (PPO)

- Tropic, the UK-based biotech company, has developed a new genetically engineered banana that has a longer shelf-life and does not brown as much. This is achieved by disabling the production of PPO.
- Bananas even after being harvested produce ethylene. It is linked to the production of the enzyme polyphenol oxidase (PPO).
- It is this enzyme that makes bananas turn brown. PPO coming in contact with oxygen breaks down the yellow pigment in bananas to a brown hue.

NEURAL NETWORKS

- Neural networks, also known as artificial neural networks (ANNs), are a method that teaches computers to process data. They are a subset of machine learning (ML), and mimic the way the human brain works.
- A typical neural network has three layers of artificial neurons which are called nodes. First, there is an input layer which receives the data. Then, there is an inner or hidden layer which takes input from the input layer and processes it further. Finally, there is the output layer which gives the result of all the data processing by the neural network.

MARK CARNEY

- Former central banker Mark Carney on March 9 won the leadership election for Canada's Liberal Party, with 86 percent of the vote. He will now take over as Canada's Prime Minister, following Justin Trudeau's resignation in January.
- Unlike in Australia and Britain, where prime ministers are chosen by legislators and can be removed very quickly, the heads of political parties in Canada are chosen by members in special contests. The new head of the Liberal Party becomes the prime minister.

WORLD PARA-ATHLETICS GRAND PRIX

- India hosted the first-ever World Para-Athletics Grand Prix from 11th March to 13th March.
- The World Grand Prix is one of the most important events of the Para-Athletics calendar as it serves as the platform for para-athletes to get themselves classified in the right sports class. Once classification is done, the para-athlete is eligible to play in the international tournaments.
- The tournament will also serve as the dry run for the World Para Athletics Championships scheduled from 27th September to 5th October 2025 in India.

PIG BUTCHERING SCAMS:

Pig butchering is a type of scam that makes investors believe they are getting high returns on their investments by making up numbers. Scammers often use social engineering techniques to prevent the user from withdrawing their pseudo profit and encourage users to keep on investing more and more money.

**BUSINESS & ECONOMICS****IN 2023, U.S. SPENT 0.24% OF ITS NATIONAL INCOME ON FOREIGN AID**

In the early 1980s, almost half a million people were paralysed by polio every year. Most of them were children. But look at the progress the world has made: in all of 2023, there were the same number of cases as just two days in 1981.

Foreign aid programmes have played a crucial role in the fight against polio. While private donors have made the largest contributions in recent years, governments have played a crucial role over the last few decades. In the late 1990s and early 2000s, in particular, donor countries were funding more than 80% of these efforts.

What's true for polio is also true for other diseases and essential resources like food. The PEPFAR programme, launched by the U.S., is estimated to have saved over 25 million lives from HIV. Donations for bednets and antimalarial treatments have helped reduce the number of people catching and dying from malaria. The Global Fund and USAID have reduced deaths from tuberculosis. The list goes on.

These successes have been achieved with a relatively small amount of money. In 2023, the world gave around \$240 billion in foreign aid. It's a very small percentage of most rich countries' economies. Take the U.S. and it was just 0.24% of its gross national income (GNI). Norway is the only country that spends more than 1% of its GNI on aid.

How can the world achieve more of this? One question you might have is whether most of the world's aid comes from governments or private donors, which are dominated by billionaire-funded philanthropies. If it's the former, citizens can have some influence on the global aid budget.

More than 95% of foreign aid came from national governments in 2023. Just under \$11 billion — or 4.5% of the total — came from private grants.

That means two things. First, a drop in support for aid can have huge consequences for the global total. The U.S. gave \$62 billion in aid in 2023. If it had cut its aid budget by just 20%, its contributions would have been around \$13 billion lower. That would be the same as eliminating all private philanthropic donations worldwide.

The second implication is that if we want to see an increase in global foreign aid, building public support for more generous aid budgets from our governments matters a lot. We can illustrate this point by focusing on the UN's target for developed countries to give 0.7% of their GNI to foreign aid. Only five countries — Norway, Luxembourg, Sweden, Germany, and Denmark — met this target in 2023.

Let's imagine that the public in developed countries pressured their governments to step up and meet this target. If all developed countries achieved this, we'd add an extra \$216 billion to the pot, meaning the global official development assistance budget would almost double. Again, it's important to highlight that these are still relatively small amounts of money for developed economies.

Interestingly, this is far less than most people think their countries currently give to foreign aid.



Very recent data is hard to find, but in a 2015 survey, American citizens were asked to guess how much U.S. federal spending goes to foreign aid. The correct answer was just under 1%. Only 3% of respondents got the answer right. The average guess was a whopping 31%. What's also interesting is that when asked how much federal spending should be going to foreign aid, the average answer was 10%. That's 10 times more than what is currently spent.

ANTI-GOVERNMENT AGENCY

Smaller government and spending cuts have been core Republican objectives at least since the advent of Reaganomics in the 1980s. So when Donald Trump announced in September 2024 that he would create a "government efficiency commission" to eliminate wasteful expenditure, people were not surprised. He also made it known that the idea came from Elon Musk, who had contributed \$290 million to his presidential campaign.

However, as the past month has revealed, what Mr. Musk had in mind was not merely the usual staff/spending cuts. His aim was far more radical: to drastically shrink the government bureaucracy and thereby create the space to install a regime of 'AI-first' governance, with the AI tools under the control of a tiny Silicon Valley elite of which he is a leading member. The AI researcher Eryk Salvaggio has described DOGE as an 'AI Coup'.

Signing DOGE (Department of Government Efficiency) into existence was one of Mr. Trump's first moves post-inauguration. His Executive Order (EO) dated January 20 stated that its purpose was to "implement the President's DOGE Agenda, by modernising Federal technology and software to maximise governmental efficiency and productivity". It makes no mention of reducing staff or spending cuts. Instead, it devotes an entire section to elaborating what the "modernising" technology and software would entail: throwing open the federal government's databases to "facilitate data collection and synchronisation".

Panic and chaos

DOGE was created as an entity that took over the U.S. Digital Service. The U.S. Digital Service was housed in the Office of Management and Budget, where it was subject to open records laws. But Mr. Trump created a U.S. DOGE Service Temporary Organisation and moved it to the Executive Office of the President, thereby potentially exempting it from the federal Freedom of Information Act. So Mr. Musk, who does not have a clearly defined role in DOGE — Amy Gleason, a former health tech executive, is officially the acting administrator of DOGE — is answerable to no one but Mr. Trump.

In the short span of time it has been in existence, DOGE has unleashed panic and chaos in the ranks of the country's 2.3 million-strong federal bureaucracy. Mr. Musk adopted the same wrecking ball tactics he used to eviscerate Twitter, where he laid off 80% of the staff soon after he took over. At DOGE, he sent out buyout offers, accepted by 77,000 federal staffers so far. He has sent termination notices to more than 25,000 workers. He has dismantled entire agencies, such as U.S. Agency for International Development and the Consumer Financial Protection Bureau, which protects Americans from loan sharks. He has cancelled leases and contracts worth millions of dollars.

Given the lack of transparency, the only window into DOGE's operations is its website. Mr. Musk had claimed that DOGE's goal was to shave off \$2 trillion from the \$6.75 trillion U.S. budget. The DOGE website runs live updates on savings accrued. It claims to have saved \$105 billion as of



March 8. Not only is this a far cry from the \$2 trillion goal, a New Yorker calculation estimates that even if Mr. Musk fired all the 2.3 million federal employees, the total savings would only be \$245.8 billion.

The pursuit of mega-savings through staff cuts is a quixotic venture because the bulk of U.S. government spending is on programmes and benefits, not salaries.

All this lends credence to the view that saving money by cutting the bureaucracy is only the means. The end is to embed AI at the heart of decision-making in the federal executive. As Salvaggio puts it, “The Trump administration frames generative AI as a remedy to ‘government waste’. However, what it seeks to automate is not paperwork but democratic decision-making.” In all this, the hatred against the ‘deep state’ whipped up by the MAGA propaganda machinery will only ensure DOGE retains popular support even as it decimates the very wings of government that administer their social protections.

U.S. TARIFFS ON ALUMINIUM, STEEL IMPORTS TAKE EFFECT

U.S. President Donald Trump’s increased tariffs on all steel and aluminium imports took effect on Wednesday, stepping up a campaign to reorder global trade norms in favour of the U.S. that drew swift retaliation from Europe.

Mr. Trump’s action to bulk up protections for American steel and aluminium producers restores effective global tariffs of 25% on all imports of the metals, and extends the duties to hundreds of downstream products made from the metals, from nuts and bolts to soda cans and bulldozer blades.

Allies upset

Close U.S. allies Canada, Britain, and Australia criticised the blanket tariffs, with Canada mulling reciprocal actions, and British Business and Trade Secretary Jonathan Reynolds saying “all options were on the table” to respond in the national interest.

Australian Prime Minister Anthony Albanese said the move was “entirely unjustified... and against the spirit of our two nations’ enduring friendship” but ruled out tit-for-tat duties.

The run-up to the tariff deadline came with some drama on Tuesday as Mr. Trump threatened Canada with doubling the duty to 50% on its steel and aluminium exports to the U.S.

But the U.S. President backed off those plans after Ontario Premier Doug Ford agreed to suspend his province’s decision to impose a 25% surcharge on electricity exports to the States of Minnesota, Michigan, and New York until earlier U.S. tariffs were removed.

EU STRIKES BACK WITH TARIFFS ON U.S. IMPORTS

The European Union (EU) on Wednesday announced that it will impose counter-tariffs on U.S. imports, retaliating against President Donald Trump’s steel and aluminium tariffs, hours after they came into effect.

The countermeasures will amount to tariffs on €26 billion of U.S. goods entering the EU, equivalent to Mr. Trump’s targeting of \$28 billion of EU goods entering U.S. markets.



“We deeply regret this measure,” European Commission President Ursula von der Leyen said, referring to Mr. Trump’s move to impose 25% tariffs on steel, aluminium, and products based on these from the EU and other jurisdictions.

The U.S. tariffs will impact 5% of all EU goods exports to the U.S., the EU said in a statement.

The first Trump administration had initially applied these tariffs in 2018. They are referred to as “Section 232” tariffs, named after a provision under U.S. trade law permitting tariffs for reasons of “national security”.

The EU response would consist of allowing current suspensions of countermeasures to tariffs imposed during Mr. Trump’s first term to expire at the end of the month, resulting in a return to higher tariffs from April 1.

The EU would then consider targeting another approximately €18 billion of U.S. imports to reflect the fact that the current U.S. tariffs impact a broader range and higher value of EU exports to the U.S. This second stage would be fully in place by April 13.

“In the meantime, we remain fully open to negotiations,” Ms. Von der Leyen said, emphasising that it was not in America’s or the EU’s interest to burden their economies with such tariffs.

The EU will also begin consulting individual member countries on the measures immediately. The proposed list of products being targeted includes industrial goods such as steel and aluminium products, leather, and textiles. It also includes agricultural goods such as poultry, beef, seafood, nuts, dairy, sugar, and vegetables.

BUILDING CAPACITIES

The security breach where a Khalistani protester approached External Affairs Minister S. Jaishankar’s car in London overshadowed the headlines on his week-long visit to the United Kingdom and Ireland. And the Ministry of External Affairs (MEA) made its displeasure clear to the Minister’s British hosts. The scheduled visit, however, was not changed and Mr. Jaishankar side-stepped the scare, announcing that India-U.K. relations were set for a “very big pickup” despite their “complex history” and current problems. India is building its capacities in the U.K., with two consulates, in Manchester and Belfast, while Mr. Jaishankar’s extended talks with U.K. Foreign Secretary David Lammy focused on the much-delayed conclusion of a Free Trade Agreement (FTA). The Agreement, which was due to be finished after U.K.’s ‘Brexit’ in 2020, has missed deadlines. Talks over an FTA dominated discussions in Ireland too, and came days after India and the European Union (EU) committed to concluding their Bilateral Trade Agreement (BTA) — for which talks began in 2007 — by the end of 2025. Bilateral trade with the U.K. (\$52 billion) and Ireland (\$17 billion) are underpowered, and discussions on enhancing collaborations, especially in high-tech trade, were on the agenda in both capitals. The FTA talks, India-U.K. (restarted last month) and India-EU (another round this week), will benefit from India’s more conciliatory position on import duties with the U.S., which have been a sticking point for them as well. The government’s decision to reduce tariffs on wines and spirits, motor and electric vehicles, in deference to U.S. President Trump’s demands, is a case in point, and more cuts are expected in negotiating an India-U.S. BTA.

In that sense, Mr. Trump’s reordering of U.S. alliances and trade policy may well have been the wind in Mr. Jaishankar’s sails. The trip followed visits to Delhi by a high-power EU delegation led by European Commission President Ursula von der Leyen and a senior ministerial and business

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



team led by Belgian Princess Astrid, that imparted the sense that Europe is looking for new, more dependable friends. Mr. Jaishankar's visit also came close on the heels of the dramatic showdown at the White House between Mr. Trump and Ukrainian President Volodymyr Zelenskyy, which led to an urgent summit of non-U.S. NATO countries being held in London, where U.K. Prime Minister Keir Starmer committed to support Ukraine with a "Coalition of the Willing". As geopolitical and geo-financial calculations are being reworked across the Atlantic, India stands to gain by accelerated diplomacy and offering a hand of friendship to both sides.

INDIA, IRELAND TO SET UP JOINT ECONOMIC COMMISSION TO BOOST TRADE

India and Ireland have agreed to set up a Joint Economic Commission to increase bilateral trade, investment and technology ties, External Affairs Minister S Jaishankar announced after a meeting with his Irish counterpart in Dublin on Friday.

— The government of Ireland said in a statement that the JEC, once established, will serve as a vehicle to enhance internal cooperation and coordination, and strengthen the "like minded partnership with one of the largest economies in the world".

— The Irish minister said the first practical outworking towards this plan was the signing by both ministers of a memorandum of understanding on diplomatic exchange of officials.

Do You Know:

— Northern Ireland was created in May 1921 by partitioning Ireland, and consists of the six northeastern counties of the island.

— In 1922, the rest of Ireland gained independence from the British (today's Republic of Ireland, with its capital in Dublin). Northern Ireland remained with the United Kingdom, but tensions simmered between the side loyal to the Crown, mostly Protestants, and the faction wanting to join the Republic, mostly Catholics. Today, the side loyal to the British Union are called unionists, while those who support a united and free Ireland are called nationalists.

— By the end of the 1960s, a bloody conflict was raging in Northern Ireland among those who wished to remain with the UK and those who wanted to join Ireland. The British Army and the police, frequently accused of excesses, worsened the violence.

— Finally, on April 10, 1998, the Good Friday Agreement was signed to end the bloodshed, and gave Northern Ireland a unique system of governance.

END OF CHEAP PALM OIL? OUTPUT STALLS WITH RISE OF BIODIESEL

Prices of cooking oil could be buoyed up for years by stagnating production and a biodiesel push in top producer Indonesia that are making traditionally cheap palm oil costlier, eliminating an advantage that also curbed prices of rival oils.

Used in everything from cakes and frying fats to cosmetics and cleaning products, palm oil makes up more than half of global vegetable oil shipments and is especially popular among consumers in emerging markets.



After decades of cheap palm oil, thanks to booming output and a battle for market share, output is slowing and Indonesia is using more to make biodiesel, respected industry analyst Dorab Mistry said.

“Those days of \$400-per-ton discounts are gone,” added Mr. Mistry, a director of Indian consumer goods company Godrej International. “Palm oil won’t be that cheap again as long as Indonesia keeps prioritising biodiesel.”

Indonesia increased the mandatory mix of palm oil in biodiesel to 40% this year, and is studying moving to 50% in 2026, as well as a 3% blend for jet fuel next year, as it seeks to curb fuel imports.

The biodiesel push will reduce Indonesia’s exports to just 20 million metric tons in 2030, down a third from 29.5 million in 2024, estimates Eddy Martono, chairman of the southeast Asian nation’s largest palm oil association, GAPKI.

Jakarta’s biodiesel mandate, coupled with lower production because of floods in neighbouring Malaysia, has already lifted palm oil prices above rival soyoil, prompting buyers to cut purchases.

In India, the largest buyer of vegetable oils, crude palm oil (CPO) has commanded a premium over crude soybean oil for the past six months, sometimes exceeding \$100 per ton. As recently as late 2022, palm oil traded at discounts of more than \$400. Indians were paying \$1,185 a ton for crude palm oil last week, up from less than \$500 in 2019.

Higher vegetable oil prices could complicate governments’ efforts to rein in inflation, whether in palm oil-reliant nations or those dependent on rival soybean, sunflower, and rapeseed oils.

Stunted growth

Palm oil production, dominated by Indonesia and Malaysia, nearly doubled every decade from 1980 to 2020, fuelling criticism over deforestation to add plantations.

During that time, average annual production growth of more than 7% was roughly in line with demand. But Malaysia’s palm oil production stagnated more than a decade ago because of lack of space for new plantations and slow replanting, while deforestation concerns have slowed growth in Indonesia.

Even in Indonesia, replanting by smallholders, who generate 40% of its supply, remains sluggish.

As a result, global production growth has slowed to 1% annually over the past four years.

In the current decade, production growth is likely to average 1.3 million tons a year, said analyst Thomas Mielke, executive director of Oil World, less than half the average of 2.9 million in the decade to 2020.

Production could lose even more momentum from the impact of labour shortages, ageing plantations and the spread of Ganoderma fungus, which is hurting yields, he said.

Oil palms, which start losing productivity after 20 years, need to be replaced after 25 years, with new trees taking three to four years to yield fruit, rendering land unproductive until then and making farmers reluctant to replant.

Malaysia replanted 114,000 hectares, or just 2% of total planted area in 2024, against a target of 4% to 5%, Plantation Minister Johari Abdul Ghani said in February. In Indonesia, slow replanting



has brought lower yields as plantations get older, said GAPKI's Fadhil Hasan. Its yields of crude palm oil fell 11.4% to 3.42 tons per hectare in a decade.

WHY HAS INDIA PROMISED TO BUY MORE U.S. OIL?

The story so far:

India committed to procure more oil and natural gas from the U.S. when Prime Minister Narendra Modi met U.S. President Donald Trump in February in Washington amid tariff threats. Foreign Secretary Vikram Misri said India's energy purchases from the U.S. could increase from last year's \$15 billion to \$25 billion in the near future. A Reuters report showed that the U.S. exported about 3,57,000 barrels per day (bpd) of crude to India in February, compared with exports of about 2,21,000 bpd last year.

What has India agreed on?

India is the world's third-largest oil importer and consumer. For a country which relies on imports for more than 85% of its crude oil requirements, any step to secure hydrocarbon supplies is crucial. The country has promised to enhance oil and gas purchase from the U.S., which will bolster energy ties, and also help, to an extent, in achieving the ambitious doubling of bilateral trade to \$500 billion over the next five years. At present, the bilateral trade is in India's favour. The statistics of the Office of the United States Trade Representative show that the goods trade deficit with India was \$45.7 billion in 2024, which is a 5.4% increase from 2023. Executive Director (Energy Transition and Cleantech Consulting) at S&P Global Commodity Insights Gauri Jauhar said that procuring more oil and gas from the U.S. will add to the diversity of major, long-term sources of supply.

What about LNG requirements and supply?

The aim is to establish the U.S. as a leading supplier of crude oil and petroleum products and liquefied natural gas (LNG) to India. It has been decided to ramp up trade in the hydrocarbon sector, including ethane and petroleum products, with an eye on supply diversification and energy security. The two sides agreed to enhance investments, particularly in oil and gas infrastructure, and facilitate greater cooperation between energy companies. Strengthening cooperation in civil nuclear energy and U.S. support for India to be made a full member of the International Energy Agency (IEA) were also mentioned.

What are India's needs on oil and gas?

India imported a total of 234.26 million tonnes of crude oil in 2023-24. Import dependence touched 87.8% against 87.4% in the previous financial year. Domestic production corresponds to less than 13% of the requirement, with domestic crude oil production remaining almost unchanged at 29.36 million tonnes last fiscal (2023-24). In volume terms, the imports were almost similar, but the import bill in 2023-24 declined year-on-year to \$133.37 billion on the back of lower international rates. In 2022-23, the oil import bill was \$157.53 billion. Additionally, India spent \$22.93 billion on the import of 48.69 million tonnes of petroleum products like LPG, fuel oil and petcoke. It also exported 62.59 million tonnes of products for \$47.72 billion.

India also imports LNG. In 2023-24, the country imported 31.80 billion cubic metres (bcm) for \$13.405 billion. In the previous fiscal, gas imports were 26.30 bcm for \$17.11 billion, the



Petroleum and Natural Gas Ministry said in a report, citing the price shock of 2022-23 in the wake of Russia's invasion of Ukraine.

India is keen on increasing the share of clean fuel in its energy basket. Emphasising on the strategic importance of energy ties with the U.S., especially for LNG, petroleum and natural gas, Minister Hardeep Singh Puri said India wants to increase its natural gas consumption to 15% from the existing about 6%.

In recent years, the U.S. has emerged as one of the largest suppliers of LNG to India. If war-related sanctions against Russia are lifted, Europe may resume sourcing natural gas from Russia again, making the U.S. intensify efforts to enhance supplies to other existing customers and explore new markets.

How much energy is sourced from Russia?

While India would like to engage with the U.S. on enhancing energy imports, it is unlikely to stop the country from consolidating and forging energy ties with others. The Petroleum Minister said the new U.S. administration's push for increased oil supply has created favourable conditions in global markets. The emergence of new oil sources from the Western hemisphere, including Brazil, Argentina, Suriname, Canada, the U.S. and Guyana are poised to be beneficial for major consuming nations like India.

Supply commitments from multiple sources may not necessarily insulate against long-term price volatility but provide the country different options in the event of geopolitical disturbances. Interestingly, the Trump administration has in recent weeks got down to resetting ties with Russia for the first time since the war on Ukraine began in 2022. This would make things easier for India as Russia in the last three years has emerged as a major crude oil supplier at discounted prices amid a cap introduced as part of the sanctions by G7. Citing a report of global think tank Centre for Research on Energy and Clean Air, PTI reported that India bought crude oil worth €49 billion from Russia in the third year of Moscow's invasion of Ukraine.

India, which has traditionally sourced oil from West Asia, began importing a large volume of oil from Russia after the invasion of Ukraine. This led to India's imports of Russian oil seeing a dramatic rise, growing from less than 1% of its total crude oil imports to 40% in a short period.

What are India's plans on LNG?

The IEA, in its India Gas Market Report: Outlook to 2030, says the country's gas consumption is set to reach 103 bcm annually by the end of the decade. Emerging from a decade of slow growth and periodic declines, the country's natural gas demand increased by more than 10% in both 2023 and 2024, indicating an inflection point. India's domestic gas production, which met 50% of demand in 2023, is projected to grow, reaching just under 38 bcm by 2030.

While total gas consumption in 2023 was only marginally higher than 2011 levels, three key factors are converging to drive substantial growth — rapid infrastructure expansion, recovering domestic production and an expected easing of global gas market conditions. "India's gas market is entering a new phase of growth, supported by significant infrastructure development and clear policy direction," IEA Director of Energy Markets and Security Keisuke Sadamori said. "The prospect of higher gas demand in India coincides with an expected wave of new global LNG supply. However, it will require planning and market coordination to ensure supply security and to help gas to compete in a price-sensitive market," he said.



Broadly, what is India's energy roadmap?

The government is pursuing a multi-pronged strategy to reduce import dependency and substituting demand for crude oil. It is also pushing renewable and alternative fuels such as ethanol, compressed biogas and biodiesel, alongside the establishment of electric vehicle charging infrastructure.

ACCEPTABLE CONTRAST

Three sets of data — January's industrial production, February's retail inflation and the performance of mutual funds in February — present a contrast between India's real economy and the financial markets, that is both concerning and heartening. In the real economy, February's 3.61% retail inflation is a seven-month low aided by a steady and welcome fall in food inflation, which had reached a 15-month high of 10.87% last October. February's food inflation, which is a barometer of people's spending on monthly groceries, fell to an almost two-year low of 3.75%. This would come as a relief to India's policymakers who had hoped for a spike in consumption demand to buttress the government's full year GDP growth target of 6.5% for the 2025 financial year. February's 3.61% retail inflation is also well within the Reserve Bank of India's (RBI) medium-term 4% inflation target, signalling a probable, albeit much-needed, repo rate cut at a time when there has been a liquidity squeeze in the domestic financial system due to the worrisome flight of foreign investors as they hedge against a depreciating rupee, the U.S.'s proposed tariffs-induced inflation and global uncertainties.

The RBI's February 7 0.25 basis point repo rate cut, from 6.50% to 6.25%, after a gap of five years, signalled the central bank's intent to raise capital flows in the real economy, to spur economic activity while continuing to focus on inflation moderation. Amid the ₹1.7 trillion liquidity squeeze in the banking system due to the flight of foreign portfolio and institutional investors, the RBI conducted two tranches of dollar/rupee swap auctions, with another one slated for later this month. This is expected to inject over ₹2 trillion into the banking system to address long-term liquidity concerns. Despite such concerns in the financial system, January's industrial production print at an eight-month high of 5%, up from December's 3.55%, is another indicator of the resilience in the real economy, as growth was led by an increase in the output of primary, intermediate, and infrastructure and construction goods. Meanwhile, the panic among retail investors was palpable from the February equity mutual funds (MF) reporting numbers. Inflows into MFs plunged 27% with the fourth month of declining stock returns. Retail investors, largely from the salaried middle and upper-middle classes, had flocked to the stock markets post COVID-19, but fresh Systematic Investment Plans dipped to 44.6 lakh, the lowest in the fiscal year. Therefore, while the volatility in the financial markets could be worrisome, but temporary, the buoyancy in the real economy makes the hit bearable.

WHY DID REAL MONEY GAMING INDUSTRY COME OUT WITH A CODE OF ETHICS?

The story so far:

The real money gaming industry's (RMG) main industry organisations — the Federation of Indian Fantasy Sports (FIFS), the E-Gaming Federation (EGF) and the All India Gaming Federation (AIGF) — all signed a code of ethics earlier this week, setting out standards for RMG firms to conduct business ethically and transparently.



RMG industry

The RMG industry represents firms like Dream11, PokerBaazi and others who offer games where users can risk money they either lose or win returns on. While many countries would classify the firms as gambling operators, the Indian judiciary has repeatedly upheld games where there are a “preponderance of skill,” such as poker, where players can benefit better from playing a game well than those who don’t, are not classified as gambling.

As such, these firms are hard to regulate for States though under the Constitution, “betting and gambling” is a State subject. In Andhra Pradesh and Telangana, the industry is fighting a ban on fantasy sports in particular. Fantasy sports services entice player to create own teams in an app with real world player performance impacting outcomes on the apps. This is somewhat distinct from sports betting, where real world teams are directly wagered upon.

The RMG industry is very valuable, and has clocked \$3.8 billion revenue in FY2023-24, as per venture capital firm Lumikai. As the cost of providing the service is far cheaper than operating a RMG house, the theoretical returns on this industry are massive. However, the industry has seen a slowdown in growth since a 28% GST rate was applied in 2023 to deposits players make with these platforms.

Why have these firms put out a code of ethics?

While the RMG industry thwarted several legal challenges from States seeking to ban poker and rummy apps — such as in Tamil Nadu — the efforts by State authorities continue. The Tamil Nadu Online Gaming Authority (TNOGA) has published rules that have faced resistance from the RMG firms. These include Aadhaar verification and a blackout from midnight to 5 a.m., something the RMG firms have argued is arbitrary.

Since the Union government’s own rules on the RMG industry are yet to be implemented, RMG firms are under pressure to independently demonstrate a sense of responsibility, one industry executive said. Similar codes of conduct have been published before by the industry. For instance, AIGF put out its own charter for games of skill in 2022. Even the OTT streaming industry, under the aegis of the Internet and Mobile Association of India (IAMAI), put out similar codes of ethics before the government chose to regulate them through the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

Further signals of legitimacy are incredibly important to the industry right now. The RMG industry expressed particular concern about competition from offshore gambling websites which use mule accounts in India and constantly shift domain names to evade capture and blocking. These firms are growing far faster than domestic players, one executive said, because they neither charge the 28% GST nor they comply with ID verification requirements.

Code of ethics

Much of the newly released codes — similar to past commitments by the industry — resemble closely to initiatives already taken by large RMG firms to demonstrate legitimacy: these include disclosures on advertising, age restrictions, identity verification, self lock-out features, warnings when a player has been on the platform for too long, and so on.

The code also requires firms to identify “vulnerable” players and work to block them. Other requirements include making sure “that the claims of total prize money are truthful, verifiable and not exaggerated,” “not imply that playing in online games will help fulfil social obligations or solve



personal or financial problems,” and “not suggest online gaming can aid escape from personal/professional problems”.

“Operators shall offer players prominently displayed and easily accessible mechanisms to voluntarily set financial limits and/or alerts for losses and deposits on their gameplay,” the code says, which is another requirement that all the mainstream firms have already implemented for years.

The document comes into effect between 6–9 months from now, depending on the size of each firm.

Any norms?

Aside from the TNOGA and other State-led regulations, the Union government also put out an amendment to IT Rules, 2021. This amendment, notified in 2023, formalised many of the self-regulatory steps that the RMG firms had already taken until then.

However, these rules have not come into effect, as the Ministry of Electronics and Information Technology has not recognised a single Self-Regulatory Body (SRB) which can formally oversee these firms. RMG executives have speculated that the government no longer wants to let the industry oversee itself, and wants to instead have rules that allow for more outside supervision. However, no draft rules in this direction have been forthcoming.

CCTVS WERE ON, RLY SAFETY TOP PRIORITY: VAISHNAW REJECTS OPP STAMPEDE CHARGE

The Rajya Sabha on Monday passed the Railways (Amendment) Bill, 2024 through voice vote amid a walkout by a section of Opposition members alleging attempts to hide details of the stampede at the New Delhi railway station on February 15, which left 18 people dead.

- With the passage of the Bill — cleared by the Lok Sabha on December 11 last year — provisions of Indian Railway Board Act, 1905 will be repealed and incorporated into the Railways Act, 1989. The Bill will empower the Centre to make provisions pertaining to qualification, experience, tenure of appointments of the chairman and other members of the railway board and also the manner of filling up the posts.

Do You Know:

- The ‘Railways Act, 1989’ governs the functioning and administration of the Indian Railways, including provisions for organising the Railways into zones for administrative convenience. The ‘Indian Railway Board Act, 1905’ established the Railway Board as the central authority to oversee Indian Railways. Under this Act, the central government may delegate its powers and functions concerning Railways to the Board.

- The ‘Railways (Amendment) Bill, 2024’ was introduced in the Lok Sabha. This Bill seeks to repeal the 1905 Act and integrate its provisions related to the Railway Board into the 1989 Act. According to the Bill’s Statement of Objects and Reasons, this move aims to streamline the legal framework and eliminate the need to refer to two separate laws.

STARLINK



Bharti Airtel and Reliance Jio have signed separate deals with Elon Musk's SpaceX to bring the Starlink internet service to India. SpaceX has applied for a security clearance with the Indian government, but its application is currently undergoing review at the Home Ministry.

- Satellite Internet operates by sending signals from the user's device to a satellite in space, which then passes on the data to a ground station connected to the Internet. The ground station retrieves the requested data and sends it back through the satellite to the user's dish, completing the connection.
- This whole process does not require cable, fibre or phone lines. The user just needs a modem and a satellite dish. The modem needs to be connected to that dish to translate the incoming signal into a workable internet connection.
- Starlink can provide a practical solution for broadband in underserved areas in India, where the traditional ways to deliver the Internet — fibre-optic cables or wireless networks — are scarce or unavailable. It can help bridge the digital divide by bringing high-speed Internet to the remotest corners of the country.

Do You Know:

- Starlink is a network of satellites that provides internet. It is operated by SpaceX, which is Musk's aerospace company. Launched in 2019, Starlink aims to shoot 42,000 small satellites into space, forming a globe-encircling ring just 547 km overhead. Currently, the telecommunication project has around 7,000 mass-produced small satellites in low Earth orbit (LEO) — an orbit that is under altitudes of 2,000 km.
- By the end of 2024, Starlink had more than 4.6 million users in over 100 countries. Last year, the company witnessed rapid growth as it started 2024 with 2.3 million users globally.

'STARLINK SERVICES MAY COST UP TO 14X OF TELCOS'

While collaborations between Elon Musk's SpaceX and Indian telcos Bharti Airtel and Jio has concretised Starlink's entry into the Indian market, analyst reports said the satcom service will struggle to compete with existing broadband providers on pricing.

Bernstein, in a report, said Starlink's pricing may be too steep for a cost-conscious country like India. For example, while Jio and Airtel offer annual corporate Internet tariff plans ranging from ₹10,898 to ₹15,146 for 100-200 Mbps, Starlink's annual plan for 50-200 Mbps will cost ₹2,15,600

"Based on current expectations, Starlink's price is 10-14 times higher than India's major broadband providers. The price is very high for developing countries like India, especially for the target rural market. Unless, Indian government offers subsidies to LEO players, Starlink may struggle to compete with more affordable alternatives available in the country," said Bernstein. In terms of Asia market, Starlink pricing is at 9-175% premium over local broadband operators, excluding higher upfront costs for Starlink, said Bernstein. This can lead to scalability issues as the target market is largely rural. India particularly reports the lowest data costs in the world.

Lowered prices

It may be noted when Starlink launched services in developing countries of Africa, it lowered prices to \$10 in Kenya, to \$50 in Eswatini on a monthly basis. However, this is still nowhere as low as the monthly plans offered by Airtel/Jio, starting from \$4.6-5.



BofA Global Research pointed out while Starlink can offer speeds up to 200-250 Mbps, over time capacity could be an issue considering limited number of satellites hovering over India.

“This may limit the target home market in near-term. Unless pricing is clear, it is difficult to understand the unit economics for this business. Currently, we consider satellite broadband offering to be niche as we note 5G and FWA penetration is strong in India,” it said.

D2C initiatives

In February, Starlink entered into a similar partnership with T-Mobile in the U.S. and offered a beta take-off that allowed users to experience free satellite-to-mobile connectivity.

Users of other telco customers like Verizon and AT&T can also experience the beta service that allows free text-messaging.

Going forward, the testing will include picture messaging, data services and voice calling.

Once the service is launched in July, it will be available for \$20 per month per line, although the service will be included at no extra cost on T-Mobile’s Go5G Next plan. Customers on other plans can add the service for \$15.

Meanwhile, under the partnership, Bharti Airtel and Jio will provide Starlink equipment at retail outlets and help with marketing and distribution.

However, Starlink still has to get licences from the government on its own to provide Internet access.

CONGRESS RAISES CONCERN OVER AIRTEL, JIO TIE-UP WITH STARLINK

Raising national security concerns about Airtel and Jio’s new partnership with Elon Musk’s Starlink, the Congress on Thursday alleged that these agreements had been orchestrated by Prime Minister Narendra Modi to “buy goodwill” with U.S. President Donald Trump.

The Opposition party said that red flags were raised by the coincidence of the country’s two leading telecommunication companies announcing their partnerships with the satellite-based Internet service provider within 12 hours of each other, overcoming their previous objections to Starlink’s entry.

“It is abundantly clear that these partnerships have been orchestrated by none other than the Prime Minister himself to buy goodwill with President Trump through Starlink’s owner Mr. Elon Musk,” Congress communications chief Jairam Ramesh said in a post on X. The most important question that needs to be pondered is the implications this deal will have on national security, he said.

“Who will have the power to switch connectivity on or off when national security demands it? Will it be Starlink or its Indian partners? Will other satellite-based connectivity providers also be permitted and on what basis,” Mr. Ramesh asked.

“And, of course, the much larger question of Tesla manufacturing in India remains. Is there some commitment to it now that Starlink’s entry into India has been facilitated?”

Mr. Musk is the owner of Starlink and its aerospace parent SpaceX, as well as electric vehicle maker Tesla and social media platform X. He has emerged as a key adviser to Mr. Trump, having



contributed millions to his campaign and now leading the Trump administration's new Department of Government Efficiency.

Starlink is the world's largest low-earth-orbit (LEO) constellation, operated by SpaceX.

New agreements

Over the past few months, rivals Jio and Airtel had come together to demand an auction to award spectrum for satellite services in India, fearing that an administrative allocation would give Mr. Musk access to the airwaves at a price lower than what they had paid via auctions in the past.

On Tuesday, Bharti Airtel announced that it is entering into an agreement with SpaceX to bring Starlink's high-speed Internet service to India on a non-exclusive basis. Bharti already partners with Eutelsat OneWeb, the second-largest LEO constellation.

7 % PROJECTS TO CONTINUE AS SMART CITIES MISSION SET TO END MARCH 31

TEN YEARS since it began and after three extensions, the Smart Cities Mission is set to end on March 31, though the 7% of the ongoing projects are likely to go beyond the deadline, The Indian Express has learnt.

— The mission was launched in 2015 with the aim of creating 100 smart cities. The cities were selected in rounds of competition held from January 2016 to June 2018, and they had five years from their respective selection, that is 2021 to 2023, to complete the projects.

— In 2021, the Ministry of Housing and Urban Affairs decided to push the deadline for all 100 cities to June 2023. The deadline was further pushed to June 30, 2024 and then to March 31, 2025.

— As per the Smart Cities Mission dashboard, the cities have completed 7,491 projects worth Rs 1.50 lakh crore, with 567 projects (7%) worth Rs 14,357 crore still ongoing.

— Of the different categories of projects, water, sanitation and hygiene projects accounted for the biggest expenditure so far (Rs 46,730 crore), followed by smart mobility (Rs 37,362 crore) and smart governance (Rs 16,262 crore).

— While cities proposed and implemented a range of projects, one project that each of them has completed is the setting up of Integrated Command and Control Centres at a total cost of Rs 11,775 crore.

Do You Know:

— The Pradhan Mantri Awas Yojana (PMAY) is a housing credit-linked subsidy initiative launched by the Indian government in 2015 to offer affordable homes to economically disadvantaged and low-income individuals.

— The Union Cabinet approved PMAY 2.0, which provides financial support to 1 crore urban poor and middle-class households for five years beginning September 1, 2024.

WHAT IS BEHIND THE RISE OF QUICK COMMERCE?

The story so far:



Quick commerce's initial utility was presented to under-lockdown customers during the COVID-19 pandemic. However, the youngest avenue of digital shopping, having outlived its initial utility, stayed on to alter how people shop — particularly in urban India.

How does quick commerce function?

As a subclass of e-commerce, quick commerce (Q-commerce) entails rapid delivery, typically in 10 to 20 minutes, of products to the customer's doorstep. This is facilitated by an elaborate network of dark stores and/or distribution centres. Dark stores refer to warehouses used by the platforms solely to fulfil online orders, with no in-person shopping. The idea is to be in close proximity to the consumer to facilitate faster deliveries.

Additionally, unlike a traditional retail store or modern retail (super or hyper markets), quick commerce based around a mobile app benefits from customer data to create a feedback loop. This helps them provide a customised shopping experience in addition to planning their inventory and responding better to the demand of a product (and categories). An example could be estimating when to stock up a certain product that has a seasonal demand or an abrupt demographic influence, among others.

What's in it for brands?

According to a paper by the Centre for Transportation and Logistics of IIM Ahmedabad, quick commerce is beneficial to retailers owing to the prospect of enhanced brand awareness among consumers citing their proliferation. Angshuman Bhattacharya, Partner and National Leader for Consumer Product and Retail Sector at EY-Parthenon, observed that the availability of low-cost employable manpower, of a certain age and economic profile, has been among the crucial factors for the uptick and efficiency of quick commerce in India. The other aspect is about abundant choice. Scale also enables supply side advantages to quick commerce platforms. "If an individual company has to distribute a frozen or chilled product, they could be required to place a freezer in a Kirana store which is very expensive," he noted.

According to Grant Thornton Bharat, the Indian quick commerce market is presently valued at \$3.34 billion and is expected to reach \$9.95 billion by 2029. The industry grew 76% YoY in FY 2024.

What about traditional retailers?

Non-government organisations, representing FMCG stockists and distributors across India, and the All-India Consumer Products Distribution Federation (AICPDF) in their recent complaint to the Competition Commission of India (CCI) accused the quick commerce trio (Blinkit, Zepto and Swiggy Instamart) of anti-competitive practices. Predatory pricing and deep discounting were among the major concerns highlighted by the distributors' forum. According to them, the platforms "unfairly" set prices of products below landing costs to deliberately eliminate competitors from the market. Once the objective is attained, platforms increase prices to recoup the loss. The AICPDF also pointed to the platforms having "deep pockets" because of the inflow from venture capitalists and/or foreign direct investment. The complainants have also accused that platform of using data (from app activity) to facilitate differential pricing. This could be based on the customers' location, device type and/or specific purchasing behaviour. The federation highlighted that with traditional retailers unable to compete, "millions of retail shops and distributors" are being wiped out of business or experiencing losses.



P.M. Ganeshraam, Founder and President of the Tamil Nadu Consumer Products Distributors Association told The Hindu that there must be a “level playing field” where both can co-exist.

ONION EXPORT AND WHEAT STOCKING RESTRICTIONS: OPEN UP THE FIELD

The Narendra Modi government last week lifted a ban on exports of broken rice, in place since September 2022. It's high time that it also scraps the 20 per cent duty on onion exports and stockholding limits on wheat. The reason is that the harvesting of both crops is underway. According to the agriculture ministry, farmers have sown 324.9 lakh hectares (lh) under wheat and 10.3 lh under onion in the current rabi season, as against 318.3 lh and 8.6 lh last year. Ground reports suggest bumper production. In onions, it is evidenced by wholesale prices in Maharashtra's Lasalgaon market falling below Rs 1,500 per quintal, from Rs 2,300-plus at the month's start. As for wheat, the ministry has itself estimated a record output of 115.4 million tonnes (mt). The veracity of that will be known in the coming days; a lot hinges on there being no sudden temperature spikes detrimental to yields during the terminal grain-filling stage.

Either way, the supply situation in food commodities — maybe with the exception of sugar and edible oils — is comfortable, compared to what it was even three months back. Wheat stocks in government godowns on March 1, at 13.4 mt, were higher than the 9.7 mt a year ago. Mustard is selling in Rajasthan mandis at well below the government's minimum support price. The overall improved supply position is also borne out by annual consumer food price inflation dipping to 3.75 per cent in February, from 10.87 per cent in October. March so far hasn't seen any heatwave conditions of the kind last year that were a trigger for the surge in prices. The mild La Niña conditions, as opposed to the devastating 2023-24 El Niño, have probably helped in ensuring a near-normal winter this time. And the resultant likely bumper rabi harvest would be welcome respite, including for the Reserve Bank of India that doesn't now need to think twice about cutting interest rates.

But that's also a reason for the Modi government to be proactive about removing export and stocking restrictions. India should avoid repetitions of the cobweb cycle, of farmers overproducing crops in response to high prices and the subsequent price collapse leading to underproduction and price increase in the following year. The best way to address this is by keeping both the export and import window open, while also allowing the produce to move and be stocked freely within the country. Onion growers are justified in feeling angry over curbs on exports, which are imposed the moment domestic prices start rising. The same alacrity is missing when it comes to lifting them, leave alone when prices crash. Indian agriculture can thrive with a greater market orientation. And there's no better time for it than when the worst of a supply crisis is over.

HIKE MGNREGS WAGES TO MATCH PRICE RISE: PARLIAMENTARY PANEL

A parliamentary committee has strongly argued for the revision of wages under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) in view of the rising cost of living.

In its report tabled in the Lok Sabha on Wednesday, the Parliamentary Standing Committee on Rural Development, headed by Congress MP Saptagiri Sankar Ulaka, also sought uniform wage rates across the country.



Currently, the per day wages vary from ₹234 in Nagaland and Arunachal Pradesh to ₹374 in Haryana and Sikkim. The panel expressed disappointment that despite its multiple recommendations on this matter over the years, the government had not implemented any significant changes.

The wages currently are linked to the Consumer Price Index for agricultural labourers. “The committee believes that this index does not fully capture the real impact of inflation, and therefore, the method of wage calculation must be reviewed and updated on a priority basis to reflect the actual economic conditions at the ground level,” it said.

The panel urged the government to implement a “uniform wage rate” across all States and Union Territories, since the scheme is primarily funded by the Union government. “This would help ensure fairness and consistency in wage payments under the scheme,” said the panel, while reviewing the budgetary allocation of the Department of Rural Development.

Payments delayed

The panel also criticised the government for the delay in disbursement of wages to the States. As per the report, till February 15, the total pending liabilities stood at ₹23,446.27 crore, including ₹12,219.18 crore in wage dues.

The panel report pointed out that one-fourth of the allocated funds (₹86,000 crore) will go in clearing the last financial year’s dues. “Consequently, the actual working budget for the current financial year is reduced to ₹62,553.73 crore, significantly limiting the scheme’s capacity to function effectively and meet its primary objective of preventing rural distress and ensuring livelihood security,” the report said.

West Bengal’s case

The report mentioned the case of West Bengal, which has not been receiving funds for MGNREGS activities since March 2022. The Centre stopped the funds to the State over allegations of corruption in the implementation of the scheme. “The continued suspension of funds has resulted in severe consequences, including a sharp increase in distress migration and disruptions in rural development initiatives. This has had a significant adverse impact on the livelihoods of rural populations, exacerbating economic hardships in the State. The committee strongly recommends that West Bengal receive its rightful dues for all the eligible years, except for the year currently under dispute in court.”

Strained ties

The Centre froze the funding after invoking Section 27 of the MGNREGA, 2005, which allows for stoppage of funds for violation of rules in implementation of the scheme. This has strained the Centre-State ties with the Trinamool Congress holding protests both in Delhi and in West Bengal. Chief Minister Mamata Banerjee has written several letters to the Centre over the issue of the release of funds and announced a separate scheme — Karmashree — to provide jobs to the rural population in the State.

**LIFE & SCIENCE****PRESENCE OF WATER-ICE LIKELY OUTSIDE MOON'S POLAR REGIONS AS WELL: CHANDRAYAAN-3 DATA**

WATER-ICE ON the Moon could be more prevalent than understood earlier. A new analysis of data from one of the instruments aboard Chandrayaan-3 suggests that there was a good probability that water-ice was present in locations outside of the polar regions of the Moon.

- Using data from Chandra's Surface Thermophysical Experiment (ChaSTE), scientists at the Ahmedabad-based Physical Research Laboratory have shown that surface and sub-surface temperatures in the higher latitudes of the Moon's surface varied greatly with even very small changes in altitudes over a short distance.
- Inclined areas in these latitudes that were not directly facing the Sun could have environments very similar to the polar regions, and could host water-ice below the surface.
- The findings have been published in the Communications Earth and Environment journal, a Nature publication.
- A research team led by K Durga Prasad at PRL used the temperature data recorded by ChaSTE to infer the possibility of water-ice in locations similar to Shiv Shakti point where Chandrayaan-3 had landed.
- As of now, water-ice on the Moon is understood to be present only in the polar regions, particularly under the craters where the Sun's rays are unable to reach. Chandrayaan-3 had landed around 70 degree South, closest to the lunar South Pole that any spacecraft has landed but not quite in the polar region.

Do You Know:

- ChaSTE, which is a sort of a thermometer, was the first instrument to carry out on-site temperature measurements of the Moon's surface and sub-surface near the polar regions. Previous estimates of temperatures in these regions came from satellite measurements.
- ChaSTE had earlier revealed that there was a difference of nearly 60 degree Celsius between the temperature of the Moon's surface, and the layer just 10 cm beneath it. This extreme non-conductivity of heat by the top layer of lunar surface shed new light about the composition and evolution of the Moon, and could have interesting practical implications like creating temperature-controlled habitats for future human visitors.
- TWO INSTRUMENTS onboard Chandrayaan-1 had confirmed the presence of water on Moon. Their observations had found strong signals of water in the polar regions, including thick deposits of water-ice. Now, Chandrayaan-3 is suggesting that the prevalence of water-ice might not be confined to the polar regions only, and could be found in the areas immediately outside as well.
- The place where ChaSTE penetrated the surface, on a slope facing the Sun, the temperature was recorded to be 355 Kelvin (about 82 degree Celsius). Just about a metre away, where the surface was relatively flatter, another sensor onboard the Vikram lander, measured the temperature to be about 332 K (about 59 degree Celsius).



- “ChaSTE observations suggest that the lunar surface temperatures show a significant spatial variability at metre scales. The sunward (sun-facing) slopes are found to be recording much higher temperatures (~30 K or more) in comparison to flat locations or poleward (anti-Sunward) slope regions,” the study said.
- On its own, low surface temperatures are not evidence of the presence of water-ice, but do offer interesting clues for further examination. Huge temperature difference over such small distances can reveal new insights about the properties of the lunar surface and what lies beneath.
- The study said such small inclines in the high-latitude regions (60-80 degrees north or south of equator), particularly when they were not facing the Sun, could be hosting environments that were similar to the ones existing in the polar regions.

CHANDRAYAAN DISCOVERS WATER-ICE, INDIA FINDS SUCCESS ON THE MOON

Data from one of the instruments on Chandrayaan-3 has indicated that the presence of water on the Moon could be more widespread than known so far. A research team at the Physical Research Laboratory in Ahmedabad, which analysed the data from the ChaSTE instrument onboard the Vikram lander, has come to the conclusion that there were strong possibilities of water-ice sheets being present in areas outside the polar regions as well. As of now, water-ice on the Moon is known to be concentrated in the polar regions. The latest finding is another significant breakthrough by the Indian space community, and builds on the knowledge created in this field by Chandrayaan-1. Two instruments on Chandrayaan-1, one of them from NASA, had confirmed the presence of water on the Moon, and found definitive evidence of water-ice in the polar regions. This time, the entire effort has been given shape by India.

Space is one of the areas in which India has been functioning almost at the cutting edge of technology, particularly in the last 10-15 years when it has started venturing into ambitious exploration activities. The number of missions has been relatively small but they have produced fruitful outcomes, often extending the existing frontiers of knowledge. Space is also a sector where a proper ecosystem has begun functioning with full participation from public and private research institutions, industry and universities. And although it has not been captured very well till now in numbers, there is sufficient anecdotal evidence to suggest that the space ecosystem is beginning to halt and reverse the brain drain in this sector. There are examples of the young and scientifically talented returning from the US and Europe to set up their space start-ups in India, or take up positions in Indian laboratories.

The comparatively better performance of space and nuclear sciences in India has important lessons for both the government and the scientific community as they attempt to make India a major power in science and technology. These two sectors have flourished due to a fair bit of institutional autonomy, and long-term support and investment by the government while maintaining a hands-off approach. A strong push for indigenisation and international collaborations with leading agencies has also paid rich dividends. For the scientific community, the space and nuclear sectors show that it is possible to deliver results even while operating under major constraints. This is not to undermine many of the very reasonable asks of the scientists in terms of enhanced funding and reduced red tape, but ideal conditions do not, in themselves, assure good results. This is particularly relevant in the case of defence research, which has received a more or less similar treatment to space and nuclear but has struggled to deliver in many areas that are supposed to be its core competence.



PRIVATE LUNAR LANDER IS DECLARED DEAD AFTER LANDING SIDEWAYS

A private lunar lander is no longer working after landing sideways in a crater near the moon's south pole, and its mission is over, officials have said.

Launched last week, the lander named Athena missed its mark by more than 250 metres and ended up in a frigid crater, its maker and operator, Intuitive Machines, said, declaring it dead.

Athena managed to send back pictures confirming its position and activate a few experiments before going silent. NASA and other customers had packed the lander with \$62 million worth of experiments, including an ice drill, a drone, and a pair of rovers to roam the unexplored terrain.

It's unlikely Athena's batteries can be recharged given the way the lander's solar panels are pointed and the extreme cold in the crater.

The bigger, four-wheeled rover never made it off the fallen lander, but data beamed back indicates it survived and could have driven away had everything gone well, said Lunar Outpost, the Colorado company that owns it.

This was the second landing attempt for Intuitive Machines. The first, a year ago, also ended with a sideways landing, but the company was able to keep it going for longer than this time. Despite all the problems, the company's first lander managed to put the US back on the moon for the first time in more than 50 years.

Earlier in the week, another Texas company scored a successful landing under NASA's commercial lunar delivery programme, intended to jumpstart business on the moon while preparing for astronauts' return. Firefly Aerospace put its Blue Ghost lander down in the far northern latitudes of the moon's near side.

Firefly CEO Jason Kim reported Friday that eight of the 10 NASA experiments on Blue Ghost already have met their mission objectives. It's expected to operate for another week until lunar daytime ends and solar power is no longer available.

The south polar region of the moon is particularly difficult to reach and operate on given the harsh sun angles, limited communications with the earth, and the uncharted, rugged terrain. Athena's landing was the closest a spacecraft has come to the south pole, just 160 km away.

That's where NASA is targeting for its first landing by astronauts since the 1960s and 1970s Apollo program, no earlier than 2027. The craters are believed to hold tonnes of frozen water that could be used by future crews to drink and turn into rocket fuel.

Intuitive Machines has contracts with NASA for two more moon landing deliveries. The company said it will need to determine exactly what went wrong this time before launching the next mission.

In both landings by Intuitive Machines, problems arose at the last minute with the prime laser navigation system.

Intuitive Machines' rocket-propelled drone, Grace, was supposed to hop across the lunar surface before jumping into a crater to look for frozen water. The two rovers from two other companies, one American and one Japanese, were going to scout around the area as well.



PREPRINTS: PAPERS BUT BY NAME

WHAT IS IT?

A preprint paper is a scientific paper made available to read before it has been sent for consideration by a peer-reviewed scientific journal.

Once a group of scientists finishes conducting a study and has collected its findings, it writes up the study's methods and conclusions in a paper and publishes it in a journal. If the journal is peer-reviewed, the journal's editor will share the manuscript with a few independent scientists working in the same field. If their comments are encouraging, the editor accepts the paper for publishing.

A preprint is a paper scientists have written up and uploaded to a preprint repository; if the repository is on the internet, anyone on the web can read it. After uploading a paper as a preprint, the authors may or may not send it to a journal as well.

The quality of science in preprints varies depending on the field and the repository. arXiv (pronounced 'archive') is the world's largest and oldest repository, hosting preprints on mathematics, physics, astronomy, engineering, etc. Since it was launched in 1991, other repositories like bioRxiv, chemRxiv, medRxiv, PsyArXiv, and SSRN Electronic Journal have also come up.

Today, preprints are popular among open-access advocates because they are free to read whereas many journals often charge readers a hefty fee to read papers. Critics have also pointed out that peer review — which remains the main difference between preprints and published papers — fails to catch research that has been deliberately faked.

WILL MUSK BE EXPELLED FROM THE ROYAL SOCIETY?

The story so far:

The 365-year-old Royal Society in Britain, one of the most reputed scientific institutions in the world, is experiencing a crisis that raises fundamental concerns about the role of a top scientific institution. The Royal Society's former members include notable figures like Isaac Newton, Charles Darwin, Albert Einstein, and Stephen Hawking, among others. Becoming a member of the Royal Society is frequently regarded as the culmination of an extensive research career, and fellows are chosen after a rigorous process. The Royal Society also imposes a code of conduct on its fellows once they are elected. Of late, there has been a growing demand to rescind Elon Musk's fellowship for violating the code.

Who is making the demand?

In 1775, the German scientist and writer Rudolf Erich Raspe was expelled from the Royal Society after being accused of "divers frauds and gross breaches of trust". Today, the actions of the world's richest man has been deemed a "threat to science" by numerous scientists.

The first fellow of the Royal Society to resign over this matter was Dorothy Bishop, emeritus professor of developmental neuropsychology at the University of Oxford. In 2024, she lodged two complaints with the Royal Society. "On both occasions they consulted lawyers, and it may well be



the case that the lawyers are concerned about the prospect of legal action,” she told the BBC. Another fellow, Andrew Millar of the University of Edinburgh, did the same in February this year.

An open letter to the president of the Royal Society, currently British statistician Adrian Smith, has been signed by almost 3,500 members of the wider scientific community. Stephen Curry, an emeritus professor of structural biology at Imperial College London, penned it and expressed similar dismay. Fellow of the Royal Society, AI pioneer, and 2024 physics Nobel Prize winner Geoffrey Hinton also wrote on X that he was in favour of Mr. Musk’s removal. “I think Elon Musk should be expelled from the British Royal Society. Not because he peddles conspiracy theories and makes Nazi salutes, but because of the huge damage he is doing to scientific institutions in the US,” Mr. Hinton wrote. Mr. Musk replied: “Only craven, insecure fools care about awards and memberships”.

What have been the charges?

Many fellows believe the billionaire’s inflammatory remarks on British politicians have breached the Royal Society’s code of conduct. Scientists have also expressed concerns regarding Mr. Musk’s conduct within the current Donald Trump administration. In his leading position at the U.S. Department of Government Efficiency (or DOGE), Mr. Musk has overseen unprecedented cuts to funding meant for scientific research. He has also been spreading false material and engaging in political propaganda on his social media platform, X. His company Neuralink recently reported developing a novel brain-computer interface. Although this is a worthwhile objective, the research methodology is distinguished by Mr. Musk’s resistance to allowing others to influence his methods. This has resulted in allegations of non-compliance with ‘Good Laboratory Practice’ regulations. Additionally, Mr. Musk’s slanderous charges against public scientists like Anthony Fauci and other public personae have also drawn criticism from a number of scientists. Mr. Musk is also accused of encouraging vaccine hesitancy and baselessly doubting the foundations of climate change science.

Why has he not been expelled?

The Royal Society counts more than 1,700 fellows, and at least 60 of them have signed Mr. Curry’s letter to have Mr. Musk expelled. But not everyone in the scientific community agrees with it. For instance, Nobel laureate Andre Geim of Manchester University stated, “Musk is certainly an eccentric, but his achievements beat those of any of his critics in the Royal Society. Very few can say that they achieved similar [feats] in their lives.” According to the Society, Mr. Musk was elected in 2018 ostensibly in appreciation of his contributions. He was the lead designer at SpaceX, where he oversaw the development of reusable rockets and spacecraft for missions to earth orbit. He oversaw the design, engineering, and manufacturing of products for the electric car company Tesla, which first popularised EVs. He also developed ultra-high bandwidth brain-machine interfaces to connect the brain to computers at Neuralink.

It might be politically challenging to revoke Mr. Musk’s fellowship at a time of increasing tensions between the U.S. and the U.K. Some have claimed that removing Mr. Musk could undermine public confidence in science as it would erode the integrity of science by obfuscating its separation from politics.

What next?

Following a meeting of the body on March 3, 2025, Elon Musk’s Royal Society fellowship is still in place. A statement by the Society following the meeting did not mention Musk. The group decided



to “look at potential further actions” that would “counter the misinformation and ideologically motivated attacks on both science and scientists.”

HOW SCAMMERS USE GEN AI, AND WHAT YOU CAN DO TO PROTECT YOURSELF

The story so far:

In December 2024, the U.S. FBI issued a warning, stating that criminals are increasingly exploiting generative artificial intelligence (AI) to commit fraud on a larger scale, making their schemes more convincing. Enterprising criminals exploit generative AI-powered text, images, videos, and audio to trap victims who lack technological proficiency or time and are too exhausted to thoroughly assess potentially hazardous content.

How is generative AI used to carry out financial fraud?

Today, a variety of unregulated or even illegal generative AI tools are available on the web. These tools enable the creation of scams from start to finish, resulting in a web of multimedia tricks that separates victims from their money. Attackers can use text generators alone to craft grammatically correct messages that threaten or deceive victims in their native languages. They can also generate malicious code to create websites that compromise victims’ systems.

Criminals can exploit AI images to create convincing deepfakes of victims, fooling their loved ones. They can also fabricate false photos of crucial documents, produce sexually explicit images for extortion, establish fake social media or dating app profiles, and even portray celebrities endorsing services and scams they would never support in real life, as per the FBI’s recent release. Malicious users can exploit the voice cloning technology in generative AI audio tools to create fake recordings of real people in distress. These recordings can be sent as voice messages or even as fake yet complex telephone calls to force their contacts into transferring money.

When AI-generated videos enter the scene, attackers can orchestrate intricate scenarios or even circumvent system tests designed to verify the user’s humanity. For instance, by capturing just a few seconds of video from your social media account, an attacker could create a convincing deepfake video call where you appear to have been involved in an accident and are desperately seeking financial assistance.

What are some warning signs of AI-generated financial fraud?

It is best to be cautious of unexpected requests for money, even from your loved ones. Additionally, be wary of surprise requests to carry out various financial activities, including redeeming gift cards, claiming prize money, paying fines, repaying loans, paying customs officials, or paying bail. Be extra cautious when receiving texts or media files from unfamiliar users. Unless you have a secure device or environment, refrain from opening such files.

When video scams, like the prevalent ‘digital arrest’ scheme, target a victim, the caller will likely resort to aggressive or intimidating tactics to force compliance. They might create a sense of urgency, claiming that time is running out and/or that the victim needs to act urgently. Additionally, they might emphasise the importance of keeping the matter a secret from others. It is crucial to avoid sharing any financial information or transferring money through unsecured channels to prevent yourself from falling for such scams. Instead of believing a caller who shows you their uniform and police ID (since this could be a deepfake), reach out directly to the police for guidance. Cease all communication and contact the person involved directly.



How can users keep themselves safe from AI-enabled crime?

One way to safeguard yourself and your family from AI-generated financial fraud is by using a family password. This is a unique word known only to you and your immediate family members. You can use it to verify the identity of others whenever you want. For instance, if you receive a phone call from your child or parent requesting a large sum of money, ask them for the family password to ensure that their voice hasn't been cloned by a stranger. Agree on a strong and difficult-to-guess password. Regularly updating your password is also recommended. If your family has minors or vulnerable elders, ensure that their devices are safeguarded. Lock and set their social media accounts to 'private' mode to prevent the misuse of their personal photos and audio. Educate your children about online safety and help them distinguish between genuine and AI-generated content.

When using dating apps, users should report any matches who use AI-generated media. Never share personal financial information with romantic matches, and never agree to transfer money, invest in cryptocurrency, pay customs charges for parcels, or accept gift cards. Until you completely trust the person and have met them in person, stay on the app's messaging platform and avoid switching to other apps like WhatsApp or email.

When donating to charities, ensure that the featured images of different causes and team members are genuine. Give to groups or individuals you trust deeply, those whom you know personally, or those with high transparency levels. Additionally, you can use Gen AI image detectors to review photos.

Finally, do not implicitly trust calls from users whose profile pictures include police or military-related accessories, as these can be easily generated using AI. Real police officers never arrest or make demands of you through video calls. If you encounter such a call, record it and submit the evidence to a genuine police station. Alternatively, you can report malicious content generated by AI through the national cyber-crime portal.

LIE DETECTORS: READING YOUR VITALS

Q: How does a lie detector work?

A: A polygraph, also called a lie-detector test, is generally used during interrogation by police. The instrument works by recording physiological functions such as blood pressure, heartbeat, respiration, and perspiration.

A pneumograph tube is fastened around the person's chest, and a blood-pressure-pulse cuff is strapped around the arm. The psychogalvanic skin reflex, an electro-dermal response, and the flow of current between different parts of the body are also measured. Sensitive electrodes are used to pick up the impulses, which are recorded on a moving graph paper. The parameters are recorded when a suspect answers questions put to them by an operator. The data is then used as the basis for deciding whether the person is lying.

When a person lies, the graph deviates from the 'normal' shape in one or more of the body functions. Such changes were believed to occur due to the emotional response to telling a lie.

There is consensus among scientists today that polygraphs are ineffective, unreliable, and easily overcome.



The modern polygraph was first constructed in 1921 by John Larson, a medical student at the University of California, along with a police officer. His instrument was capable of continuously recording blood pressure, pulse, and respiration. While the device has been in use since 1924, it has not been accepted as proof of truth-telling in courtrooms.

WHEN OUR ANCESTORS STARTED USING TOOLS: THE THEORIES AND THE EVIDENCE

Our ancient ancestors were using bone tools at least 1.5 million years ago, roughly a million years earlier than was previously thought, a study published last week in the journal *Nature* reported.

- The earliest known stone tools are even older, dating to 3.3 million years ago. These dates are based on prehistoric tools that have survived into the present. Our ancestors were likely using wooden tools just as long ago, although none have endured the vagaries of time. The earliest evidence for the use of wood dates back to only 700,000 years ago.
- Experts today suggest that our ape-like ancestors might have been using sticks and stones in their daily lives millions of years prior to what the oldest tools can be dated to. This means that tool technology predates the emergence of our genus, *Homo*, and that it is not a uniquely human trait, as was long believed.
- British palaeoanthropologist Kenneth Oakley in the late 1940s identified tool-use and toolmaking as uniquely human traits which implied “a marked capacity for conceptual thought”.
- In his influential book, *Man the Tool-Maker* (1949), Oakley wrote: “The real difference between what we choose to call an ape and what we call man is one of mental capacity.”
- While Oakley acknowledged that other species may also use things in nature as tools, he said that “to conceive the idea of shaping a stone or stick for use in an imagined future eventuality is beyond the mental capacity of any known apes”

Do You Know:

- In 1964, British-Kenyan palaeoanthropologist Louis Leakey and his colleagues proposed that a collection of roughly 1.7 million-years-old fossils discovered at the Olduvai Gorge (present-day Tanzania) belonged to a new species within our own genus. He named this species *Homo habilis*, or the “handy/able man”, due to its presumed ability to make tools.
- This assessment was based on the discovery of certain cranial bones which indicated a large brain size, hand bones that indicated dexterity needed for toolmaking, and an assortment of stone tools that were found at the site. Notably, Leakey insisted that these fossils belonged to the genus *Homo* because toolmaking was a uniquely human trait.

WHEN BIRDS LOSE THE ABILITY TO FLY, THEIR BODIES CHANGE FIRST

In a new study in *Evolution*, researchers compared the feathers and bodies of different species of flightless birds and their closest relatives who can still fly. They were able to determine which features change first when birds evolve to be flightless, versus which traits take more time for evolution to alter.

All the flightless birds alive today evolved from ancestors who could fly and later lost that ability. In general, there are two common reasons why birds evolve flightlessness. When birds land on an



island with no predators that would hunt them or steal their eggs, they sometimes settle there and gradually adapt to living on the ground. Since they do not experience evolutionary pressure to stay in flying form, they gradually lose some of the features of their skeletons and feathers that help them fly. Meanwhile, some birds' bodies change when they evolve semi-aquatic lifestyles. Penguins, for instance, cannot fly, but they swim in a way that is akin to 'flying underwater'. Their feathers and skeletons have changed accordingly.

Previous research has revealed how long ago different species of flightless birds branched off from their flying relatives. The ancestors of ostriches, for example, lost the ability to fly much longer ago than the ancestors of a flightless South American duck called the Fuegian steamer. Dr. Evan Saitta from the Field Museum in Chicago, Saitta and the corresponding author of the paper found that these species' feathers are very different. "Ostriches have been flightless for so long that their feathers are no longer optimised for being aerodynamic," Dr. Saitta says in a press release. As a result, their feathers have become so long and shaggy that they're sometimes used in feather dusters and boas. But even though Fuegian streamers can no longer fly, they lost this ability relatively recently, and their feathers remain similar to those of their flying cousins.

THE PROMISE OF MYCELIUM BRICKS AGAINST CLIMATE CHANGE

In the light of climate change, the construction industry like many others is considering how it can reduce its carbon footprint and become more sustainable.

One opportunity is concerned with bricks. Fired clay bricks have been the mainstay of the construction industry but their production also emits nearly 300 million tonnes of carbon dioxide every year, which could increase with more urbanisation. A new advance on this front is mycelium bricks. Mycelia are the branching filaments of fungi that make up its vegetative part. Researchers have them harnessed to create biodegradable, fire-resistant, and insulative bricks. They are made by combining husk, sawdust, and fungal spores to create a fibrous network that solidifies into a lightweight material. Within a few days, these materials become a hardier structure.

Mycelium bricks have the potential to reduce the building sector's carbon footprint, its proponents have said. They are relatively more lightweight and good insulators of heat. Aside from potential use as panelling material in interior designs, researchers believe mycelium-based components can be used in liquid filters, sports equipment, and printed circuit boards. But before they can find wider use, mycelium materials need to improve in many ways. At present they cannot bear heavier loads for longer periods. One 2020 review found that while mycelium composites have a high strength to weight ratio, it is two orders of magnitude lower than concrete. They are also susceptible to moisture, biodegrade in a few years, and cannot be produced en masse. "The cost of growing and treating fungi for construction purposes is currently higher due to lack of infrastructure," Rakesh Jha, a civil engineer and the founder of Patna-based Veritech Infrastructure, said.

While mycelium is naturally fire-resistant, prolonged exposure to heat could cause structural failure. Mycelium composites also absorb more moisture than synthetic foams and plywood, which is inimical for damp environments with leaking walls or roofs. They also do not resist termites. But these are problems to be solved rather than reasons to discard mycelium bricks. For example: "Mycelium can be treated with non-toxic flame retardants that can enhance fire resistance, followed by a UV-protective coating that can prevent photo-degradation in outdoor applications," Jha said. The biggest challenge is consumers' attitude, which experts have said will



require more investment in research and development, to make mycelium bricks more competitive with clay bricks, and awareness campaigns to shift.

But thanks to climate change and the advent of concepts like high-performance buildings, interest is already growing in alternative and sustainable materials. “This shift along with policy pushes can drive demand for sustainable alternatives and help in growing the market for mycelium,” Aditya Srinivas Kandaala, founder of Roha Biotech, a startup incubated at IIT Madras, said.

HOW A GENE-EDITED BANANA MAY HELP REDUCE FOOD WASTE

Brown, over-ripe bananas often end up in dustbins, even when they are perfectly edible. This has led to scientists developing a new genetically-engineered banana which has a longer shelf-life, and does not brown as much.

- Tropic, the UK-based biotech company which has developed these bananas, claims that their fruit remains fresh and yellow for 12 hours after being peeled, and is also less likely to turn brown when bumped during harvesting and transportation.
- Bananas are extremely perishable, with some estimates saying that as much as 50% of the crop goes to waste each year. A UK government survey from 2017 suggests that British people bin roughly 1.4 million edible bananas every day, The Guardian reported.
- This is financially wasteful and harmful for the environment. Food waste is a major contributor of greenhouse gas (GHG) emissions, which are causing global warming. Preventing bananas from browning may reduce food waste by encouraging people to eat older but edible fruit.
- According to the company’s press-release, “Tropic’s non-browning bananas... can support a reduction in CO2 emissions equivalent to removing 2 million passenger vehicles from the road each year”.

Do You Know:

- Bananas boast a colourful life cycle — they start at a deep green, change to a delicious yellow, and end (if not consumed beforehand) at an unappetising brown. These changes are a product of their ripening process, which is caused by a hormone called ethylene.
- Although many fruits produce ethylene, bananas produce a lot of it. And unlike melons and citrus fruits, they keep producing ethylene even after being harvested. Contact with ethylene triggers the activity of a number of genes, including one which linked to the production of the enzyme polyphenol oxidase (PPO).
- It is this enzyme that makes bananas turn brown. PPO coming in contact with oxygen breaks down the yellow pigment in bananas to a brown hue. Bruising of the fruit — as is common during its handling — leads to the production of higher quantities of ethylene, and thus speeds up the ripening and browning process.

US EXITS FUND MEANT TO COMPENSATE POOR NATIONS FOR CLIMATE CHANGE DAMAGE

The US has withdrawn from the board of the recently-created Loss and Damage Fund which is meant to provide financial support to countries ravaged by climate change disasters, Reuters news agency reported on Friday.



— This is the latest decision by the Donald Trump administration to disengage itself from the international climate change framework. It has already pulled out of the Paris Agreement, stopped the participation of its scientists in a meeting of the Intergovernmental Panel on Climate Change (IPCC), and cancelled previously committed money for the Green Climate Fund.

— The Loss and Damage Fund was created at the COP27 climate meeting in Egypt in 2022 after several years of protracted negotiations.

— Developing countries, particularly small island states that face the greatest threats from climate impacts, had been demanding financial assistance in case of climate-related disasters, arguing that they were having to suffer due to a problem created by rich and developed countries.

— About \$750 million has so far been promised for the fund, of which the US has contributed \$17.5 million. The US, in fact, is one of the very few countries to have already transferred its committed amount to the Fund.

Do You Know:

— The Paris Agreement is an international accord that was adopted by nearly every country in 2015 to address climate change and its adverse effects.

— Its primary goal is to substantially reduce greenhouse gas (GHG) emissions in a bid to limit global warming in this century to “well below” 2 degrees Celsius above pre-industrial levels while pursuing the means to curb warming to 1.5 degrees.

— The agreement mentions the safer limit of 1.5 degrees based on a fact-finding report which found that breaching the threshold could lead to “some regions and vulnerable ecosystems” facing high risks, over an extended, decades-long period.

— The treaty also requires all Parties (countries which have joined the agreement) to state every five years what they are doing to tackle climate change — what is known as their nationally determined contribution (NDC).

WHY A PERUVIAN FARMER IS SUING A GERMAN ENERGY COMPANY

A Peruvian farmer is getting his day in court in a landmark climate case against German energy giant RWE that could shake up how the effects of companies’ emissions are litigated.

— In 2015, Lliuya, backed by activist group Germanwatch, filed a lawsuit claiming RWE’s greenhouse gas emissions have contributed to the melting of an Andean glacier which has raised the water level at Laguna Pacacocha, creating a significant flood risk to his home in the nearby town of Huaraz.

— He contends the company has contributed nearly 0.5% of global manmade greenhouse gas emissions since the industrial revolution, and should pay the equivalent fraction of flood protection costs in the area.

— The case is based on section 1004 of the Civil Law Code which states that if a property is interfered with, the owner may require the disturber to remove the interference.



— In 2021, scientists at the University of Oxford and the University of Washington proved that the melting of a glacier in the Peruvian Andes was being caused by man-made global warming and was raising flooding risks for nearby residents.

Do You Know:

— According to the Intergovernmental Panel for Climate Change (IPCC), “Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer.”

— Melting ice from glaciers worldwide has led to the sea level rising by almost 2 cm this century alone, a newly-published study has found. Glaciers have been losing 273 billion tonnes of ice each year — equivalent to how much water Earth’s entire population would consume over a period of 30 years — for the last 25 years, the study reported.

— Sea level rise is essentially the increase in the average height of the ocean’s surface, measured from the centre of the Earth. There are two primary reasons why sea levels are currently rising.

EXPERTS STRESS NEED FOR AWARENESS ON HEALTHY EATING HABITS AFTER DEATH OF TEENAGER IN KERALA

The death of an 18-year-old girl in Kannur reportedly after following extreme dieting and subsequent medical complications, possibly due to an eating disorder, has brought the focus sharply on the serious physical and psychological issues faced by teenagers over weight gain and body image issues.

Sreenanda, an 18-year-old, who was admitted in an extremely weak state in a hospital in Kannur a week ago, died on Saturday night and it was revealed that the teenager suffered from anorexia nervosa, an eating disorder characterised by extreme restriction of food intake, an intense fear of gaining weight, and a distorted body image

The Kannur incident is just a tip of the iceberg, nutritionists point out.

In a world obsessed with good looks and where everyone is a social media influencer pushing shortcuts to bring down body weight, the importance of eating right and nutrition are being just brushed under the carpet, they say.

“Rising obesity levels among children and adolescents is indeed a concern but these issues should be addressed in a comprehensive manner. Children are never taught in school or at home about the importance of eating right and building a foundation for good health in their growing years. They are naturally drawn to the fad diets and short-term weight loss tricks,” says Lakshmi Manish, a nutrition expert in the city.

Liver-kidney damage

Even restrictive diets, which exclude whole food groups, like the keto diets, while inducing rapid weight loss can be harmful to liver and kidneys, recent research has shown.

Paediatricians say that eating disorders are common among children. They skip breakfast and depend on easily available fried/processed foods to stave off hunger and this is a sure-fire route to obesity.



Conditions like anorexia nervosa or bulimia (cycles of binge eating followed by compensatory behaviours like vomiting) are borderline mental disorders.

“We see many children who are extremely anxious about body weight and start limiting their food intake. Some do binge eating. Parents need to realise that the anxiety and fear expressed by children and teenagers over weight issues are real,” doctors said.

KIDNEY DISEASE NO LONGER JUST FOR THE ELDERLY, SAY EXPERTS

As the world observed World Kidney Day on March 13, medical experts are sounding the alarm over the increasing prevalence of kidney-related ailments among young Indians. Traditionally considered a health concern for older individuals, chronic kidney disease (CKD) is now showing up even among teenagers and young adults, fueled by poor lifestyle choices, unregulated supplement consumption, and lack of awareness.

Studies indicate that kidney problems affect approximately 10% to 15% of Indians, cutting across all age groups, including teenagers. Unlike other ailments, early-stage kidney disease does not present obvious warning signs like swelling or changes in urine output, making regular screening essential, says Manisha Sahay, professor and head of the department of nephrology at Osmania General Hospital. She warns that kidney disease is a silent killer, often showing no symptoms in its early stages.

“In many countries, routine kidney function tests such as urine albumin and creatinine blood tests are conducted annually. These tests are inexpensive yet provide crucial insights into kidney health. In India, at the very least, high-risk individuals should undergo these tests,” Dr. Manisha says. She identifies high-risk groups, as those individuals with diabetes, hypertension, cardiac conditions, obesity, or a family history of kidney disease. Young people exposed to pesticides, frequent users of painkillers, and women with pregnancy-related hypertension are also vulnerable.

Addressing the need for lifestyle modifications, Dr. Manisha stresses the importance of maintaining ideal body weight through regular exercise, and following a balanced diet, and limiting salt intake to five grams per day. She advises against excessive fast food consumption and hidden sources of sodium, such as soy sauce, recommending natural seasonings like lemon and black pepper instead. Staying hydrated, ensuring six to eight hours of sleep, and managing blood sugar, blood pressure, and cholesterol levels are crucial steps toward kidney health.

Inadequate water increase risk

The rising concern over kidney health among young people is echoed by Avula Naveen Reddy, consultant nephrologist at the Asian Institute of Nephrology and Urology (AINU). He has observed a significant increase in kidney-related cases among Gen-Z (individuals born between 1997 and 2012). “Many gym-goers report elevated serum creatinine levels, while some experience protein leakage in their urine. Additionally, stress and inadequate water intake among students are leading to a higher incidence of urinary infections,” he explains.

At AINU, three to four kidney-related cases involving individuals aged 16 to 20 years are reported each month, a noticeable rise compared to previous years. Routine screenings, particularly for students planning to study abroad, have revealed underlying kidney issues that may have otherwise gone undiagnosed. Dr. Reddy urges young individuals to avoid over-the-counter painkillers, minimise whey protein supplements, and focus on plant-based protein sources. He



also highlights the importance of proper hydration, noting that many students reduce their water intake due to poorly maintained restrooms in schools and colleges, increasing their risk of kidney stones and urinary infections.

Symptoms such as excessive foaming in urine (a sign of protein leakage), fever with abdominal pain, a burning sensation while urinating, and traces of blood in urine should not be ignored. While these conditions may not always be life-threatening, early detection and timely intervention are crucial, Dr. Reddy notes.

Despite the increasing prevalence of kidney-related issues among young Indians, awareness remains alarmingly low. Experts stress that prevention is far more effective than treatment, as dialysis and kidney transplants remain inaccessible for many due to limited resources.

“India performs around 15,000 kidney transplants per year, while the demand is nearly two lakh. With each dialysis session requiring around 125 litres of water, even expanding dialysis facilities cannot meet the growing need. The only viable solution is to prevent kidney failure in the first place,” Dr. Manisha points out.

D. Sree Bhushan Raju, professor and head of the department of nephrology at Nizam’s Institute of Medical Sciences (NIMS), highlights additional risk factors. Preterm babies with a birth weight below 2.5 kilograms are at a higher risk of developing kidney-related complications later in life. Teenagers and young adults aged 15 to 20 who are obese, as well as those with a family history of kidney disease, also face increased vulnerability. Additionally, individuals with childhood kidney conditions such as nephrotic syndrome, which leads to excessive protein loss and body swelling must be closely monitored. Structural kidney abnormalities requiring early surgery further heighten the risk of kidney disease in adulthood.

One of the most ignored warning signs is the presence of blood in urine, which many dismiss as a one-time occurrence. Dr. Raju also raises concerns over the widespread use of protein supplements like whey protein and creatine among gym-goers, which can contribute to kidney damage.

The prolonged use of painkillers, antacids, and other medications without medical supervision only exacerbates the risk.

Hypertension and diabetes, sometimes detected accidentally, are also significant contributors to kidney disease. Dr. Raju explains that CKD often remains asymptomatic until nearly 90% of kidney function is lost. Even when symptoms appear, they are frequently mistaken for unrelated issues, such as back pain.

A common misconception is that kidney failure leads to reduced urine output; in reality, many patients on dialysis still pass normal amounts of urine, he said.

To combat this silent progression, Dr. Raju recommends that individuals at high risk undergo creatinine tests every six months. Those with a family history of kidney problems or other risk factors should opt for annual check-ups. He also advises preterm and low-birth-weight individuals to avoid excessive physical exertion aimed at rapid weight gain and warns against the unregulated use of supplements and medications.



Kidney disease in children

For children, kidney disease can arise from conditions such as cystic dysplastic kidneys, polycystic kidneys, hereditary kidney diseases, and chronic glomerular and tubular disorders. According to V.V.R. Satya Prasad, senior consultant paediatric nephrologist at Rainbow Children's Hospital, CKD is irreversible and requires dialysis or kidney transplantation for survival. Since kidneys filter waste and fluids from the blood, their failure results in harmful waste accumulation, leading to high blood pressure and, ultimately, kidney failure. End-stage renal disease (ESRD) occurs when kidneys lose 90% of function, necessitating urgent medical intervention.

With kidney disease cases rising among the younger generation, prioritising routine screenings, maintaining a healthy lifestyle, and staying vigilant about early symptoms can help curb this growing health crisis before it escalates further.

WHAT IS HANTAVIRUS AND HOW DOES IT SPREAD?

According to the U.S. Centers for Disease Control and Prevention (CDC), hantaviruses are a family of viruses that can cause severe, potentially fatal illnesses including hantavirus pulmonary syndrome (HPS) and haemorrhagic fever with renal syndrome (HFRS), characterised by severe respiratory illness and internal bleeding with kidney failure.

The recent passing of Betsy Hackman, wife of renowned American actor Gene Hackman, has drawn attention to this deadly virus. Although cases are rare, the severity of the illness makes understanding its spread, symptoms, and treatment options crucial.

How does hantavirus occur?

Hantaviruses are a family of viruses carried by certain rodents, such as deer mice, white-footed mice, rice rats, and cotton rats. According to the CDC, humans typically contract hantavirus through contact with infected rodent waste, primarily via aerosolization when disturbing contaminated materials, such as sweeping or cleaning infested areas.

According to the World Health Organisation's manual, hantaviruses are a family of viruses with several strains exhibiting varying degrees of severity.

The infection cause flu-like symptoms such as fever, muscle aches, and fatigue within 1-8 weeks of exposure, followed by a severe respiratory phase characterised by shortness of breath, coughing, and chest tightness, which can rapidly escalate to acute respiratory distress and potentially fatal outcomes without prompt medical intervention.

High-risk groups include people who work or live in rodent-prone areas, such as farmers, construction workers, campers, and homeowners with rodent infestations. The CDC also emphasis that children under five, pregnant women, and individuals with weakened immune systems should avoid handling pet rodents .

What are the treatment options?

Currently, even though there is no specific antiviral treatment or cure for hantavirus, medical care focuses on managing symptoms and supporting the patient through the most dangerous phases of the illness. In cases of HPS, patients are often given oxygen therapy to ease breathing difficulties. Severe cases may require intensive care, including mechanical ventilation to assist lung function.



Early detection and immediate medical attention are crucial for preventing severe respiratory distress. Preventive methods through rodent control and adherence to proper sanitation protocols is crucial.

UNDERSTANDING THE NEUROBIOLOGICAL BASIS OF SUBSTANCE ABUSE ADDICTION

In the complex landscape of public health challenges, substance use disorders stand as a testament to the intricate relationship between the brain and behaviour. As Brain Awareness Week (March 10-16) brings neuroscience into focus, it becomes imperative to examine addiction not merely as a moral failing but also as a chronic brain condition with neurobiological underpinnings that can be understood, treated, and potentially reversed.

Revelations from a new study

The human brain, with around 86-100 billion neurons, represents perhaps the most complex living structure in the known universe. Each neuron, equipped with an axon, dendrites, and a cell body, forms an elaborate communication network that regulates everything from basic bodily functions to complex cognitive processes. This communication occurs through neurotransmitters — chemical messengers that can either excite or inhibit neural activity.

Recent advances in neuroscience have illuminated how specific neural networks become disrupted during addiction.

The ground breaking multi-centre study by Dr. Michael D. Fox and Dr. Jacob L. Stubbs at the University of British Columbia, published in *Nature Mental Health*, analysed data from 144 imaging studies involving over 9,000 participants. Their findings reveal that addiction is not isolated to discrete brain regions but rather involves a unified circuit encompassing areas associated with craving, emotional regulation, and decision-making processes.

This discovery marks a paradigm shift in our understanding of addiction. Rather than focusing on isolated brain regions, research suggests a more holistic approach is necessary — one that considers the interconnected nature of neural pathways involved in substance use disorders.

Three interconnected brain regions emerge as central players in the development and maintenance of addiction — the basal ganglia, the extended amygdala, and the prefrontal cortex. Each contributes uniquely to what researchers describe as the three-stage cycle of addiction: binge or intoxication, withdrawal, and preoccupation or anticipation.

The basal ganglia, particularly the nucleus accumbens (NAc), plays a decisive role in processing rewards. This region teaches the brain to repeat activities that produce pleasure, whether derived from food, social interaction, or addictive substances. Working in close coordination with neurotransmitters like dopamine and serotonin, the NAc reinforces behaviours that “feel good” — a natural mechanism that becomes hijacked during addiction.

Meanwhile, the extended amygdala governs stress responses and the negative emotional states that accompany withdrawal from substances. This region helps explain why discontinuing substance use often leads to profound feelings of anxiety, irritability, and unease — symptoms that drive continued use despite negative consequences.

The prefrontal cortex, responsible for executive functions such as decision-making, time management, and prioritisation, completes this triad. Impairment in this region helps explain the



seeming irrationality of continued substance use despite awareness of harmful consequences — a hallmark of addiction.

Vulnerability of the brain

Adolescence represents a critical “at-risk period” for substance use and addiction. During this developmental stage, the brain undergoes significant reorganisation, with the prefrontal cortex — the region responsible for impulse control and rational decision making — being among the last areas to fully mature. This neurobiological reality helps explain why adolescents are particularly vulnerable to substance use disorders and why early intervention is crucial.

The neuroadaptations that occur with ongoing substance use not only impair brain function but accelerate the transition from controlled to compulsive use. Perhaps most concerning is that these alterations may persist long after substance use ceases, contributing to relapse vulnerability and periodic cravings even after prolonged periods of abstinence.

Beyond simplistic narratives

It is essential to recognise that while substance use can lead to addiction, it does not inevitably do so on its own. A complex interplay of genetic predisposition, psychological history, environmental factors, and the age of first-use determines individual vulnerability.

This multifactorial understanding challenges simplistic narratives and underscores the need for more nuanced approaches to prevention and treatment. The scientific community has made significant strides in understanding addiction through animal models, which provide controlled conditions for examining how substances affect the brain. These studies have elucidated the impact of genes, developmental processes, and environmental factors on substance-taking behaviour. Human studies using brain imaging technologies like MRI and PET scans have further illuminated the biochemical, functional, and structural changes induced by substance use.

However, despite these advances, our understanding of how the brain changes during recovery remains incomplete. What factors support or hinder long-term recovery from substance use disorders? What neurobiological processes allow individuals to sustain behavioural changes and build resilience against relapse? These questions represent the frontier of addiction research.

A deeper comprehension of the recovery process will undoubtedly influence the development of more effective treatment and support programs. It may also help address the broader social, educational, and professional functioning challenges that often accompany substance use disorders.

The path ahead

Perhaps one of the most significant contributions of neurobiological research on addiction has been its role in reducing stigma. By framing addiction as a chronic brain condition rather than a moral weakness, this research has encouraged the integration of substance use disorder treatment into mainstream healthcare. Clinical trials continue to explore effective medications for various substance use disorders, with promising developments, particularly in the realm of opioid addiction. As our understanding of the neurobiological basis of addiction evolves, so too will our treatment approaches, potentially leading to more targeted interventions that address the specific neural circuits disrupted in addiction.



As we observe Brain Awareness Week, it behooves us to reflect on how neuroscientific insights can inform public policy, treatment approaches, and societal attitudes toward addiction. Embracing a neurobiological framework, we can move beyond simplistic blame narratives toward more compassionate and effective responses.

The brain's remarkable plasticity — its ability to reorganise and adapt — offers hope even in the face of addiction's persistent challenges. With continued research, improved public understanding, and evidence-based interventions, we can work toward a future where substance use disorders are prevented where possible and treated effectively where necessary.

In this endeavour, we must remember that behind every statistic and brain scan lies a human being — someone whose neural circuitry has been altered but whose capacity for recovery remains. This is fundamental in guiding our scientific inquiry, clinical practice, and public discourse on addiction.



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