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INTERNATIONAL

CHASING TRUCE

President Joe Biden's remark that there is real progress in talks between Israel and Hamas on a ceasefire and hostage deal offers a rare ray of hope in ending the 15-month-long war. Mr. Biden said he was confident that his administration, which has only some more days left in office, could secure a deal. However, experience suggests that there is no deal unless an actual deal is reached, irrespective of the progress in talks. Even now, there are conflicting narratives on the remaining bottlenecks. Mr. Biden says Hamas is an obstacle, while Qatari and Egyptian officials, who were involved in the talks, say Israeli Prime Minister Benjamin Netanyahu's refusal to agree to anything more than a temporary ceasefire is the main hurdle. Mr. Netanyahu does not want to bring the war to an end as his far-right government could collapse. But he is ready to accept a temporary halt in fighting in return for hostages. Hamas, fearing that Israel would resume fighting once the hostages are released, demand a permanent ceasefire. While talks drag on, the plight of over two million people in Gaza is nearly forgotten. Israeli strikes have already killed 46,000 Palestinians. Most of Gaza's population lives in tent cities without enough food, drinking water, medicines and electricity.

When Israel launched the war, after Hamas's October 7, 2023 attack, it had three objectives — destroy Hamas, secure the release of hostages and bolster the Jewish state's long-term security. Fifteen months later, while Israel has destroyed much of Hamas's military infrastructure and killed its top leadership, the group has survived and transformed itself as an insurgency. Israel has managed to release very few hostages and its long-term security risks remain. While a ceasefire with Hezbollah brought relative calm to the northern border, the Houthis of Yemen are now firing missiles and drones to Israel. The country is also facing international isolation. The International Court of Justice is hearing a genocide case against Israel, and the International Criminal Court has issued arrest warrants against Mr. Netanyahu and former Defence Minister Yoav Gallant. Rights organisations, from Amnesty International to HRW, are accusing Israel of genocide. Mr. Netanyahu seems unperturbed, thanks to the military, political and diplomatic support that Israel still enjoys from the Biden administration. But its inability to meet its objectives even in the tiny Gaza Strip, its disregard for international law and norms and the barbarity with which it is attacking the Palestinians should shock anyone interested in the country's physical and moral well-being. It is already too late. Israel's leaders and their backers in the West should not prolong this aimless war. Mr. Netanyahu should leave Gaza in return for the release of all hostages.

DENMARK HITS BACK AT TRUMP: GREENLAND MAY GET FREEDOM, BUT WON'T BE A US STATE

Greenland may become independent if its residents want, but is unlikely to become a U.S. state, Denmark's foreign minister said on Wednesday after U.S. President-elect Donald Trump refused to rule out force to take control of the Arctic island.

• Greenland's leader met with the Danish king in Copenhagen on Wednesday, a day after Trump's remarks thrust the fate of the mineral-rich and strategically important island, which is under Danish rule, to the top of world headlines.

• Trump, who takes office on Jan. 20, said on Tuesday he would not rule out using military or economic action to make Greenland part of the United States. The same day, Trump's eldest son, Donald Trump Jr., made a private visit to Greenland.

• Greenland, part of NATO through the membership of Denmark, has strategic significance for the U.S. military and for its ballistic missile early-warning system since the shortest route from Europe to North America runs via the Arctic island.

• Greenland's relations with Denmark have lately been strained by allegations of mistreatment of Greenlanders. Egede has said the island is not for sale, while in his New Year speech he stepped up his push for independence. Denmark says the territory's fate can be decided only by Greenlanders.

Do You Know:

• Greenland, the world's biggest island, has been part of Denmark for 600 years although its 57,000 people now govern their own domestic affairs. The island's government led by Prime Minister Mute Egede aims for eventual independence.

• Greenland, the largest island on Earth, is situated in the Arctic and is the most sparsely populated territory in the world. It is home to approximately 56,000 residents, primarily indigenous Inuit people.

• Around 80% of Greenland is covered by ice, with most of its population concentrated along the south-western coast near the capital, Nuuk.

• As an autonomous territory of Denmark, Greenland hosts both Danish and U.S. military bases. Its economy relies heavily on fishing, while substantial subsidies from the Danish government contribute about 20% of its GDP.

• Greenland, though geographically part of North America, has been under Denmark's control—located nearly 3,000 km (1,860 miles) away—for around 300 years. Initially governed as a colony, Greenland remained isolated and economically underdeveloped for much of its early history.

• In 1953, it was integrated into the Kingdom of Denmark, granting Greenlanders Danish citizenship.
A significant shift occurred in 1979, when a referendum on home rule allowed Greenland to take control of most internal policies, while Denmark retained authority over foreign affairs and defense.

• With his second term due to begin shortly, Trump's renewed interest in Greenland is attributed to multiple factors:

—Security: On December 23, Trump posted on his Truth Social platform, "For purposes of National Security and Freedom throughout the World, the United States of America feels that the ownership and control of Greenland is an absolute necessity." Strategically, Greenland would bring the United States closer to Europe, where it could monitor the activity of its political rivals like Russia and China.

—Trade route: Greenland also falls on a shorter and more efficient shipping route through the Arctic Sea. Russia and China have reportedly eyed developing Arctic shipping routes. A former National Security Adviser to Trump, Robert O'Brien, told Fox News that as the "climate gets

warmer", the Arctic trade route could cut US dependence on the Panama Canal. "Greenland is a highway from the Arctic all the way to North America, to the United States," he said. —Mineral resources: Greenland is also a gold mine for mineral deposits such as copper, lithium, and cobalt, which are essential for the development of batteries and electric vehicles.

WAYWARD LIBERAL

Justin Trudeau's rise and fall as a global progressive icon is representative of the crisis of liberalism in general. After being in power as Prime Minister of Canada for a nine-year tenure over three terms, Mr. Trudeau announced his resignation on January 6. He had risen as the central figure of Canadian politics in 2015, leading the Liberal Party to an impressive victory in the federal election but that turned out to be the peak of his popularity. Born a child of privilege and power — his father Pierre Elliott Trudeau was Prime Minister for 15 years — Mr. Trudeau had rhetoric that was music to the ears of the global liberal elite, but his sense of the country's public mood has been poor. As his unhinged liberalism translated into unchecked policies of the federal government, Canadians turned against him and the Liberal Party collapsed into a low point in its history, with its popularity now barely touching 15%. His fiscal policy riled conservatives and moderates, and the generous immigration policy that he approved created a spurt in the population, straining housing, health care, employment opportunities and wages. His cultural liberalism was far off the centre of Canadian politics. When signs of discontent began to manifest as public protest and criticism, he resorted to strong arm state measures and dismissed his critics.

Mr. Trudeau said he hoped his exit would arrest the decline of the Liberal Party but that sounds overly optimistic. But a post-Trudeau Canada may be able to mend its ties with key partners including the United States and India. It might be months before the Liberal Party manages to install his successor or its minority government falls and a fresh election is held. The Conservative Party led by Pierre Poilievre is on an upswing and appears headed for a landslide victory, whenever elections are held, unless there is yet another turnaround in public mood. Mr. Trudeau's successor may help rescue Canada-India ties. Mr. Trudeau's compulsions to pander to Sikh extremists in Canada led to bizarre situations during his tenure. By escalating tensions with India on suspicion of Indian agents being involved in the murder of a Khalistani activist in Canada, Mr. Trudeau showed poor statesmanship and diplomacy. In being publicly judgmental and dismissive of Donald Trump in the run-up to the elections in the United States, Mr. Trudeau acted unwisely. He was ushered in with wide fanfare in 2015, but nobody seems to cry over this exit.

WHAT IS BRITAIN'S CHILD SEX ABUSE SCANDAL, WHY ELON MUSK IS BLAMING PM KEIR STARMER NOW

Britain's Prime Minister Keir Starmer this week responded to criticism that as Director of Public Prosecutions from 2008-13, he had failed to go after gangs that sexually exploited children.

Starmer has faced days of abuse on X (formerly Twitter) over the child grooming scandal that surfaced in the mid-2000s, in which men, many of British Pakistani heritage, were alleged to have systematically raped and trafficked girls as young as 11.

The charge against Starmer has been led by the billionaire owner of X, Elon Musk, a close aide of United States President-elect Donald Trump, who has used his platform's megaphone to launch attacks on several European leaders.

'Grooming' of a child

Grooming is when an adult establishes a relationship of trust with a minor — often targeting vulnerable children — with the intention of initiating an exploitative sexual relationship.

Offenders typically befriend the child through gifts, attention, and considerate behaviour, and then exploit the resultant relationship to coerce or frighten the child into sexual contact.

The cases in the UK

Several instances of gangs exploiting children were reported in British towns such as Rotherham, Bristol, Cornwall, and Oxford from the late 1990s to about 2012. In many of these cases, the offenders were of Pakistani origin.

The gangs often preyed on girls in care homes, or from broken families. Thousands of girls were befriended, plied with alcohol and drugs, and gangraped and trafficked.

Some of the survivors have written accounts of their ordeal. An excerpt from one such book, Prey: My Fight to Survive the Halifax Grooming Gang, reads: "...The pick-ups (by the grooming gang) had become so frequent that I barely spent any time in the house at all. The guys would come by, put me in a car and take me away for the night, or longer. Sometimes I would disappear for days at a time. The booze and all the drugs wiped me out for hours."

The girl, Cassie Pike, was only 11 at the time, with a mother dying of Huntington's disease, a degenerative disease of the brain cells, and a violent, substance addict father.

Over the years, British police have faced criticism for not joining the dots and reading the pattern when various individual cases were reported to them, for not taking victims seriously, and for allegedly going slow on investigations because they did not want to ignite sectarian tensions and were afraid of being seen as racist.

However, no evidence of a systematic cover-up has been found.

A recent report by the BBC recalled, "An inquiry into abuse in Rotherham found 1,400 children had been sexually abused over a 16-year period, predominantly by British Pakistani men. An investigation in Telford found that up to 1,000 girls had been abused over 40 years — and that some cases had not been investigated because of "nervousness about race"".

The current context

In October last year, Safeguarding Minister Jess Phillips rejected a request for a national inquiry into the sexual exploitation cases in Oldham, saying that an ongoing local inquiry should be allowed to proceed.

The issue began gaining steam on social media, and blew up after Musk used it to target Phillips and Starmer. Since then, politicians from the opposition Conservative and Reform UK parties have also repeatedly raised the matter.

Phillips told the BBC's Newsnight program on Tuesday that "disinformation" spread by Musk – he has called Phillips a "rape genocide apologist" – was "endangering" her, but "I'm no stranger to people who don't know what they're talking about trying to silence women like me".

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The far right in Europe and the US has used the cases to push several racist narratives while arguing against immigration.

Inquiry into cases

The report of a national inquiry held over seven years was published in 2022. It made 20 recommendations, which are yet to be implemented. British academic Alexis Jay, who headed that inquiry, has said that the victims "want action", and not another inquiry.

The recommendations include setting up a national child protection authority; stricter rules around who can work with vulnerable children; making not reporting child sex abuse an offence (which the government announced on Monday it will do this year); making grooming an aggravating factor when sentencing a child abuse convict; and improve the information gathering on children's exploitation.

The government has said it is working on the last two recommendations.

The Crown Prosecution Service (CPS) that Starmer headed between 2008 and 2013 has admitted in the past that it could have done more to help the grooming victims. But Starmer's role has been lauded by many.

The Financial Times quoted Nazir Afzal, a former chief prosecutor for north-west England, as saying, "Keir left in 2013, the CPS having gone from being dire at doing sex-abuse cases to having the highest conviction rate in our history. That wouldn't have been possible without the support, resources and the protection I was given by Keir, at a time when it would have been easier to give up."

In 2013, Starmer improved CPS guidelines on dealing with child victims of sexual abuse.

INDIA 'UNEQUIVOCALLY CONDEMNS' PAKISTANI BOMBING OF AFGHAN TARGETS

India on Monday "unequivocally condemned" the latest Pakistani airstrike on targets inside Afghanistan. India's remarks came days after Pakistani Air Force bombed targets in Paktika after days of skirmishes between Pakistani forces and Taliban border guards.

"We have noted the media reports on airstrikes on Afghan civilians, including women and children, in which several precious lives have been lost. We unequivocally condemn any attack on innocent civilians. It is an old practice of Pakistan to blame its neighbours for its own internal failures. We have also noted the response of an Afghan spokesperson in this regard," Official Spokesperson of the Ministry of External Affairs said.

Pakistan Air Force jets bombed targets in Barmal district of Paktika December 24 and 25 that led to the killing of at least 46 people. Following the attacks, the Taliban regime's Defence Ministry said, "The Islamic Emirate considers this brutal bombing a violation of international principles and a clear act of aggression."

Afghanistan and Pakistan troops have clashed along the Durand Line near Paktika for several weeks. Pakistan said that the aerial attacks were aimed at assets of the Tehreek-e-Taliban Pakistan, a designated terror group in Pakistan. Islamabad has in the past accused TTP of carrying out attacks against military bases, schools and other civilian targets

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NATION

EXPRESS VIEW ON INDIA-TALIBAN TALKS: DELHI MUST NOT GIVE UP CORE VALUES, SHOULD UNDERLINE CONCERNS

Governments might come and go in Kabul, but India's ties with Afghanistan have largely retained their strategic character. India's stepped-up engagement with the Taliban — marked by the recent meeting of Foreign Secretary Vikram Misri with the acting Foreign Minister of Afghanistan Amir Khan Muttaqi in Dubai — underlines this basic geopolitical reality of the Subcontinent. When the Taliban stormed back into power in August 2021, it was widely lamented as a major setback to India's regional policy. After all, India had been a strong partner for the government led by anti-Taliban forces. The return of the Taliban was also viewed as a major gain for Pakistan, which was deeply hostile to the regime that fell in Kabul. Yet, since its return, the Taliban consistently signalled its eagerness to improve relations with India. Delhi has been cautious in its interaction with the Taliban. That policy has changed now with the elevation of the engagement to the level of foreign secretary. Delhi has responded to requests from Kabul for Indian support for humanitarian assistance and developmental cooperation.

The slow but certain drift in Delhi towards normal relations with Kabul underlines an enduring geopolitical reality of the Subcontinent. Irrespective of the nature of the regime in Kabul — monarchical, communist or Islamist of different kinds — there has been a natural warmth between Delhi and Kabul. That India and Afghanistan do not have any bilateral dispute is one factor; that they share cross-border problems from Pakistan is another. Kabul has long resented the Pakistan army's brazen meddling in its internal affairs and its treating Afghanistan as its backyard. Kabul has looked to Delhi to balance the pressures from Rawalpindi. Pakistan has sought to break this paradigm by conscious efforts to promote radical Islam in Afghanistan and groom the Taliban as an anti-Indian force. That policy has failed one more time. The tensions between Kabul and Rawalpindi have not disappeared.

Although the logic of geopolitics is moving Delhi closer to Kabul, there are two issues of concern for India. One, the domestic orientation of the Taliban regime — its repression of the population and intolerable oppression of women in particular, who are being denied basic rights such as education and minimal personal freedoms. To be sure, India does not have the power to alter the internal politics of Afghanistan; realism suggests that Delhi must deal with whichever government is in power in Kabul. Yet, India cannot give up its core values, it must nudge the Taliban towards political and social moderation. That the meeting with the Taliban officials took place in Dubai is a reminder that India can work with the United Arab Emirates and other moderate Arab states in promoting positive changes inside Afghanistan. The second issue is Delhi's unfortunate abandonment of its previous allies in Afghanistan since the Taliban returned to power. This included a heart-breaking refusal to give visas to many Afghans who had actively supported India over the decades. Winning new friends in Kabul might be smart; but losing old friends is not wise.

BANGLADESH CANCELS VISIT OF JUDICIAL OFFICERS UNDER PACT BETWEEN INDIA AND HASINA GOVT.

Bangladesh on Sunday cancelled the visit by a delegation of its judicial officials to India. In a circular, the Ministry of Law, Justice and Parliamentary Affairs said the visit of the officials who were scheduled to attend a training programme in Bhopal between February 10 and 20 has been cancelled. The cancellation is being interpreted as a hint that Bangladesh will reconsider some of

the agreements and MoUs that were signed during the Hasina era as the training of judicial officials was part of one such bilateral MoU.

According to state-owned news agency *UNB*, 50 officials were granted permission on December 30, 2024, to attend the training module in Bhopal. The nominated officials were chosen from a list of Assistant Judges, Senior Assistant Judges, Joint District and Sessions Judges, Additional District and Sessions Judges, District and Sessions Judges and other serving officials.

The letter of approval had mentioned that the training module was being financed by the Government of India and that the Government of Bangladesh was not expected to finance the training module. Prime Minister Sheikh Hasina had visited India between April 7 and 10 in 2017, when the two sides had signed twenty-two agreements. The MoU between the National Judicial Academy, India, and the Supreme Court of Bangladesh on Training and Capacity Building Programme for Bangladeshi Judicial Officers in India was one of these MoUs.

Under this programme, training for officials of Bangladesh judiciary would have been provided at the National Judicial Academy in Bhopal as part of improving capacity and expertise of Bangladesh judiciary.

However, the latest development comes against the backdrop of the continued deadlock between Dhaka and New Delhi over the presence of deposed Prime Minister Sheikh Hasina on Indian territory.

Bangladesh has been seeking the extradition of Ms. Hasina as dozens of cases have been filed against her by the victims of the police crackdown of July and August 2024. India has acknowledged that Dhaka has sent a *note verbale* seeking the extradition of Ms. Hasina but has not conveyed what it plans to do regarding the request. Since coming to power, the interim government has been saying that it will review and if necessary cancel some of the agreements that Ms. Hasina had signed with India.

IMPLICATIONS OF CHINA'S MEGA-DAM PROJECT

The ambitious plan to build a mega-hydropower dam across the Brahmaputra at the Great Bend region of the Medog county in the Tibetan Autonomous Region (TAR) in China, has been in the drawing boards of Chinese hydrocracy for decades. The clearest signalling to this effect happened in 2020 when this project was included in China's 14th Five-Year Plan. Its approval was granted on December 25, 2024. India, Bhutan and Bangladesh will have serious downstream implications of this 60 GW hyper-dam built upstream by China.

Where is this project?

The Brahmaputra is a transboundary Himalayan river basin spanning four riparian countries. China is the uppermost riparian nation with the river system originating in the TAR, where it is known as the Yarlung Zangbo (or Tsangpo). India and Bhutan are lower riparian nations in relation to China and middle riparian countries in relation to Bangladesh. It is from Bangladesh, which is the lowermost riparian nation, that the river drains into the Bay of Bengal. All riparian countries have major water infrastructure projects planned in the river basin, such as hydropower dams, embankments meant for river control, irrigation dams and barrages.

Is the Brahmaputra river basin trapped within nation-states?

Transboundary river systems are often likened by nation-states to 'taps', which they think can be closed or opened through hydraulic interventions such as dams within their respective nation-states. The Brahmaputra river system has been the site of planned and ongoing mega-dams projects by China, India and Bhutan, all contributing to an intense geopolitical power projection in the river basin. Mega-dams on rivers systems are seen as important sovereignty markers; symbols of nation-state control over natural features. Highly dramatised terms such as 'water wars' are part of the geopolitical vocabulary and upstream hydropower dams are viewed as 'water bombs' by lower riparian nations, as in the case of the Medog dam project. China sits pretty at the top of Asia's water tower, with complete control over Tibet's rivers and significant material, technological and discursive capabilities to deploy unilateral hydropower development.

The Chinese hydrocracy has gone forward with mega-hydropower developments such as the Three Gorges Dam on the Yangtze river and the Zangmu Dam on the Yarlung Zangbo, commissioned in 2015, with its top political leadership firmly backing these interventions as state symbols.

What are the risks for communities inhabiting the Brahmaputra river basin?

The communities living along the river system have adapted as the river has shaped and shifted over centuries. However, with interventions such as mega-hydropower dams by China, India and Bhutan, communities cannot use their traditional knowledge about the river system meaningfully, as the pace and occurrence of disasters have magnified. The upstream communities in Tibet as well as the downstream communities in India, Bhutan and Bangladesh have to live under the shadow of mega-hydropower dams with adverse consequences to their traditional lands and livelihood. The perennial flow of the Brahmaputra in downstream areas in India and Bangladesh depends on the flow of the Yarlung Zangbo. The blocking of that perennial flow, in order to maintain headwaters to operate a mega-hydropower dam of the magnitude that China is planning at the Great Bend, will have catastrophic consequences on surface water levels, and to overall monsoon patterns and groundwater systems of the river basin. This will affect downstream agrarian communities and the sensitive ecology of the overall Himalayan bioregion/ecoregion.

What explains the hydropower dam-building race in the Brahmaputra river basin?

There is a face-off between China and India on the Yarlung Zangbo-Brahmaputra river course. China has announced the biggest hydropower project at the Great Bend while India has announced its largest dam project, at Upper Siang. Bhutan has been planning and building several medium to small dams, which have raised concerns in downstream India and Bangladesh. None of the riparian countries of the Brahmaputra river basin have signed the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses of 2014, and hence first user-rights on river systems are non-enforceable. China and India have an Expert Level Mechanism (ELM) since 2006, to discuss outstanding issues and share hydrological data, but do not have a comprehensive bilateral treaty to govern shared transboundary rivers. The outstanding land boundary dispute between China and India is weaved into the intense securitisation of the Brahmaputra river basin, which makes it an active site for strategic posturing by both countries.

A bioregional/ecoregional frame of protecting the Himalayas may help desecuritise Brahmaputra river basin.

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What next?

A recent academic book by some Australian researchers titled *Rivers of the Asian Highlands: from Deep Time to the Climate Crisis*, puts forward important deep time (deep time means geological time; billions of years) perspectives to Himalayan river systems. The book juxtaposes a wider planetary thinking to emerge against the backdrop of narrow technocratic decision-making to build mega-dams within nation-states.

Tibet's river systems are important to the Earth's cryosphere, comprising permafrost and glaciers, and major climate systems directing climate and precipitation pathways such as the monsoon. Glacial Lake Outburst Floods (GLOFs) have increased in the Himalayas with climate change events, exemplified by the Chungthang Dam collapse in Sikkim during October 2023, which caused widespread devastation to life and property to downstream communities. The dams across the Himalayas aim at territorialising river systems, breaking their natural life cycles. This affects agro-pastoral communities, biodiversity, living biota in rivers and wetland systems. The Brahmaputra river basin will turn into an active risk-scape if all these planned dams are built eventually.

An accurate sense of history will help contextualise the site of the Medog dam being built by China. One of the greatest earthquakes of modern times, the 1950 Medog Earthquake, or the Assam-Tibet Earthquake, which transformed the riparian landscape, had its epicenter at Medog in Tibet. The earthquake had disastrous effects downstream in Assam and Bangladesh, with the landscape until now trapped in an unending cycle of annual catastrophic floods.

Philip Ball in his book titled *Water Kingdom: A Secret History of China* describes the Yarlung Zangbo being viewed in Chinese history as a 'river gone rogue' as it turns sharply from its west to east route at the Great Bend, to turn south to enter India, with other major rivers in China running from west to east. While China is going ahead with building mega-dams in Tibet to correct this geographical anomaly by disciplining a 'rogue river', India can assume an important riparian leadership role for regional river systems by not mirroring what China does. A dam for a dam will make the entire Himalayan riparian/climatic systems run dry and turn it into a disaster-scape for its communities.

CRIPPLE AND SCUTTLE

Nearly two decades after the passage of the Right to Information Act, it is quite apparent that governments, at least sections of it, are uncomfortable with the idea of transparency and empowerment associated with it. Amendments to dilute its efficacy and attempts to defeat it by delaying or denying information have been quite common for years. Another way to scuttle the law is to cripple the functioning of information commissions at the central and State levels. The issue has surfaced again, with the Supreme Court of India questioning the large number of vacancies in the central and some State Information Commissions. These commissions hear appeals from members of the public who have been denied access to information or have failed to elicit a response from designated information officers in various departments and institutions. A Division Bench has taken note of the fact that there are eight vacancies in the posts of Information Commissioners in the Central Information Commission (CIC), while 23,000 appeals are pending before it. In fact, some State-level Information Commissions are almost defunct for want of members to hear the public. Any court is bound to ask, as the Court has now done, how an institution can be of any use if it does not have persons to perform the required duties under the law.

The Court has sought to impart some urgency to the matter by directing the Department of Personnel and Training to spell out in two weeks the timelines for completing the selection process and notifying the appointments of the eight Information Commissioners in the CIC. It has also asked for details about the search committee and the list of applicants for the posts. Similarly, States that have initiated the appointment process but without any definite timeline have been asked to complete the process within a specified time. However, this may not be enough to bring about a revival in the fulfilment of the original purpose of the Act. Besides filling up vacancies, not all governments have complied with a Court verdict of 2019 that called for proactive efforts to fill up vacancies in time by advertising them early. The CIC's post was stripped of its autonomy some years ago when the government removed the fixed five-year tenure and made it open-ended. Not much has been done to appoint candidates from various walks of life, as retired civil servants continue to be chosen, a point noted by the Bench in the latest hearing. It is inevitable that a large number of vacancies will result in a huge backlog and ultimately discourage the people from seeking information. It is difficult not to conclude that this is what those in power want.

STATES HAVE MONEY FOR FREEBIES, BUT CLAIM CRUNCH WHILE PAYING JUDGES: SC

The Supreme Court on Tuesday said while states have money to give freebies, they claim financial crunch when it comes to paying salaries and pensions to judges. A bench of Justices B R Gavai and A G Masih cited the Ladli Behna Yojana and promises being made ahead of the Delhi Assembly polls.

• The court was hearing a pending plea on the question of salaries and pensions of judicial officers.

• "The state's have all the money for the people who don't do any work. When we talk about financial constraints, we also have to look at this. Come elections, you declare Ladli Behna and other new schemes where you pay fixed amounts. In Delhi, we have announcements now from some party or the other saying they will pay `2,500 if they come to power," Justice Gavai said.

• Justice Gavai's reference to the freebies came after Attorney General R Venkataraman highlighted the rising pension bill of the government and said financial constraints need to be kept in mind while deciding the issue.

• Amicus Curiae in the matter and Senior Advocate K Parameshwar said that the judiciary may need to take proactive steps to achieve desired results in the matter. He said that judges need to be paid better to ensure a more diversified judiciary.

• The development comes even as the top court, which is seized of petitions challenging freebies being announced by political parties ahead of elections, is yet to start heading the matter in detail.

Do You Know:

• A two-judge bench of the SC had in the Subramaniam Balaji case in 2013 held that the "state distributing largesse in the form of distribution of colour TVs, laptops, etc. to eligible and deserving persons is directly related to the Directive Principles of State Policy" and warrants no interference by the court.

• On August 26, 2022, a three-judge bench, headed by then CJI, referred pleas seeking ban on freebies to a three-judge bench which it said will look into prayers for reconsidering the SC's verdict in the case.

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• The Salaries, Pension and Allowances of the Supreme Court Judges are charged upon the Consolidated Fund of India, whereas the Salaries and Allowances of the High Court Judges are charged upon the Consolidated Fund of the States and the Pension is charged on the Consolidated Fund of India.

• Salaries, gratuity, pension, allowances etc. in respect of Judges of Supreme Court are governed by the Supreme Court Judges (Salaries and Conditions of Service) Act, 1958. Salaries etc. of Judges of High Courts are governed by High Court Judges (Salaries and Conditions of Service) Act, 1954. An amendment in the Acts is required whenever there is any proposal for revision of salaries/pension gratuity, allowances etc. in respect of Judges of Supreme Court and High Courts.

PRESIDENT'S INVITE FOR 'AT HOME' TO HONOUR CRAFTS FROM SOUTH

A stiff white card embossed with the Lion Capital of Ashoka is the usual format of the invitation card sent out for the customary 'At Home' reception held at Rashtrapati Bhavan on Republic and Independence Day.

This year, however, to mark 75 years since the formation of the Republic of India, things are different.

Special invite

In a departure from convention, invitees for the 'At Home' will receive a specially curated box of craftwork from the five southern States — Tamil Nadu, Kerala, Karnataka, Telangana, and Andhra Pradesh — along with the card.

The idea of this special box, packed with symbolic meaning, was floated by President Droupadi Murmu herself, and executed by Rashtrapati Bhavan, with the support of the National Insitute of Design (NID), which has campuses in Ahmedabad and Bengaluru (where President Murmu is a Visitor).

"The idea behind the artefacts in the invitation box is the 5,000-year civilisational history of Bharat, with the underlying message of sustainability and colour schemes that invoke the 75 years of the forming of the Indian Republic," Rashtrapati Bhawan officials told *The Hindu*. The craft products in the invitation box are all made in the southern States, have GI (geographical indicator) tags, and are drawn from the "One District One Product" scheme.

According to NID Ahmedabad director Ashok Mondal, the curation and even the crafting was done in the institute's Bengaluru campus, with craftsmen from five States still hard at work there.

"It is a matter of pride for us that we were asked to execute this, and the initial discussions were held at Rashtrapati Bhawan. Sustainability, inclusion, and the rich culture of the five southern States are included in the box," he said.

Bamboo box

The craft elements will be packed in a box made of bamboo weave with Kalamkari paintings on it done by Nimmalakunta artisans.

The elements of the box include an Ikat-Pochampalli cover that can be used even after the box has been dismantled, a fridge magnet depicting Mysore's Ganjifa art, usually seen in the famous Ganjifa playing cards, and a handmade pouch of Kanjeevaram silk from Tamil Nadu.

"Etikopakka dolls from Andhra Pradesh, a male and female doll, are included, along with a bookmark made of screwpine leaves woven by artistes from Kerala," he added.

The artisans who produced this order for Rashtrapati Bhavan were asked to craft their products on the NID Bengaluru campus.

The guest list

The special invitees at the Rashtrapati Bhavan reception will include a contingent of 'drone didis', women achievers, agriculturists engaged in natural farming, and achievers who are also people with disabilities.

WINTER CONTEST

The Delhi Assembly elections on February 5 is set to be a bipolar contest between the incumbent Aam Aadmi Party (AAP) and the Bharatiya Janata Party (BJP). The Congress, once the most popular party in the national capital, is struggling to regain at least part of its lost prominence. Delhi is not a full-fledged State, and its unique and convoluted governance design often sets the Centre and the State government on a collision course. Still, there is national spotlight on Delhi politics, which the AAP and the BJP have dominated since 2012. Since then, the voters in Delhi have swung overwhelmingly in favour of the AAP in Assembly elections and the BJP in Lok Sabha elections. The AAP nurtures national ambitions and its chief, Arvind Kejriwal, fashions himself as a challenger to Prime Minister Narendra Modi. In the run-up to the elections, the AAP has had its image of incorruptibility and of being a platform for the commoner severely stained by corruption allegations against Mr. Kejriwal and several of his colleagues. It is true that the central investigative agencies are selective in their anti-corruption probe, but that does not absolve AAP of suspicion. The frequent run-ins with the Lieutenant Governor appointed by the Centre have made it difficult for the party to deliver on what it has promised, even as it makes a bid for a fourth term.

The BJP is pitching a double-engine government that will put an end to the tussle between the two powers that control Delhi. The election is likely to bring up issues concerning the integrity of the election process itself. The AAP has submitted to the Election Commission that the names of bona fide voters are being removed from the electoral rolls. When announcing the elections, the Chief Election Commissioner sought to allay these fears saying deletion of names was not possible without adhering to strict protocols, and every party has the right to raise objections at various stages. In response, the BJP has said that the AAP is worried that illegal Rohingya and Bangladeshi immigrants who are benefiting from the party's welfare schemes will be struck off the list. The results, scheduled to be announced on February 8, will also be a test of the strength, the strategies, and the coherence of the parties ranged against the BJP. While the AAP and the Congress fought the Lok Sabha elections with a seat-sharing agreement as INDIA partners in an attempt to defeat the BJP, they are opposing each other in this fight. For the BJP that considers every election as a life-and-death matter, Delhi is even more so.

DECODE POLITICS: AMID 'SHEESH MAHAL' ROW, A LOOK AT WHAT CAG CAN DO — AND CAN'T

The Comptroller and Auditor General of India (CAG) is again in the spotlight amid a political row triggered by its report on the cost of renovation at the office and residence of former Delhi Chief Minister Arvind Kejriwal.

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As The Indian Express reported last week, the CAG is learnt to have shown that starting from preliminary estimates of Rs 7.91 crore, the total cost of the work on the premises of 6, Flag Staff Road stood at Rs 33.66 crore when the Public Works Department completed it in 2022. The CAG's findings have sparked a war of words between the BJP and Aam Aadmi Party (AAP) ahead of the Delhi Assembly elections next month.

The CAG, which is the country's supreme audit body, has submitted a dozen audit reports to the Lieutenant Governor of Delhi in recent years. But the AAP government has not laid them in the Assembly, triggering a backlash from the BJP whose MLAs have approached the High Court. Some of these reports, including performance audits on several burning issues such as liquor supply in Delhi, prevention and mitigation of air pollution, and functioning of the Delhi Transport Corporation, were presented to the L-G four years ago.

Here is a look at how the CAG chooses subjects for audits, how reports are prepared, and what happens afterwards:

What are the powers and duties of CAG?

Articles 148 to 151 in part 5 of the Constitution are on the appointment, duties, and audit reports of the auditor general, who is appointed by the President.

The Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971, determines the CAG's service conditions and prescribes the duties and powers of their office. Several other statutes grant powers to the CAG. For instance, the Fiscal Responsibility and Budget Management Act, 2003, says the Central Government may entrust the CAG to "review periodically as required, the compliance of the provisions of this Act and such reviews shall be laid on the table of both Houses of Parliament".

Apart from conducting audits of the Central and state governments, the CAG also maintains state government accounts (both financial and appropriations), provides pension authorisation for all state government employees, and maintains the General Provident Fund accounts of serving employees.

What are the various types of audits CAG conducts?

The CAG conducts three kinds of audits: compliance audit, or an assessment of whether the provisions of the applicable laws, rules, and regulations, and various orders and instructions issued by the competent authority are being followed; performance audit, or an assessment of the implementation of schemes or programmes; and financial audit, or certification of government's accounts and the accounts of Public Sector Undertakings.

How does the CAG select audit subjects?

Before finalising a subject, it follows a risk assessment procedure that accounts for various factors such as the size of the outlay of a project, what is being written in newspapers about the issue, and its own inspection reports over the years. It also consults the guidelines laid down by the International Organization of Supreme Audit Institutions, or INTOSAI, that spell out what is of relevance to citizens.

Based on these criteria, the CAG's office approves an annual audit plan that is implemented in the field offices. There is also an Audit Advisory Board that meets twice a year and suggests subjects and methodologies for audit.

The government or courts can also recommend CAG audits. For instance, the Supreme Court asked the CAG to conduct an audit of the Delhi-Noida Direct (DND) flyover project.

What happens after the CAG selects a subject?

Once a subject is chosen, the CAG holds an entry conference with the department or organisation that is being audited. At this conference, CAG officials inform the body concerned about matters such as their plans for the audit, the methodology to be followed, and a tentative timeline. They also seek assistance in accessing records and documents.

After the audit, the officials from the auditor general's office hold an exit conference to share their findings with the department or organisation and seek their reply. The entry and exit conferences are held for every performance and compliance audit.

The CAG shares a draft report with the department audited. Normally, the department has to respond within six weeks. Thereafter, the CAG signs the report and sends it to the government (the President or the Governor). Then the government lays the report before the legislature.

What does the Constitution say about the tabling of a CAG report?

Article 151 provides for laying CAG reports in Parliament or state legislatures but no time limit is specified. This is why governments often do not lay CAG audit reports on time. For instance, the Delhi government has not tabled about a dozen CAG reports in the Assembly even though some of them were presented to the L-G four years ago. In the past, West Bengal also delayed the laying of CAG reports in the Assembly.

A CAG report becomes public only after it is laid in the House. The Public Accounts Committee examines the selected reports and seeks a response from the government. The PAC also asks the government to take action on the recommendations and submit an Action Taken Report. Since 2019, the PAC has submitted 152 reports to Lok Sabha till July last year. These include scrutiny of CAG audit reports and action taken by the government on them.

Do CAG reports have any impact and how many reports are prepared annually?

The audit reports highlight losses to the exchequer and procedural losses and also provide recommendations that play a key role in changing rules and procedures. For instance, the Telangana government made changes in the Engineering Procurement Contract mode a few years ago after a CAG audit. Among the CAG reports that have had a big impact in recent decades is the one on licences and allocation of 2G spectrum that was tabled in November 2010. It had a massive political effect, damaging the image of the Manmohan Singh-led UPA government that was ultimately voted out of power in 2014.

According to its website, the CAG approved 172 audit reports in the 2022-23 financial year. These reports related to the Union government and state governments and were submitted to the President of India and Governors of the respective states. The number of audit reports has increased in recent years. For instance, in 2018-19, the CAG approved only 73 audit reports.

LOCAL POWER

Instead of signalling its intention to hold elections to rural local bodies, the Tamil Nadu government has appointed special officers for these bodies in several districts of the State. Elections were due in 9,624 village panchayats, 314 panchayat unions, and 28 district panchayats

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where the term of office of the RLBs came to an end on January 5. These government officers will function for the next six months. In support of its decision, the government has cited the ongoing re-organisation of rural and urban local bodies, which will result in a delimitation of wards of the local bodies — a step that the government considers a prerequisite to the conduct of polls to local bodies. It had given an undertaking to the Madras High Court in December 2024, that no poll notification would be issued without completing delimitation and putting in place a quota of seats and offices for women, Scheduled Castes and Scheduled Tribes. Apart from creating four more municipal corporations by accommodating village panchayats, the stage is set for the expansion of the limits of municipal corporations, municipalities and town panchayats by taking in other village panchayats. It has proposed the merger of least 140 village panchayats with municipal corporations. Though there is nothing final about the reorganisation, the government is of the view that rapid urbanisation in village panchayats adjoining bigger cities such as Chennai and Coimbatore necessitates a fresh look at the local bodies.

In Suresh Mahajan vs State of Madhya Pradesh, the Supreme Court had held that the delimitation or formation of ward "cannot be a legitimate ground to be set forth by any authority much less the State Election Commission — to not discharge its constitutional obligation in notifying the election programme" at an opportune time and ensure that an elected body was installed before the expiry of the five-year term of the outgoing body. It had also stipulated that in undertaking delimitation, which the Court regarded as a continuous exercise, it "ought to be commenced well-in-advance" so that the elections were notified on time. Sections of residents in a number of village panchayats have opposed the proposed reorganisation of local bodies as they are apprehensive of the cessation of rural development schemes such as the MGNREGA if there is a merger with urban local bodies. Tamil Nadu is not the only State that has failed to hold local body polls on time. Bigger cities such as Mumbai and Bengaluru are on the list. It is time that the States realise the importance of the space that local bodies occupy in the democratic structure. Despite shortcomings, local self-governments do make a qualitative difference to people's lives.

CONTRIVED GRIEVANCE

It is regrettable that the customary address to the Tamil Nadu Legislative Assembly by the Governor in the beginning of a new year's session is turning into an unsavoury event year after year. For the third consecutive year, Governor R.N. Ravi's penchant for raking up a controversy has come to the fore. He left the Assembly without reading out the address, claiming that the national anthem and the Constitution of India had been insulted because the anthem was not played prior to the delivery of his speech. The State government maintains that the practice in the Assembly was to play the State's invocation to Tamil before the address and the national anthem at the end of the Governor's speech and that this had been conveyed to the Governor's office. As in the previous years, Mr. Ravi has to bear much of the blame for the flagrant politicisation of the event. If he had such prior knowledge about the practice followed in the Assembly, his grievance comes across as a ruse to create a controversy and avoid performing his constitutional duty of propounding the government's policy statement on the floor of the House. In 2023, Mr. Ravi had skipped portions of the address prepared by the State government, including a reference to the 'Dravidian model of governance' and some praise for the law and order situation in the State. Last year, he expressed his inability to read out the address, citing what he termed "misleading claims and facts" in it.

It is noteworthy that there was a recent round of gubernatorial changes and new appointments. Notably, Governor Arif Mohammed Khan, who has been a thorn in the flesh of the Kerala

government, was shifted to Bihar, while Manipur and Mizoram got new incumbents in Raj Bhavan. However, Mr. Ravi, whose continuance in Tamil Nadu has been rendered untenable long ago, remains untouched. He completed a combined period of five years as Governor in two States, having been appointed to the office in Nagaland in 2019. He was shifted to Tamil Nadu in 2021, but has often found himself in the thicket of political controversy, making overtly political comments on the one hand and holding up legislation on the other by delaying assent to Bills. Going by recent Supreme Court judgments and observations, there ought to be no leeway for Governors to use their position to undermine regimes led by the political adversaries of those in power at the Centre. Given the scale of Mr. Ravi's persistent differences with the elected regime, it is indeed strange and questionable that the Union government should retain him in this office, unless its objective is to test the limits of the State government's tolerance.

DECODING THE NATIONAL ANTHEM CONTROVERSY

On January 6, Tamil Nadu Governor R.N. Ravi left the Legislative Assembly without delivering the customary address on the opening day of the first session of the year complaining that the National Anthem was not played before his scheduled address. Last year too, he had refused to read out his address.

What did the T.N. Raj Bhavan say?

The Raj Bhavan has alleged "the Constitution of Bharat and the National Anthem were once again insulted in the Tamil Nadu Assembly". It said respecting the National Anthem is among the first fundamental duties enshrined in our Constitution. It is sung in all the State legislatures at the beginning and at the end of the Governor's address. Not to be a party to such "brazen disrespect to the Constitution and the National Anthem," the Governor left the House.

What is the practice in Tamil Nadu?

As per convention, the State anthem — 'Tamil Thai Vazhthu' — is played at the beginning of the Governor's address. The National Anthem is played at the end of the address. The practice of playing the State anthem at the commencement of the Governor's address and the national anthem at the end in the Tamil Nadu Assembly was introduced in July 1991 when the All India Anna Dravida Munnetra Kazhagam (AIADMK) government, led by Jayalalithaa, was in power. At that time, Bhishma Narain Singh was Governor. Prior to that, the Governor would enter the House, deliver the address, and leave.

What is the practice in other States?

Each House follows its own convention. For instance, in Nagaland, the national anthem was not played at all for several decades. It was played for the first time in February 2021 when R.N. Ravi was the Governor of the northeastern State. Likewise, it was only in March 2018, that the national Anthem was played for the first time in the Tripura Assembly.

What is the practice when the President's address is delivered?

When the President reaches his seat on the dais, a band installed in the lobby of the central hall to the right of the President, plays the National Anthem. The President then reads the printed address, in Hindi or English, followed by a reading of the address in another version if necessary, by the Chairman of the Rajya Sabha. After the conclusion of the address, the President rises in his

seat, followed by the members and visitors in the galleries, when the National Anthem is played again. The President, thereafter, leaves the central hall in a procession.

What does the Constitution say?

Section 51 (A) (a) of the Constitution of India dealing with fundamental duties, says, "It shall be the duty of every citizen of India to abide by the Constitution and respect its ideals and institutions, the national flag and the national anthem."

What does the order issued by the Ministry of Home Affairs say?

The full version of the National Anthem shall be played on the following occasions — during civil and military investitures; when the national salute is given in accompaniment with the National Anthem to the President or to the Governor/Lieutenant Governor during ceremonial occasions within their respective States/ Union Territories; during parades; on arrival of the President at formal State functions and other functions organised by the Government and on his departure from such functions; immediately before and after the President addresses the nation over All India Radio; on arrival of the Governor/Lieutenant Governor at formal State functions within his State/Union Territory and on his departure from such functions; when the National Flag is brought on parade; when the regimental colours are presented; and for the hoisting of colours in the Navy.

When is mass singing of the national anthem required?

The full version of the anthem shall be played accompanied by mass singing on the following occasions — on the unfurling of the National Flag, on cultural occasions or ceremonial functions other than parades; and on the arrival of the President at any government or public function (excluding formal State functions) and also immediately before his departure from such functions.

Can punishment be imposed if it isn't played at official functions?

On January 29, 2019, the Prime Minister, Tamil Nadu Governor and Chief Minister had participated at a function in Madurai for laying the foundation stone for an AIIMS building. The national anthem as well as 'Tamil Thai Vaazhthu' were not played at this function. Objecting to this, a woman had moved the Madras High Court seeking a direction to the Ministry of Information and Broadcasting to frame the rules for imposing punishment, and also to take action against the Chief Secretary for disobedience in not playing the National Anthem.

The court pointed out that a bare reading of her representation made it abundantly clear that when the petitioner herself has stated that there is no mandate for the National Anthem to be sung, and is only a customary practice, mandamus sought against the respondents, cannot be issued. The court dismissed her petition.

TRAINING SESSIONS, ASSISTANCE CENTRES: UTTARAKHAND PREPS TO ROLL OUT UCC

Training of officials till January 20, a specialised app, three assistance centres with technical support, and legal aid to all stakeholders: these are among the pending tasks that the Uttarakhand government is expediting as it aims to implement the Uniform Civil Code in January, The Indian Express has learnt.

• Against the backdrop of Chief Minister Pushkar Singh Dhami's statements that the UCC will be implemented this month, Home Secretary Shailesh Bagoli is learnt to have asked officials to identify locations in their districts to conduct training sessions.

• To ensure convenience for both officials and citizens, three assistance centres will be established. ITDA will provide technical support, CSC will assist with training, and the Prosecution Department will offer legal aid to all stakeholders through these centres.

• The Seventh Schedule of the Constitution provides that both the Centre and state legislatures can legislate on matters pertaining to family laws. In pursuance of this power, the government of Uttarakhand is planning to implement its own Uniform Civil Code.

• The Code applies to residents of the state, but only to those who identify within the binary genders of male and female who are in heterosexual relationships, thus leaving most LGBT persons outside its ambit.

Do You Know:

• A Uniform Civil Code would provide for one law for the entire country, applicable to all religious communities, in their personal matters such as marriage, divorce, inheritance, adoption, etc.

• The framers of the Constitution recognised the need for uniform personal laws, but placed it in the Directive Principles of State Policy. Article 44 of the Constitution says that "the State shall endeavour to secure for the citizens a uniform civil code throughout the territory of India".

• Article 44 is among the Directive Principles of State Policy. Directive Principles are not enforceable by court, but are supposed to inform and guide governance.

WHY 1978 'ANTI-CONVERSION' LAW IN ARUNACHAL COULD NOW BE ENFORCED

The Arunachal Pradesh government is working to bring a 1978 Act against "forceful" conversion out of cold storage by framing rules for its implementation, 46 years after it was enacted.

• The contentious Arunachal Pradesh Freedom of Religion Act 1978 was enacted by the then Union Territory of Arunachal Pradesh's first Legislative Assembly at a time when Arunachal was seeing rapid changes.

• It prohibits religious conversion "by use of force or inducement or by fraudulent means" and entails punishment of imprisonment for up to two years, and a fine of up to Rs. 10,000 for the offence of "converting or attempting to convert" forcefully "from one religious faith to another faith."

• The Act also requires that every act of conversion be reported to the Deputy Commissioner of the district concerned. A failure to report this invites punishment for the person conducting the conversion as well.

• The Act specifies that "religious faiths" in this context include "indigenous" faiths, which the Act defines as religions, beliefs, observances, customs, etc. "as have been found sanctioned, approved, performed by the indigenous communities of Arunachal Pradesh from the time these communities have been known…" Included in this definition is Buddhism as practised among the Monpas, Membas, Sherdukpens, Khambas, Khamptis and Singphos; nature worship including the worship of Donyi-Polo among communities in the state; and Vaishnavism in practised by Noctes and Akas.

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• Since it was enacted in 1978, successive governments have not framed the rules for its implementation, because of which it has laid dormant for nearly five decades.

Do You Know:

• Arunachal Pradesh is home to a number of different small ethnic communities with an array of different beliefs and practices. The Monpas and Sherdukpens of West Arunachal Pradesh bordering Tibet and Bhutan practice Mahayana Buddhism, while the Khamptis and Singphos in Eastern Arunachal practice Theravada Buddhism.

• Many other tribes engage in polytheistic nature and ancestor worship. Of these, the worship of Donyi Polo in particular, practised by the Tani group of tribes comprising the Nyishis, Adis, Apatanis, Galos, Misings and Tagins, has taken an institutionalised form over the years.

• Unlike other hilly North Eastern states such as Nagaland, Mizoram and Meghalaya, Christianity did not become common among Arunachal tribes till the 1950s. This was not just due to the difficult terrain, but also the colonial policy of isolating the "frontier regions" which included restrictions on the entry of missionaries. These restrictions continued even after Independence with the Inner Line system.

• Missionary efforts in the foothill areas of Assam led to inroads into what was then the North East Frontier Agency in the 1950s.

• In 2022, an advocate Tambo Tamin, who is a former general secretary of the Indigenous Faiths and Cultural Society of Arunachal Pradesh (IFCSAP), had filed a PIL in the Itanagar bench of the Gauhati High Court appealing for the court to intervene over the "failure" of the state government to frame rules for the Act.

• On September 30 this year, after the Advocate General of Arunachal Pradesh told the court that draft rules had been framed and their finalisation would take another six months, the court closed the petition stating "we expect the concerned authorities to be mindful of their obligations and the draft rules would be finalised within a period of six months from today."

• Interestingly, the 2011 census enumerated Hinduism as the second largest religion in the state at 29.04%, while 'Other Religion' and 'Buddhist' were recorded as 26.2% and 11.77% respectively.

• A report on the 1971 census — in which 22% of the population was recorded t as Hindu — 63.5% were recorded as 'Other Religion', 0.79% as Chrisitan – the then Director of Census Operations, J K Barthakur had observed that a large number of tribal followers of "indigenous faiths" had returned their religion as Hinduism, which he suspected was because of "similarities" to Hinduism because of multiplicity of deities and "customary rituals."

6 YEARS AFTER QUOTA FOR WOMEN AT IITS, MORE HOSTELS AND A SHIFT IN ATTITUDES

From more hostels and washrooms for female students to their own sports teams — a silent revolution has been taking shape at the Indian Institutes of Technology (IITs) over the last six years, ever since a supernumerary quota of 20% was set aside for women.

• The quota, under which extra seats were created instead of reserving them in the existing pool, was implemented in 2018 based on the recommendations of a committee led by then IIT-Mandi Director Timothy Gonsalves, which called it "the required slight push".

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR

• While most IITs implemented a 14% quota for women in 2018-19, by 2019-20 it stood at 19% and by 2021-22, most of them had 20% seats for women.

• Six years on, data obtained by The Indian Express under the Right to Information (RTI) Act from 21 of the 23 IITs reveals a steady increase in the number of women entering these prestigious institutes.

• At IIT-Kanpur, the number of women rose from 908 women in 2017 to 2,124 in 2024 – a 133% jump. At IIT-Roorkee, the number went up from 1,489 in 2019-20 to 2,626 in 2024 — a 76.36% jump. IITs in Chennai, Mumbai, Guwahati and Kharagpur, too, saw similar increases.

• According to the data, IITs Delhi and Bombay crossed the 20% threshold as early as 2017 — even before the quota was implemented. Of IIT Delhi's 2,878 students that year, 607 or 21.09% were women. In the first semester of 2024 at IIT Delhi, that number stood at 840 — a rise of 38.39%. In the case of IIT Bombay, of 2,790 students in 2017, 570 or 20.43% were women.

• Meanwhile, IIT Kanpur was the last among the seven first-generation IITs to cross the 20% female enrolment mark, reaching the milestone only in 2021. Of its 7,716 students that year, 1,691 or 21.92% were women.

• The increasing presence of women at IITs is in line with the broader pattern of a steady increase in their enrolment in higher education — according to the All India Survey on Higher Education for 2021-2022, the last year for which the data is available, women make up around 48% of the total enrolment, almost on a par with men.

Do You Know:

• The female supernumerary quota in admissions to IITs was introduced in 2018 following the recommendations by a committee headed by the then IIT Mandi director Timothy Gonsalves. Popularly known as 'the required slight push', this was aimed at repairing the skewed gender ratio on IIT campuses predominantly occupied by boys.

• Instead of reserving seats in the already existing pool, additional seats were created for girls under the female supernumerary quota.

• With 14 per cent at the beginning of the academic year 2018-19, the number of female supernumerary seats rose to 19 per cent in 2019-20. The aim was to have 20 per cent female supernumerary seats in all IITs by 2021-22.

• The Joint Seat Allocation Authority, also known as JoSAA, is an agency established by the Ministry of Education formerly known as HRD Ministry to manage and regulate the admission to 110 tertiary institutes administered by the Government of India.

• The agency was established by the ministry in 2018 to manage the allocation of seats for admission to 100 Indian Institutes of Technology (IIT), National Institutes of Technology (NIT), Indian Institutes of Information Technology (IIIT) and Government Funded Technical Institutes, starting with the 2018-19 academic year.

UGC REVISES GUIDELINES FOR APPOINTMENT OF V-CS

The University Grants Commission has revised the selection process for Vice-Chancellors, according to the draft UGC (Minimum Qualifications for Appointment and Promotion of Teachers

and Academic Staff in Universities and Colleges and Measures for Maintenance of Standards in Higher Education) Regulations, 2025, released here on Monday by Union Education Minister Dharmendra Pradhan.

Clearing the ambiguity, the UGC has given the powers to Chancellors or Visitors to constitute the three-member search-cum-selection committee to appoint Vice-Chancellors.

Non-implementation of the guidelines may result in debarring an institution from participating in UGC schemes or from offering degree programmes, the draft says.

The UGC has given 30 days for the stakeholders and public to offer comments on the draft.

The governments in several non-BJP-ruled States such as Tamil Nadu, West Bengal, and Kerala were on a conflict path with the Governors — also Chancellors of several State-run universities — over appointment of Vice-Chancellors. So far, the governments used to constitute the search committees for appointing Vice-Chancellors, and if approved, the draft allows Governors (if they are Chancellors) to appoint the search committees for the process.

"The selection for the Vice-Chancellor post shall be through an all-India newspaper advertisement and public notification. Applications can also be sought through nomination or a talent search process by a search-cum-selection committee," the draft regulations say.

A nominee of the Visitor/Chancellor will be the Chairperson of the search-cum-selection Committee. A nominee of the Chairman, UGC, and a nominee of the apex body of the university such as Syndicate, Senate, Executive Council, Board of Management or equivalent body will be members in the committee. The State Cabinets used to recommend the chancellor's nominee for this committee, but in many States the Governors changed this norm and started nominating their person for the committee, leading to conflicts with the States.

Releasing the draft, Mr. Pradhan said the guidelines would infuse innovation, inclusivity, flexibility and dynamism in every aspect of higher education, empower teachers and academic staff, strengthen academic standards and pave the way for achieving educational excellence.

TAMIL NADU WILL OPPOSE DRAFT UGC REGULATIONS: STALIN

A day after the University Grants Commission (UGC) issued a draft notification on fresh regulations, which include proposals to revise the selection process for Vice-Chancellors, Chief Minister M.K. Stalin on Tuesday said Tamil Nadu would fight them "legally and politically".

Education was a subject under the Concurrent List in the Constitution, and hence, Tamil Nadu considered the UGC's decision to issue the notification unilaterally to be "unconstitutional" and a case of "overreach", Mr. Stalin said in a social media post.

The new UGC regulations granting Governors broader control over V-C appointments and allowing non-academics to hold these posts were "a direct assault on federalism and States' rights", Mr. Stalin said.

"This authoritarian move by the BJP government seeks to centralise power and undermine democratically elected State governments. Education must remain in the hands of those chosen by the people, and not dictated by Governors acting at the BJP government's behest," Mr. Stalin said.

Tamil Nadu, which has the highest number of top-ranking higher educational institutions in the country, "will not stay silent as our institutions are stripped of autonomy", the Chief Minister said.

WHY MODI GOVT 3.0 IS MAINTAINING AN ARM'S LENGTH FROM PROTESTING FARMERS

Currently, the Supreme Court is looking into this issue. Whatever directives the Supreme Court gives, will be followed, Union Agriculture Minister Shivraj Singh Chouhan told reporters earlier this week when asked whether he would invite the protesting farmers for talks, who have been holding a sit-in at Shambhu and Khanauri on the Punjab-Haryana borders since February last year.

• Chouhan's cautious reply to queries on the continuing farmers' protests indicates the government's changed approach in dealing with the farm stir. Unlike its proactive engagement with the agitating farm unions in its previous term, the Narendra Modi-led NDA government 3.0 seems to be keeping an arm's length from the issue.

• Despite the standoff, the Centre has been fighting shy of engaging with the protesting farmers demanding legal status for minimum support price (MSP) of crops and farm debt waiver, among other things.

• There could be various factors that explain the Centre's changed tack in dealing with the farm agitation this time. One, the ongoing stir is restricted to the Punjab-Haryana border so far, with its geographical spread not as wide as the 2020-21 farm movement. Two, several leading farmer bodies including the SKM – an umbrella organisation of many farm unions from Punjab and other states — have not joined the current stir despite supporting its demands. Thirdly, while the 2020-21 movement was directed against the Centre's three farm laws, the current protest has multiple demands including some pressed earlier.

Do You Know:

Demands being made by the Punjab protesting farmers:

• A law guaranteeing the purchase of all crops at Minimum Support Price (MSP) for farmers across the country, with crop prices fixed as per the recommendations of the Dr Swaminathan Commission.

• A complete debt waiver for farmers and labourers.

• Reinstatement of the Land Acquisition Act, 2013, should be nationwide, ensuring written consent from farmers and four times compensation based on collector rates should be given before any land acquisition.

• India should withdraw from the World Trade Organization (WTO), and suspend all free trade agreements.

• Under MGNREGA, ensure 200 days of employment per year with a daily wage of Rs 700, and link MGNREGA with agriculture.

• Strict penalties and fines for companies producing fake seeds, pesticides, and fertilisers. They have also asked for measures to improve seed quality.

• Establishment of a National Commission for chilli, turmeric, and other spices.

• Implementation of the Fifth Schedule of the Constitution, ensuring the rights of tribal communities over water, forests, and land, and stopping the exploitation of tribal lands by corporations.

STRONG SETBACK

When an insurgent organisation is faced with a precipice, it has two options — it can either go down with a fight and pull some of its adversaries across the cliff or it can see the futility of its aims and give up the fight for good. Ideologically motivated insurgent organisations rarely choose the second option, especially those that are engaged in decades of conflict. Even those organisations such as the Revolutionary Armed Forces of Colombia (FARC) that gave up violent insurgency and entered into an armistice find it difficult to convince factions or cadres who are committed to the violence as a means of not just rebellion but also of their existence. Since the merger of various Naxalite currents into the party in the early 2000s, the Communist Party of India (Maoist) has rarely ventured to speak of peace and ending the violent conflict except for tactical reasons. Its ideology not just talks of the utilisation of violence for its aims but also makes it central to its existence. The dastardly killing of eight security personnel and a civilian driver in an improvised explosive device blast in Bijapur district of Chhattisgarh on Monday might seem like a sign that the potency of the CPI(Maoist) in inflicting such acts remains, and, therefore, the Maoists are a dangerous insurgent force. While there is a grain of truth to that, especially in the Abujmarh jungles and adjoining areas of the Bastar region in the State, it is also accurate to suggest that these are acts of a flailing outfit struggling to retain what was the only bastion for the left extremist organisation.

The deaths of the security personnel, who belonged to the District Reserve Guard and Bastar Fighters of the Chhattisgarh Police, are certainly a setback to the anti-Maoist operations that have picked up pace and resulted in significant deaths of Maoist cadres and other tribal people caught in the conflict. In 2024, an estimated 296 insurgents died in the operations while security forces lost 24 people and there were 80 civilian deaths To suffer eight casualties early in 2025 is a major blow and one of the severest losses for the security forces in recent years. The heavy use of explosives and the camouflaged nature of the planted IEDs suggest that the Maoists had planned this attack for a long time; the last such IED blast was in April 2023 in Dantewada. The knee-jerk reaction to this incident will be the security forces intensifying their operations to identify the culprits, potentially targeting innocent civilians. While stepping up the security campaign is inevitable considering the fact that the Maoists have refused to abjure violence, the security personnel and the government should not get carried away in retaliation and target civilians as this would play right into the hands of Maoist propaganda about state repression. As tempting as it is to wipe out the Maoist movement through military means, as the Union Home Minister has promised, it is still prudent to use civil society actors to work out a ceasefire agreement and utilise it to end the conflict.

WHY WAS THE NO-DETENTION POLICY ROLLED BACK?

The story so far:

The Union government amended the Rules of the Right to Education Act, 2009 in December 2024 to allow schools to detain students in Classes 5 and 8 if they are unable to meet the promotion criteria after a year-end examination. Students will be given a second chance re-examination after two months of extra teaching. This rollback of the RTE Act's vision of a no-detention policy was

initially brought through an amendment of the law in 2019, following which 18 States and UTs have reinstated the option to detain students; the 2024 amendment now extends the option to Central government-run schools too.

What was the rationale behind the original no-detention policy?

When the RTE Act was passed in 2009, it included Section 16, which stipulated that "No child admitted in a school shall be held back in any class or expelled from school till the completion of elementary education [Classes 1 to 8]". "The spirit of a no-detention policy was to ensure that children can learn without unnecessary pressure. Detention is demoralising to children. There was also an understanding that a single final year-end examination is not the best way to assess learning and decide on their progress," said Vimala Ramachandran, a former professor at the National Institute of Educational Planning and Administration. "But it was implemented very shoddily. No detention became no testing, and in many schools, no teaching. It was a slippery slope."

She noted that government schools in many States simply stopped testing in any form until Class 5, automatically promoting children without bothering to find out if they had acquired grade-specific skills and knowledge. Monitoring systems focussed on inputs or maybe indicators, rarely on outcomes.

Efforts to introduce a Continuous and Comprehensive Evaluation (CCE) programme instead, in coordination with UNICEF, were largely stymied by a lack of resources and training, and teacher apathy. In many schools, NCERT's CCE forms were simply filled en masse by teachers without an assessment of individual children's skills. A number of boards abandoned the model of multiple formative and summative assessments, retreating to the familiarity of a final year-end examination.

Why has it been rolled back?

Surveys conducted by both government and private entities in recent years have documented an alarming learning gap in India's schools.

The Annual Status of Education Report (ASER), a respected survey spearheaded by the NGO Pratham, found that only 42.8% of Class 5 students could read a Class 2-level text in 2022, a fall from 50.5% in 2018. Only 25.6% of them could do basic arithmetic problems in 2022, a slight drop from 27.9% in 2018.

Even more worryingly, ASER 2023 tested foundational skills in youth aged 14 to 18 years and found that a quarter of them still cannot read a Class 2 level text fluently in their regional language. More than half struggle with division (3-digit by 1-digit) problems, a skill taught in Class 3 and 4.

The Department of School Education's National Achievement Survey 2021 also showed clear declines as students moved up the school ladder. Out of a maximum 500, Class 3 students scored an average of 323 in language and 306 in Mathematics. By Class 5, the scores dropped to 309 and 284 respectively, and to 302 and 255 by Class 8.

A government analysis of Classes 10 and 12 results across 59 State and national boards in 2023 showed that more than 65 lakh students had failed to clear their examinations, with a failure rate ranging from 12% in national boards to 18% in State boards.

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"In the name of promoting all students in the younger classes, we are adversely affecting them in later life," said Joseph Emmanuel, who was academic director of the Central Board of Secondary Examination (CBSE) till a few months ago, when he took charge of the Council for the Indian School Certificate Examinations (CISCE). "There is a clear learning gap that was exacerbated by the COVID disruptions. This [rollback of the no-detention policy] is a good example of evidence-based decision making."

Dr. Ramachandran said the amendment represents a regression, and instead called for better mechanisms to assess children's learning and hold teachers accountable.

What is the way forward?

"Timely remedial action is needed at every stage. There must be regular assessment done at the school level in every class, not at the board level. Who is the best judge of a child's learning? It is their own teachers. We must trust teachers and equip them," said Dr. Emmanuel.

He noted that the Rules require the class teacher to "provide specialised inputs after identifying the learning gaps at various stages of assessment" and stipulate that the school Head personally monitor the progress of the children who are held back. "More accountability is being brought in," he said.

Dr. Ramachandran said the focus of accountability must change. "Instead of detaining and punishing the child for not doing well, we need a way to hold the teacher responsible and accountable," she said. Too many teachers only focus on the children in the front rows of their classroom, often discriminating against those from lower socio-economic backgrounds who may struggle more and are more likely to be detained. "Rigorous teacher appraisal is needed to ensure inclusive teaching. There must be some consequences for the teacher, not just the student, as well as incentives to ensure this," she urged.

WHY IS THERE A DROP IN SCHOOL ENROLMENTS?

The total enrolment of students in schools across India studying from grade 1-12, dropped by over a crore in 2023-24 as compared to 2018-19. After a gap of two years, the Ministry of Education (MoE) released the Unified District Information System for Education Plus (UDISE+) for 2022-23, 2023-24 on December 30, 2024.

What do the figures say?

Since 2012-13, when the MoE started maintaining UDISE+ data, it was believed that the total number of students studying in India were 26.3 crore. Till November 22, 2022 when the 2021-22 data was released, the number hovered around 26 crore, until last month, when the 2022-23 data reflected enrolment at 25.18 crore, which has further fallen to 24.8 crore in 2023-24 (a drop of 6% or 1.22 crore students) as compared to earlier years.

How did such a drop happen?

MoE officials in the UDISE+ reports have given a disclaimer that the UDISE+ reports of 2022-23 and 2023-24 are not strictly comparable to previous years reports because of a change in the 'methodology,' of data collection. However, former professor and HOD, Department of Educational Management Information System at Delhi-based NIEPA, Arun Mehta, said that the UDISE+ reports are silent on the sharp dip in total enrolment of students, and the dip in government schools. "The

reports do not explain the reasons behind the dip. Only change in methodology of data collection is not reason enough," said Prof. Mehta, who has worked on UDISE reports for 15 years.

What is the change in methodology?

While the MoE claims that the exercise of individual data collection from each student, which includes their Aadhaar number, was implemented from 2022-23, Prof. Mehta said that a similar exercise was initiated in 2016-17 and went on for a year. "We had anticipated even back then that there was no way of verifying data that was sent by schools regarding the number of students studying in their facilities, and so for one year NIEPA had attempted to collect individual student data with consent from the MoE. However, over subsequent years this exercise was discontinued and restarted only in 2022-23."

Prof. Mehta explains that the enrolment decline since 2022-23 can be attributed to the elimination of duplicate enrolments (of students changing schools, but their records being maintained at two or more places), inflated enrolment figures and so on. "The new data collection system suggests that previous enrolment figures were overestimated by 5-6%. So what happened to these students who no longer reflect in UDISE data? Were they previously included for funding or incentive purpose like scholarships, free meals, text books and cash benefits? If so much how much funding was allocated to these students and was it effectively utilised?," he asks.

For instance, in 2022-23, ₹32,515 crore (actual) was incurred under the Samagra Shiksha scheme, during the time when enrolment dropped (the latest figure reveals). In the current financial year of 2024-25, the allocation under the scheme is higher at ₹37,010 crore.

How comparable is UDISE+ data of last years with 2022-23, 2023-24 data?

While the MoE cautions that UDISE 2022-23 and 2023-24 data is not comparable with previous years, upon reviewing the UDISE+ 2022-23 report, Prof. Mehta noted that efficiency indicators like dropout, transition, and retention rates of students were computed depending on UDISE+ 2021-22 data. "Despite differences in data collection methodology, indicators, rates, and ratios remain comparable as this reflects the situation at a specific point of time, regardless of the methodology used," he says. Even after revamped data collection methods were put in place, there has been a decline in the enrolment of students between 2022-23 and 2023-24 by 37 lakh. "The UDISE+ report is silent on this steep decline, nor is there an explanation for declining number of schools covered under UDISE+; whether this decline of schools is due to merging or closing down of schools is not clear," Prof. Mehta says. There is also a stark decrease in the number of schools covered under UDISE+. There was a drop in the number of schools covered — from 15, 58, 903 (2017-18) to 14,71,891 (2023-24), a decline of 87,012 schools. Most of these schools are government-run, with 76,883 lesser schools recorded in the latest 2023-24 data. "MoE must furnish reasons for the decline of schools. Was this due to the shutting down and merger of schools? and while shutting down schools, were the Right to Education norms of having one primary school within a kilometre followed?," Prof. Mehta said.

Which States are the most affected?

Jammu and Kashmir experienced the most decline in total schools, with a decline of 4,509 schools, while in Assam 4,229 schools reduced, and in Uttar Pradesh 2,967. Other affected States are Madhya Pradesh (2,170) and Maharashtra (1,368). "With the shutting down of schools, parents seek re-admission of their children to another nearby school. It is not an automatic transfer.

Students drop out during this process, where parents are not comfortable seeking re-admission because of longer distances," said Prof. Mehta.

ID TOKENISATION WILL HELP MINORS PASS AGE TEST UNDER NEW DATA RULES: MINISTER

The child verification system proposed in the draft Digital Personal Data Protection Rules to ensure that minors do not use social media platforms or age-restricted online services without parental consent has been formulated in consultation with the tech industry, Union Electronics and Information Technology Minister Ashwini Vaishnaw said here on Tuesday.

He said "no universal solution exists" for child verification.

"Nobody has one. We have attempted one," the Minister said at a press conference, referring to tokenisation of identity documents as a solution.

Currently, most platforms allow users to simply declare that they are at least 13 years old and have parental consent if they are below 18. The proposed rules dictate that platforms functioning in India must verify every new applicant's age using a "token" that reliably confirms either their age or, in the case of minors, their parent or guardian's age.

No copy

Tokenisation is a process that creates a digital representation of a piece of data, without creating a copy that can expose the data completely. The solution will allow an online site to accept a token of an ID to prove that a user is an adult, or has the approval of one, without accessing the full record of their identity documents. Asked if this token would be permitted to be deleted after its purpose was fulfilled, Mr. Vaishnaw indicated that it would.

"What we luckily have in our country — thanks to Aadhaar, payment systems, and digitisation — is a good digital architecture," he said adding that this was better than what rich countries had.

Privacy advocates have raised concerns on the child verification requirement, as it may potentially require every individual — whether a minor or not — to verify their age.

He pushed back on this, saying, "With today's technology, it is possible, without disruption, to see if an individual is old enough."

PM's view

Sharing an explanation of the draft rules by Mr. Vaishnaw, Prime Minister Narendra Modi said on Tuesday, "The rules aim to safeguard personal data while driving growth and inclusivity."

Mr. Modi said the draft "prioritises India's commitment to citizen-centric governance."

THIRD COAST GUARD CHOPPER CRASH IN LESS THAN 2 YEARS: WHY ARE THERE REPEATED CONCERNS OVER HAL'S INDIGENOUS MILITARY HELICOPTER?

On January 5, an indigenous Advanced Light Helicopter (ALH) Mark-III of the Indian Coast Guard crashed at the Coast Guard Air Enclave in Porbandar, Gujarat, during a training sortie, killing all three persons on board.

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR

Telegram: http://t.me/DreamIAS_Jamshedpur

This was the second fatal crash of a Coast Guard ALH Mark-III in four months; the previous crash in September, during a medical evacuation mission off the Porbandar coast, had also claimed three lives.

Earlier in March 2023, an ALH of the Coast Guard crashed shortly after take-off in Kochi. There were no fatalities.

What safety concerns about the helicopters have these crashes raised?

The specific causes of the Coast Guard ALH crashes remain under investigation.

The Coast Guard has initiated Boards of Inquiry to determine the reasons for these incidents, with focus on aspects such as the helicopter's flying controls and transmission systems.

Military aviation veterans have expressed concern over the safety record of the helicopter, designed and developed by Hindustan Aeronautics Ltd (HAL), and sought independent inquiries into the crashes.

Each of the crashes has been followed by safety audits and temporary groundings in order to carry out detailed inspections. Following Sunday's crash, the entire fleet of around 300 ALH helicopters has been grounded for safety checks.

Issues identified in the past include design flaws, particularly with the booster control rods, which could affect control over the helicopter. HAL had initiated a replacement program, installing more durable steel rods in newer ALH models.

Have there been crashes of other variants of ALH too?

There have been crashes in the past involving the ALH Rudra WSI, the attack helicopter version of the platform, as well as the ALH in service with the Army.

In January 2021, an Army ALH crashed due to a technical snag near Lakhanpur in Jammu and Kashmir, close to the border with Punjab.

In August that year, an ALH Rudra crashed into the water near Ranjit Sagar Dam in Pathankot, Punjab, killing both pilots whose remains were discovered after a long and difficult search by divers from the Indian Navy.

In October 2022, an ALH Rudra crashed in Arunachal Pradesh, killing two pilots and three soldiers on board. And in May 2023, an Army ALH crashed in Kishtwar in J&K killing a soldier on board.

What are the key elements of the design of the HAL ALH?

The design and development of the HAL Dhruv started in 1984, with the aim of replacing the aging fleet of Chetak and Cheetah helicopters from the inventory of the defence services. Dhruv was meant to be a multi-role, multi-mission helicopter.

Significant portions of the aircraft, including the airframe, are manufactured in India. While the overall design is indigenous, certain critical components like the engines (the Shakti engines, which are a joint development with Turbomeca, now Safran Helicopter Engines, of France), some avionics, and a few other systems were initially sourced from abroad or developed in collaboration with foreign companies.

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The level of indigenisation has increased over time, with more parts and systems being produced in India.

The ALH Dhruv has received certification from the Directorate General of Civil Aviation (DGCA), which is an affirmation of its capabilities meeting international standards.

HAL has continuously worked on indigenous upgrades and variants of the ALH, enhancing its capabilities through local research and development.

INDIA, U.S. TO JOINTLY MANUFACTURE INTEROPERABLE SONOBUOYS FOR NAVY

In a significant development, India and the United States announced cooperation on co-production of U.S. sonobuoys for undersea domain awareness (UDA) for the Indian Navy, a high-end technology that allows tracking submarines in the deep seas and oceans.

This is the latest in a series of cooperation measures between the two countries as both grow wary of the rapid expansion of Chinese naval presence in the Indian Ocean Region.

"Welcoming the advancement of discussions between Ultra Maritime (UM) and Bharat Dynamics Limited (BDL) to enhance undersea domain awareness through a first-of-its-kind partnership on co-production of U.S. sonobuoys in support of the U.S. and Indian defence industrial bases," said a fact sheet titled 'The U.S. and India committed to strengthening strategic technology partnership" issued on Tuesday at the end of U.S. National Security Adviser Jake Sullivan's visit to India on the aspect of deepening defence innovation and industrial cooperation.

Mr. Sullivan, on his final trip to the region as NSA, held a capstone meeting with his Indian counterpart, Ajit Doval.

"In line with the U.S.-India Initiative on Critical and Emerging Technologies (iCET) launched in May 2022, the Ultra Maritime and BDL teams will also pursue new sonobuoy technologies to optimise their acoustic performance in the unique environment of the Indian Ocean, enabling wide area search through bespoke multi-static active solutions," Ultra Maritime, a U.S.-based world leader in the design and production of undersea warfare capabilities, said in a statement.

They will jointly manufacture and supply sonobuoys for the Indian Navy as per U.S. Navy standards, with production split across the U.S. and India, in accordance with "Make in India" principles, it stated.

"The announcement today by NSA Jake Sullivan reflects Ultra Maritime's commitment to the Indian Navy in partnering with BDL for production and delivery of world-class sonobuoys, and our resolute commitment to continue to develop forward leaning solutions to unique undersea challenges," said Ultra Maritime CEO Carlo Zaffanella in the statement.

BDL Chairman Commodore A. Madhavarao (retd.) said BDL was completely aligned with the Indian Navy to meet the operational demand for 'Make in India' sonobuoys and committed to joint production with Ultra Maritime in Visakhapatnam.

Highlighting the aspect of interoperability, a key focus area, Rear Admiral Mark Kenny (retd.), senior vice-president at Ultra Maritime for strategy and business development, said: "The UM sonobuoys co-produced in India are interchangeable and interoperable between U.S. Navy, Indian Navy and allied P-8, MH-60R and the MQ-9B Sea Guardian aircraft."

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Significant move

This is particularly significant as India has over the years acquired a series of military platforms from the U.S. that are also operated by other countries in the region, especially Australia and Japan, all four of which comprise the Quad grouping and also hold the Malabar naval exercise.

The Indian Navy operates the P-8I long range maritime patrol aircraft, is inducting the MH-60R multi-role helicopters and has two MQ-9A armed High Altitude Long Endurance (HALE) Remotely Piloted Aircraft Systems on lease and signed a $3.5 billion contract in October 2024 for 31 MQ-9B – 15 Sea Guardians for the Indian Navy and 16 Sky Guardians, eight each for the Army and Air Force, with deliveries to begin from January 2029. After Maritime Domain Awareness, UDA has emerged as a key focus area for India and among the Quad.

NAVAL VESSEL TARINI WITH TWO WOMAN OFFICERS STARTS NEW LEG OF CIRCUMNAVIGATION

Indian Naval Sailing Vessel (INSV) *Tarini* left Lyttelton Port in New Zealand on Saturday morning at about 9. 30 a.m. local time for Port Stanley in Falkland Islands in the third leg of the ongoing global circumnavigation journey by two woman Navy officers under *Navika Sagar Parikrama-II*.

This is the longest leg of the expedition with a distance of approximately 5,600 nautical miles (approximately 10,400 km) to cover. This will also be the southernmost transit of *Tarini* at about 56 degrees South, the Navy said in a statement. "With the frontal weather systems of the Southern Ocean, Team Tarini can expect to experience challenging seas with up to 50-60 knots (90-110 kmph) winds."

INSV Tarini had arrived in Lyttelton on December 22, completing the second leg of the double-handed circumnavigation, which is being undertaken by two Indian Navy women officers — Lt. Cdr. Dilna K. and Lt. Cdr. Roopa A.

"During the period in Lyttelton, the crew undertook repairs and maintenance of the boat with particular focus on the next leg where the vessel will cross the South Pacific, pass through the treacherous Drake Passage, and cross Cape Horn to reach Port Stanley," the Navy said. "While in Lyttelton, the crew also interacted with the Indian community who were eager to visit the boat and query the crew about various aspects of ocean sailing."

Members of Indian diaspora and various dignitaries turned up for the flag off ceremony of the vessel. Traditional Maori prayers for the crew by members of the Maori community were also undertaken during the ceremony.

The expedition was flagged off from Goa on October 2, 2024 by Navy chief Admiral Dinesh K. Tripathi. The circumnavigation will cover around 23,000 nautical miles in around 240 days.

JUSTICE B.N. SRIKRISHNA TO CHAIR PANEL FOR ID VERIFICATION FIRM EQUAL

The former Supreme Court judge Justice B.N. Srikrishna (retd.) will chair the newly formed Advisory Board of the ID verification and data sharing platform Equal. The firm provides identity authentication services for large firms, boasting digital integration with several ID providers.

The appointment comes as the government finalises the Digital Personal Data Protection Rules, 2025, to implement the DPDP Act, 2023.

Justice Srikrishna was the chair of the first committee formed by the Union Ministry of Electronics and Information Technology to formulate a data protection law.

That committee's report, submitted in 2018, was eventually not taken up.

Justice Srikrishna has also headed the Sixth Pay Commission, chaired the Financial Sector Legislative Reforms Commission, and also led the Expert Committee on Arbitration Law to propose reforms to the Arbitration & Conciliation Act, 1996.

The Advisory Board for Equal will counsel the account aggregator OneMoney. Account aggregators are firms that provide Indians with a consolidated view of their financial data, a key digitisation priority for the government.

The commitment of two firms enable "secure, compliant and consent-driven data sharing aligns closely with my work in safeguarding privacy and fostering trust in technology-based democratisation of products and services", Justice Srikrishna said in a statement provided by Equal. "Together, we aim to create frameworks that not only drive innovation but also set global benchmarks for ethical data usage and business practices."

The Advisory Board includes retired central bankers and bureaucrats who have been key in establishing and maintaining key digitisation priorities.

NO SECRET AFFAIR

The draft Digital Personal Data Protection Rules, 2025, is a long overdue advance in the direction of enforcing the fundamental right to informational privacy for Indians, affirmed by the Supreme Court of India in the landmark case, *Justice K.S. Puttaswamy vs. Union of India* (2017). The Digital Personal Data Protection Act, which these draft rules seek to enforce, was passed in Parliament over a year ago. This seven-year wait has most likely not been without costs for the privacy of the data of Indians, as it coincided with a period that saw a rapid growth in digitisation. The proposed rules offer direction on how online services will be required to: communicate the purposes of their data collection to users; safeguard children's data online; establish the Data Protection Board of India (DPBI); set the standards for government agencies to follow to be exempt from the Act's provisions, and spell out the procedures to be observed if personal data is breached by a data fiduciary. The concerns regarding the proposed DPBI's institutional design have not been resolved by these proposed Rules, and it may not be realistic to expect such an outcome from subordinate legislation.

It is regrettable that the government continues to cloak the rule-making process of a critical policy such as this in secrecy. Since the Justice B.N. Srikrishna committee was convened to draft the first Bill for data protection, the government has consistently declined to place recommendations from stakeholders in the public domain, and has foreclosed such disclosure for these draft rules as well. For legislation where the stakes are high for individual users as well as for large technology firms, an open deliberative process is essential. It can only be facilitated when industry associations and the general public can find equal footing by being equal participants with transparency into each other's viewpoints during the consultation process. In the short and medium term, it is essential for the government to proceed with these principles in mind, while never departing from the key aims of any data protection law: minimising data collection, promoting disclosures, penalising neglect in protecting user data, and discouraging surveillance practices, both by the private sector and the government. This process must also play out in a timely fashion, as Indians have been

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waiting far too long to finally obtain the rights that were affirmed for them in 2017. Else, people's confidence in the government's seriousness about protecting their data from government agencies as well as private enterprises would be shaken.

TECH INTERVENTIONS LIKE BHARATPOL WILL HELP BRING FUGITIVES FROM ABROAD: SHAH

Union Home Minister Amit Shah Tuesday said modern systems introduced under the three new criminal laws and technological interventions like Bharatpol portal will enable law agencies to bring fugitives who have escaped abroad after committing crimes in India to justice.

• Speaking at Bharat Mandapam in New Delhi, Shah said it was time for Indian investigation agencies to use modern technology and techniques to nab fugitives.

• The CBI, as National Central Bureau for Interpol (NCB-New Delhi) in India, connects all law enforcement agencies in India to law enforcement agencies in 195 other countries through Interpol.

• Currently, all central agencies and the police forces of various states and Union Territories coordinate with the CBI, Interpol liaison officers (ILOs), and unit officers concerned through letters, emails, and faxes, due to which they often face delays in their investigation.

• The decision to develop this portal was taken amid the rise in transnational crimes, including cyber-crime, financial crimes, online radicalisation, organised crimes, drug trafficking, and human trafficking. In such cases, real-time international assistance is needed for criminal investigations.

Do You Know:

• Bharatpol — broadcast hub for assistance and real-time action against transnational crimes via international police cooperation — was developed by the Central Bureau of Investigation (CBI). It will allow central and state agencies to easily connect with the Interpol and speed up their investigations.

• There are five key features:

—Unified Platform: This portal integrates the CBI as the Interpol (NCB-New Delhi) with all law enforcement authorities in India, down to Superintendents of Police (SPs) and Commissioners of Police (CPs).

—Simplified Request Mechanism: This portal allows front-line police officers to easily and promptly request international assistance from 195 Interpol member countries using standardised templates.

—Rapid Information Dissemination: This portal enables the CBI as the NCB to rapidly share criminal intelligence and inputs from 195 countries with all law enforcement agencies in India.

—Increase utilisation of Interpol notices: This portal will enable easy drafting of Red Corner Notice requests and other colour coded notices of Interpol. This will lead to effective tracking of crime, criminals and proceeds of crime globally.

—Capacity Building and Training: This portal also provides access to relevant documents, templates, and training resources, enhancing the capability of frontline officers to conduct investigations abroad and seek foreign assistance effectively through Interpol.

• There are five key modules — Connect, INTERPOL Notices, References, Broadcast, and Resources.

NOTHING ALARMING

Five years after the SARS-CoV-2 virus overwhelmed hospitals in Wuhan, China, acute respiratory diseases caused by viruses including the human metapneumovirus (HMPV) in children and the elderly, and influenza and respiratory syncytial virus (RSV), are increasing in the country, especially in its northern provinces. However, the sharp rise in acute respiratory diseases is not unusual during this time of the year, and as per a Chinese official, the overall number of cases in 2024 would be "smaller" than in 2023. Surprisingly, while the World Health Organization and the U.S. Centers for Disease Control and Prevention have not raised a red flag so far and there is almost nil reporting in the international media, the Indian media is awash with reports of an HMPV "outbreak" in China. A recent meeting of the Joint Monitoring Group under the aegis of the Union Health Ministry noted that the situation in China is "not unusual in view of the ongoing flu season", and the "usual pathogens that are expected during the season" are causing the present surge in respiratory diseases. The HMPV virus was first identified in children in 2001 in the Netherlands. Infection with HMPV usually occurs by the age of five years with reinfection occurring throughout life as immune protection induced by the virus is too weak to prevent repeated infections. The virus causes upper and/or lower respiratory tract infections, with lower respiratory tract infections being among the most common. While the virus often causes only mild disease, it can lead to severe illness requiring hospitalisation in children, immunocompromised populations and the elderly.

Globally, 3%-10% of hospital admissions and 1% of acute lower respiratory infection-related deaths in children under age five in 2018 are attributed to HMPV, as per a 2021 paper. The study also found that children younger than six months, especially those in low- and lower-middle-income countries, are at greater risk of death caused by the HMPV virus. Detection of a large number of HMPV cases among children aged less than 14 years in China is a reflection of the heightened surveillance and testing for the virus. On the contrary, India does not have any approved inexpensive tests that are widely available for diagnosing the virus. When testing for HMPV in patients with acute respiratory disease should be routine, as the virus has been in circulation for years globally, including India, and fatality is 1% in young children, India is only now expanding the number of laboratories testing for HMPV beyond the Indian Council of Medical Research (ICMR) network due to the spike in HMPV cases in China. What is also urgently needed is a regulatory framework that facilitates a rapid approval of diagnostic tests in the context of local and global outbreaks of novel and less known pathogens.

ZOOS PUT ON ALERT AS AVIAN FLU KILLS 3 TIGERS, 1 LEOPARD AT RESCUE CENTRE

Three tigers and a leopard at a Nagpur rescue centre have succumbed to avian influenza, prompting the Union government to sound an alert for zoos across the country.

• This is a rare instance of the highly contagious H5N1 virus affecting rescued wildlife in India.

• In an advisory, the Central Department of Animal Husbandry and Dairying directed zoos to comply with the action plan on prevention, control and containment.

• "It is a highly contagious viral disease with zoonotic ramifications. It is, therefore, advised that all zoos remain alert and vigilant for any symptoms among captive animals housed in zoos and incidence, if any, in nearby areas," stated the January 3 advisory issued by the department, which comes under the Union Ministry of Fisheries, Animal Husbandry and Dairying.

• Despite veterinary intervention, the animals were found dead on December 30, said officials. Nasal, pharyngeal and rectal swabs from the animals were sent the same day to the ICAR-National Institute of High-Security Animal Diseases (NISHAD) in Bhopal, which confirmed the presence of the H5N1 virus on January 1.

• The Wildlife Research and Training Centre (WRTC) at Gorewada stated that avian influenza in wild carnivores is typically linked to the consumption of infected prey. "The virus primarily affects birds but can infect mammals, including large cats, through contact with infected birds or contaminated environments," the WRTC report said.

• An advisory from NISHAD emphasised preventive measures such as avoiding raw poultry or unverified meat sources for carnivores, routine health monitoring of animals and enhanced biosecurity practices like using nets to keep birds away from enclosures. Staff were also advised to wear PPE and monitor themselves for flu-like symptoms post-exposure.

Do You Know:

• Avian influenza is a disease caused by an influenza A virus, affecting birds across many species. It can have significant consequences for the poultry industry, due to its potential impact on bird health, production and even international trade.

• Although avian influenza does not usually infect people, it is considered a zoonotic virus. That means it can be transmitted to humans through contact with infected birds, and sporadic cases have been seen when outbreaks happen in poultry.

• Some avian influenza viruses are more pathogenic than others. Pathogenic means disease-causing, so if highly pathogenic avian influenza gets into a poultry farm, it can cause sudden and significant mortality.

• With severe mortality rates, avian influenza can heavily impact the health of both poultry and wild birds. Often considered mainly as vectors of the disease, wild birds, including endangered species, are also victims. The consequences of avian influenza on wildlife could potentially lead to a devastating effect on the biodiversity of our ecosystems.

In addition, avian influenza can also cross the species barrier and infect domestic and wild terrestrial and marine mammals.

• The transmission of avian influenza from birds to humans is usually sporadic and happens in a specific context. People who are in close and repeated contact with infected birds or heavily contaminated environments are at risk for acquiring avian influenza.

• The National Institute of High Security Animal Diseases (NIHSAD) of Indian Council of Agricultural Research is a premier institute of India for research on exotic and emerging pathogens of animals. NIHSAD is an independent institute of ICAR.

—The institute has contributed significantly by detecting many animal diseases of exotic origin and preventing them from entering our country.

—The major objectives of the institute are:

1. To carry out basic & applied research on exotic, emerging and re-emerging diseases of animals.

2. To develop competency for diagnosis & control of exotic/emerging diseases of animals.

3. To create & update a repository and data bank on exotic/emerging pathogens

4. To develop skills in bio risk management & train manpower in the areas of biosafety, biosecurity and biocontainment.

AS 52 VILLAGES ALLEGE FOREST RIGHTS VIOLATIONS, TRIBAL MINISTRY TELLS MP GOVT TO ACT

Taking cognisance of petitions and complaints from 52 villages on non-recognition of forest rights and attempts at forceful eviction in and around Rani Durgavati Tiger Reserve in Madhya Pradesh, the Ministry of Tribal Affairs (MoTA) has directed the Madhya Pradesh government to examine the matter and resolve it in consultation with state forest departments and concerned district collectors.

• The Centre wrote to the Madhya Pradesh tribal welfare department on December 23 after receiving representations from 52 gram sabhas from Damoh, Narsinghpur and Sagar districts.

• In the representations, it has been alleged that after Veerangana Durgavati Tiger Reserve was notified in September 2023, forest rights claims were denied and villagers were pushed to relocate outside the reserve forcefully, in violation of the Forest Rights Act (FRA), 2006, and Wildlife Protection Act (WLPA), 2006.

• Further, villagers have been restricted from accessing forest resources, forest produce and farms, it has been alleged. "It may be noted that alienation of the communities from exercising their rights as stipulated under FRA, 2006, is a violation of the Act. Therefore, as state governments are FRA implementing authority, it is advised that matters may be examined and resolved in consultation with state forest departments, the concerned district collectors and DFOs," the MoTA stated in its letter to the MP government.

• The letter was also marked to the National Commission for Scheduled Tribes division of the MoTA and Damoh, Sagar and Narsinghpur district collectors for necessary action. Further, it was also marked to the National Tiger Conservation Authority for action and for issuing appropriate directions to wildlife wardens so as to safeguard the interests of the communities.

Do You Know:

• Spread over 2,339 sq km, Rani Durgavati is MP's newest tiger reserve. It was created by adding the areas of Rani Durgavati and Nauradehi wildlife sanctuaries. In fact, it was formed to compensate for 100 sq km of prime forest that will get submerged in the Panna tiger reserve due to the Ken Betwa River linking project.

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• The Wildlife Protection Act enables forest departments to create 'inviolate' areas, which are free of human settlements, for tiger conservation. However, such inviolate areas are to be created only after the rights of tribal and forest-dwelling communities are recognised and settled, as per the provisions of the WLPA and FRA. After recognition of rights, villagers can be relocated and rehabilitated only if they wish to do so voluntarily, as per law.

• In December 1996, the Supreme Court ruled that the Forest (Conservation) Act would apply to all land parcels that were either recorded as 'forest' or resembled the dictionary meaning of forest. Until then, the FC Act applied to areas notified as forests under the Indian Forest Act, 1927.

• In June 2022, the government amended the Forest Conservation Rules to propose a mechanism to allow developers to raise plantations "over land on which the [FC] Act is not applicable", and to swap such plots against subsequent requirements of compensatory afforestation.

HOW SOAPSTONE MINING IS LEADING TO LAND-SUBSIDENCE IN UTTARAKHAND'S BAGESHWAR

The Uttarakhand High Court on Monday pulled up the authorities for unregulated soapstone mining in Bageshwar, a district with more than 160 mines at present.

A news article published on November 7, 2024 had stated that due to "rampant unregulated mining of soapstone in certain villages of tehsil Kanda in Bageshwar… poor residents of those villages are living in constant threat of natural calamity".

The Uttarakhand HC took suo motu cognizance of the article, and ordered commissioners to visit the sites and submit a report. Following the submission of the report on January 6, a Bench of Chief Justice G Narender and Manoj Kumar Tiwari observed that its findings were "not merely alarming, but also shocking".

Soapstone is a metamorphic rock made of talc, a naturally occurring mineral, and is used in construction and design for countertops, sinks, hearths, and sculptures. Talc is used in cosmetics, pharmaceuticals, and other industries. According to the Indian Bureau of Mines, the states of Rajasthan (57%) and Uttarakhand (25%) boast substantial reserves of soapstone in India.

Environmental concerns

Land subsidence is a major concern across Uttarakhand. The issue made national news in 2022 after cracks appeared in many roads and hundreds of houses in Joshimath — authorities declared the area as a landslide and subsidence-hit zone. In Bageshwar district, areas such as Kanda-Kanyal, and Kanda are particularly vulnerable.

According to the United States' National Oceanic and Atmospheric Administration (NOAA), subsidence is the "sinking of the ground because of underground material movement". This can happen due to a host of reasons, anthropogenic or otherwise. These include mining activities, removal of water/oil, soil erosion, soil compaction, and earthquakes.

The aforementioned report states that mining operations in the lower parts of the slopes has led to the loss of their structural integrity, and increased the vulnerability to mass movement. "In all regions where land subsidence is occurring, the mines are located on the lower slopes or at bottom of the terrain, directly impacting the stability of upper slope areas where villages are situated,"

the report says. This is more so because the soil in the region is loamy and loose, and thus highly prone to erosion and destabilisation, particularly during the monsoon season.

The report points to a lack of green belts and retaining walls around the mine boundaries, coupled with a dearth of safety protocols such as buffer zones, slope monitoring, and protective structures — all of which continue to accelerate erosion.

The report also found mining and related activities (such as transportation) to be responsible for water scarcity and pollution, as well as air pollution.

Cultural concerns

The adverse consequences of unmitigated soapstone mining is evident in how the region's traditional houses, the Kumaoni Bakhli, have fared in recent times.

Reflecting the cultural and environmental adaptation of local communities, these structures have demonstrated remarkable resilience over hundreds of years, even in the most seismically active zones, with no recorded evidence of widespread structural failure due to quakes. But not any more. Land subsidence and downward mass movement shifted and damaged the foundation of many a Kumaoni Bakhli, the report found.

According to a report by the regional office of the Ministry of Environment, Forest, and Climate Change submitted to the National Green Tribunal last year, the Kanda tehsil is also culturally significant with a strong tradition of folk music, dance, and handicrafts.

"The Kalika Temple in Kanda, located in the Bageshwar district of Uttarakhand, is a significant religious site believed to have been established in the 10th century it is known for its historical and cultural importance, particularly in the context of local beliefs regarding the protection against malevolent forces," it said. Due to land subsidence, the temple floors now also sport cracks.

Authorities in the dock

The report submitted to the Uttarakhand HC pointed to the complicity of the administration in the matter.

"Neither the State of Uttarakhand nor the Union of India have anywhere explained the definition of the word semi-mechanised mining yet environmental clearances are being issued to the prospectors allowing them to undertake semi-mechanised mining. This usage of heavy earth-moving equipment in mining operations without defined policy limits can lead to various challenges and negative consequences," the report said.

Besides this, the report also noted that the sub-district magistrate was allegedly trying to "suppress the voice of the villagers", and interfered in their interaction with the commissioners. It also pointed out that revenue officials were in the know about the encroachment of Van Panchayat lands and the illegal felling of trees for mining, and that the district administration and the mining department was hand-in-glove with mine owners.

DAMAGE CONTROL

This week, an early-morning earthquake in Tibet of magnitude 7.1 and originating at a depth of 10 km has reportedly claimed at least 100 lives and damaged buildings and houses. The tremors from the quake were felt in Nepal as well as parts of Bihar and even New Delhi, thousands of

kilometres away. The main earthquake was followed by at least two aftershocks. If the epicentre had been located closer to India, the damage could have been manifold. Earthquakes in the Himalayas evoke a special kind of dread in the country. Memories of two deadly quakes in Nepal in April and May of 2015 that killed at least 9,000 and caused incalculable damage still bubble up. The tectonic plates are the gigantic shards into which Earth is broken up. Layered on them are the continents and the seas. These plates are constantly in motion — colliding with, diverging with, or sliding past one another. The Indian plate collided with the Eurasian plate and the crust tilted upwards, creating the Himalayas. The fractured zones along which they interact create the fault lines where earthquakes occur. By studying these faults and the pattern of past earthquakes, seismologists can estimate how much latent energy at these fault lines, which can run thousands of miles, has been released and how much of it still resides in them.

Scientists have long warned of a massive, overdue earthquake in the Garhwal-Kumaon range because of what is known about the pattern of quakes in the region. The records of the last 300 years suggest that those that have occurred have not released all the pent-up energy and that is why there is a broad consensus among experts that an 8-magnitude temblor is overdue. Unfortunately, predicting the day and time is outside the ambit of current science. Thus, the best we can hope for is insulation against the projected damage. It is in this context that infrastructure development in the Himalayan region must be viewed. While several of these projects are intended to smooth the movement of people and goods, the recurrent landslides and glacial lake outbursts that wash away dams, hydropower projects, and roads serve as a constant reminder of the inherent fragility of the region. Every form of infrastructure in the region — power plant or dam — must take into account the imminence of a major earthquake and the associated costs factored into planning. Adhering to already existing building codes, not only in the Himalayas but in the surrounding Indo-Gangetic plains, can go a long way in limiting the inevitable damage.

WHY THE LOCATION OF CHINA'S EARTHQUAKE MATTERS

At 6:35 am IST on January 7, an earthquake with a magnitude of 7.1 struck Tibetan China and Nepal. The epicentre was located 10 km below a spot around 80 km north of Mt Everest. As of 7 pm, Chinese state media had reported 95 people dead, 130 injured, and hundreds of houses flattened on its side of the border. Updates on damage and casualties from other areas, including Nepal, are awaited. There have also been reports of the tremors being felt as far away as Kathmandu, Thimphu, and Kolkata.

Where did the quake occur?

According to the China Earthquake Networks Centre, the point on the surface below which the epicentre lay was located in Tingry county in the Shigatse region of Tibet. This region lies 4-5 km above sea level on average and is home to some eight lakh people; the county itself is home to around 7,000 people.

The region's capital city is the seat of the important Panchen Lama of Tibetan Buddhism and thus bears considerable spiritual significance. The Dalai Lama issued a statement in which he said: "I offer my prayers for those who have lost their lives and extend my wishes for a swift recovery to all who have been injured." Tingry county is also a 'gateway' to Mt Everest and the surrounding terrain, which is a popular tourist destination. Local authorities have said however that the number of tourists is lower in winter. According to Xinhua, China has already closed tourists' access to the region since the earthquake struck.

Does the quake's location matter?

According to preliminary assessments, the quake's mainshock may have emerged in the Lhasa terrane. A terrane is a specific fragment of the crust.

The Lhasa terrane includes sites involved in China's construction of the world's largest hydroelectric-power dam. The Chinese government approved the project last month. Once completed, the project will straddle the Yarlung Tsangpo River and generate around 300 billion kWh per year.

The project has elicited expressions of concerns from India since the river subsequently flows into Arunachal Pradesh and Assam, where it becomes the Brahmaputra.

Experts have said the dam could affect the river's perennial status.

Second, the wider Himalayan region is considered to be the planet's 'third pole' for the amount of water it holds in its rivers, glaciers, and lakes and the effects their natural cycles have on the millions of people who depend on this water. Earthquakes have been known to force rivers to change course and to destabilise glaciers and lakes and increase the risk of flooding.

Third, the cause of the quake is also related to the significance of its location.

What caused the quake?

The tale of how the Himalayan mountains were created is well-known. Around 50 million years ago, the Indian plate collided with the Eurasian plate, causing rocks to fold and rise to create the mountains.

The tension between the two plates has continued to build as the Indian plate is still pushing in at around 60 mm/year. Earthquakes and tremors occur when the rock formations in the region shift ever so slightly as they adjust to the tension.

Since 1950, geologists have recorded more than 21 earthquakes of magnitude 6 or higher in the Lhasa terrane alone. The strongest of these occurred near Mainling in 2017 with a magnitude of 6.9, according to Reuters. Mainling is 960 km east of Tingry county.

To understand where the next quake might occur in the region and how powerful it might be, geologists need to understand the ancient plate collision in great detail, estimate how much tension is accumulating in different parts today, and how much of it has been released in past events.

IS INDIA'S FOREST COVER GROWING ENOUGH?

The story so far:

The State of Forest Report (SFR), 2023 was released by Union Environment Minister Bhupender Yadav at the Forest Research Institute, Dehradun, on December 21, 2024. The SFR is a biennial exercise the Government of India undertakes to track tree and forest cover, carbon stock, forest fires, and other parameters related to the country's green cover.

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What did SFR, 2023 find?

According to SFR, 2023, 25.17% of India's area is under forest and tree cover. Of this, forests cover 21.76% of land and trees 3.41%. These figures represent marginal increases from 21.71% and 2.91%, respectively, as reported in SFR, 2021. In absolute terms, the increase is 1,445 sq. km. The National Forest Policy, 1988, which governs green cover in India, requires 33% of the country's geographical area to be under tree or forest cover. Chhattisgarh, Uttar Pradesh, and Odisha led the list of States that increased forest and tree cover while Madhya Pradesh, Karnataka, Ladakh (Union Territory), and Nagaland were the top four where forest and tree cover has dropped.

What is green cover?

Forest cover in India means an area of a hectare or more "with a tree canopy of more than or equal to 10%, irrespective of ownership and legal status," per the report. Likewise, tree cover refers to all tree patches that exist outside of forest area and which occupy "less than one hectare in extent, including all the scattered trees found in the rural and urban settings, and [are] not captured under the forest cover assessment".

The SFR uses a mix of satellite data and details from the National Forest Inventory, plus ground-truthing to verify the information. Forest cover estimates come from satellite data and growing and carbon stock estimates from the Inventory. The 2023 report uses satellite data from October to December 2021 and NFI data from 2017 to 2022.

How have sensitive areas fared?

In 2014, the Union government first notified the Western Ghats Eco-Sensitive Area (WGESA) along the country's west coast under the Environment Protection Act, 1986 for special protection. According to SFR, 2023, the Western Ghats Area has lost 58.22 sq. km of forest cover in the last decade. While the cover of "very dense" forests increased, those of "moderately dense" and "open" forests fell. "Very dense" forests have a canopy density of at least 70%, "moderately dense" forests of 40-70%, and "open" forests of 10-40%.

The Nilgiris forests are part of the WGESA and a UNESCO biosphere. Between 2013 and 2023, they lost 123.44 sq. km of forest cover. Nilgiris district reported a fourfold increase in the number of forest fires from 2022-23 to 2023-2024.

Mangroves — tropical trees in the intertidal zones of coastal areas — are withdrawing as well. The report has estimated 0.15% of India's total geographical area as under mangrove cover following an overall decrease of 7.43 sq. km from 2021 alone. Andhra Pradesh and Maharashtra increased their State-wise share but Gujarat's Kutch area reported a significant decrease. These trees stabilise coastlines, mitigate erosion, encourage biodiversity, shield coastal communities from sea-level rise, and temper the fury of cyclones.

The northeast occupies less than 8% of India's total land area but more than 21% of its tree and forest cover. Per SFR 2023, tree and forest cover in the region shrunk by 327.3 sq. km. There have been reports in the press that at least part of the decline is due to conversion of forests for agricultural use.

What is the SFR's applicability?

While the definitions are straightforward, what they include or exclude has prompted concerns. For example, as trees became popular as a 'solution' for climate mitigation because of their ability

to sequester carbon, many lawmakers as well as researchers began to tout tree-planting as a blanket fix.

In due course, two important problems emerged with this idea. First, not all ecosystems are suited for trees, and damaging them by planting trees could have repercussions that negate the original purpose of the exercise. Second, only native and mature species in the right environments can sequester carbon efficiently. Young trees or those unsuitable for their environs either wouldn't help as much or not at all. One direct analogue in the SFRs is that the definition of forests includes "orchards, bamboo, and palm". Divya Gupta, assistant professor of environmental studies and sustainable communities at the State University of New York, thus called the report's marquee finding a "celebratory statistic". "By including plantations, orchards, palms, and non-native ecosystems, it erases the distinction between natural forests and monocultures," she added. "This aggregation misrepresents forest health, obscures deforestation and degradation, and offers a distorted view of what we should truly prioritise."

"The share of actual increase in forest cover appears to be very minimal … compared to the 1,445 sq. km of forest and green cover increase claimed in the document," Sudeep Budhaditya Deb, deputy conservator of forests at the Office of the Additional Principal Chief Conservator of Forests (North Bengal), said.

Is SFR related to climate action?

Exercises to understand how much carbon can be sequestered use the term carbon stock to denote all the carbon held in living and non-living biomass in an ecosystem. In a mature forest, for example, the carbon collects in the trees as they grow both aboveground and below, in the leaf litter surrounding the trees, in the deadwood, etc.

In 2022, India committed to increase its carbon stock by 2.5-3 billion tonnes "through additional forest and tree cover by 2030". The current stock of this variety is around 30.4 billion tonnes. According to SFR 2023, India increased its carbon stock by 81.5 million tonnes and the growing stock — the sum (by number or volume) of all the trees living/growing in forests — by 4.25% between 2021 and 2023.

But experts have said the report doesn't say anything about the quality of forests contributing to increases in forest cover nor provides data on the actual causes of forest degradation. "Key ecological indicators such as forest fragmentation and biodiversity health are missing, making it impossible to evaluate the true significance of the statistics reported," Ms. Gupta said. "Moreover, the report lacks mechanisms to track ecosystem losses caused by land-use changes and deforestation."

PM TO OPEN Z-MORH TUNNEL, KEY FEATURE IN YEAR-ROUND KASHMIR-LADAKH CORRIDOR

Prime Minister Narendra Modi is all set to inaugurate the Z-Morh tunnel Monday. The tunnel is a critical infrastructure project that will not only provide all-weather connectivity to the famous tourist resort of Sonamarg but will also help connect Kashmir and Ladakh throughout the year.

• A 6.4-km bi-directional tunnel with an approach road of 5.6 km, Z-Morh joins Gagangir in Ganderbal with Sonamarg health resort, which will help to boost winter tourism.

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• Developed by National Highways and Infrastructure Development Corporation Limited (NHIDCL), the Z-Morh is a 6.412 km-long tunnel that connects Sonamarg with Kangan town in the central Kashmir's Ganderbal district.

• Constructed near Gagangir village near Sonamarg, a famous tourist destination on the Srinagar-Leh highway, the tunnel will provide all-weather connectivity to it as well as Ladakh, which is important for strategic and military reasons.

• Z-Morh has acquired its name for the Z-shaped road stretch that was previously at the place where the tunnel is being constructed. The stretch was situated at an altitude of over 8,500 feet and was prone to snow avalanches in the winter, thus closing the Sonamarg road for most part of the winter.

• Meanwhile, the construction of the Zoji-la Tunnel, which connects Sonamarg in Kashmir to Drass in Ladakh, is still underway and is expected to be completed by December 2026.

• The Z-Morh project was originally started by the Border Roads Organisation in 2012. While the BRO awarded the construction contract to the Tunnelway Ltd, the project was later taken over by NHIDCL.

• In 2019, the NHIDCL retendered the project and the contract was bagged by the APCO Infratech, which executed the project under APCO-Shri Amarnathji Tunnel Private Limited. While the project was expected to be completed by August 2023, it was delayed.

• The soft-opening of the tunnel was carried out in February last year but the UT's Assembly elections delayed the project's official inauguration.

Do You Know:

• Beyond its strategic military importance, the Z-Morh Tunnel is poised to bring significant economic benefits to the region. Tourism is one of the main drivers of the local economy in Sonamarg, and the tunnel's ability to keep the resort town accessible year-round will help revive businesses that have long suffered due to the seasonal closure of roads.

FOUR-LANE BANIHAL BYPASS OPENS IN J&K'S RAMBAN

Union Transport and Highways Minister Nitin Gadkari on Sunday described the completion of the Banihal bypass in Jammu and Kashmir's Ramban district as a milestone in strengthening "national security logistics" and enhancing "tourism prospects of the region".

Taking to X, Mr. Gadkari announced the completion of the four-lane 2.35-km stretch to Banihal town, built at a cost of ₹224.44 crore. Strategically located on the Ramban–Banihal section of National Highway 44, it effectively addresses the persistent bottlenecks caused by roadside markets and shops, Mr. Gadkari said.

He said two-lane traffic will be allowed initially and four-lane traffic permitted after "junction development" within 15 days.

The Minister said this critical infrastructure ensured unhindered traffic flow, significantly reducing travel time and congestion for both tourists and defence vehicles, *en route* to the Kashmir Valley. "Beyond improving regional connectivity, the bypass strengthens national security logistics and enhances tourism prospects in the region," he said.

NH-44 is a major highway in India. The longest in the country, it stretches from Srinagar in the north to Kanniyakumari in the south.

The Centre has embarked on a major mission in J&K to ensure that the NH-44 remains an all-weather road connecting the Kashmir Valley with the rest of the country. Travel time on the 290-km-long Jammu–Srinagar National Highway, which is part of NH-44, has reduced from nine hours to around six hours after significant upgrades such as tunnels.

However, the highway passing through the tough mountains of Ramban district posed a major challenge in the face of slopping ridges and congested roads, especially in the Banihal area. Multiple tunnels, including the critical Marog-Digdol and Digdol-Khuni-Nallah, are in the final stages to ensure seamless traffic on the highway.

The upgrade of the 32-km stretch between Ramban and Banihal, which is under way, will reduce travel time between Srinagar and Jammu, making the Kashmir Valley very easy to reach. National Conference MLA Banihal Sajjad Shaheen inaugurated the 2.35-km stretch.

EMPOWER THE GUARDIANS OF THE EARTH, DO NOT ROB THEM

The ₹72,000-crore mega infrastructure project on Great Nicobar will now also have an international cruise terminal and a shipbreaking yard, as proposed by the Union Shipping Ministry. In this article, dated April 22, 2024, Ajay Saini and Manish Chandi talk about the rights of the indigenous communities over the little islands of the Andaman and Nicobar archipelago and how they have been able to protect and preserve the area's ecological balance.

In the southern expanse of the Andaman and Nicobar archipelago, off the shores of Little Nicobar, lie seven tiny islands. Classified as "uninhabited" in the government's records, these islets are nonetheless integral to the indigenous communities of the region. Two, officially called Meroë and Menchal, are known as Piruii and Pingaeyak, respectively, to the Payuh, the indigenous southern Nicobarese peoples, who hold traditional rights over these and other islets.

For millennia, these historically isolated indigenes have relied on these islands as resource reservoirs for sustenance and protected them. Menchal is revered, used, and protected under the spiritual realm called Pingaeyak (a spirit that is believed to reside on the island), prohibiting the overexploitation of resources or any undue harm to its ecosystem. Similarly, Meroë is believed to be the abode of a legendary islander community. Here, too, spiritual belief systems influence how the islanders use and protect natural resources.

Meroë and Menchal are managed by community elders as guardians and specific individual caretakers. They ensure the protection of the island's resources and sustainability. In today's world, this phenomenon goes by the name of "conservation" and "sustainable use", among other terms and phrases.

Conservation colonialism

In May 2022, in complete disregard of the indigenous land ownership and management systems, the Andaman and Nicobar (A&N) administration issued three public notices, announcing its intention to create three wildlife sanctuaries: a coral sanctuary at Meroë Island, a megapode sanctuary at Menchal Island, and a leatherback turtle sanctuary on Little Nicobar Island.

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In mid-July, the A&N administration issued an order asserting that it did not receive any claims or objections from any individual regarding the land and marine areas within the three proposed sanctuaries; that no individual enjoys any rights within the boundaries of the proposed sanctuaries. And, that there will be "restriction on the people of neighbouring area to enter into these islands... in the national interest."

Approximately 1,200 southern Nicobarese inhabit Patai Takaru (Great Nicobar Island), and Patai t-bhi (Little Nicobar Island), holding traditional rights over both inhabited and ostensibly "uninhabited" islands. Yet, the A&N administration neither consulted nor informed the southern Nicobarese of its plans.

Despite verbal supplications and a letter in August 2022 from the Little & Great Nicobar Tribal Council that expressed the community's concerns to the A&N administration and the Ministry of Environment, Forest and Climate Change, the A&N administration proceeded to issue official notifications in October 2022, designating the whole of Meroë (2.73 square kilometres, including the surrounding marine area) and Menchal (1.29 sq. km), along with a 13.75 sq. km area (including 6.67 sq. km. of water area within the baseline system) on Little Nicobar (140 sq. km), as wildlife sanctuaries.

Masking an ecological disaster

The selection of Meroë and Menchal Islands as conservation reserves for coral reefs and Megapode birds is arbitrary. Menchal does not have more than a pair or two of the endemic Megapode birds. Similarly, questions arise regarding the actual diversity and abundance of corals on Meroë Island.

Notably, the announcement of wildlife sanctuaries coincided with growing scrutiny and criticism from experts over the denotification of the Galathea Bay Wildlife Sanctuary for a ₹72,000-crore mega project on Great Nicobar, a UNESCO Biosphere Reserve.

Establishing exclusionary conservation areas in a region, which is already a paradise for biodiversity, stems from the fact that the champions of the mega project are aware of the extensive environmental and social damage that the project will entail. It will devastate about eight to 10 lakh evergreen forest trees, smother and gouge out scores of coral reefs found along Galathea Bay, destroy the nesting site for the globally endangered Leatherback sea turtle species, devastate hundreds of nesting mounds of Nicobar Megapodes, and kill as many crocodiles.

Furthermore, it will prevent the indigenous Great Nicobar islanders from returning to their pre-tsunami homeland where they husbanded pigs and chicken, cultivated coconut and betel nut trees, and lived simple and gregarious lives. Most importantly, it will uproot three or more settlements of the Shompen (a 'Particularly Vulnerable Tribal Group') and permanently destroy their foraging and hunting grounds.

The unilateral decision to establish wildlife sanctuaries disregards the islands' profound significance to the indigenous population.

Their ancestral lands are unjustly perceived as "no-man's-land" to appease conservationists, investors, public opinion, and more.

Support earth's guardians

Globally, governments blatantly violate indigenous people's rights by evicting them from their ancestral lands, often under the guise of development, national interest, conservation projects, among others. Approximately 476 million indigenous peoples, constitute about 6% of the global population. Indigenous territories cover roughly 22% of the planet's land surface and harbour 80% of its biodiversity.

Indigenous peoples are the original guardians of our earth. The world must learn from their wisdom. Reason and justice dictate that in southern Nicobar, we should support and empower the islanders to continue to steward their ancestral territories, rather than robbing them of their lands, resources, lifeways, and worldviews.

THIS POLICE STATION HOUSED SUKHDEV, BHAGAT SINGH, RAJGURU IN 1920S

inside the bustling lanes of north-east Delhi lies a police station with a storied past. It witnessed thick action during India's struggle for independence, with political prisoners like Sukhdev, Bhagat Singh, and Rajguru serving detention there at various times. The Shahdara police station completed 110 years of existence on Tuesday.

Founded on January 7, 1915 during the heyday of colonial rule, the police station has transitioned from its role as the occasional site for housing freedom fighters and a repository of historical memories to playing a vital role in law enforcement and crime prevention over the years.

The station was originally established with jurisdiction extending over the entire trans-Yamuna area of Delhi. Police records show that the first FIR was lodged in Urdu language on the very day of its establishment under Section 457 of the IPC regarding a break-in at the house of a person named Khazan Singh.

The complainant alleged that the accused, Sukhdev Mali, drilled a hole in the back of his residence along with an accomplice but ran away when the owner woke up. There was no loss reported.

Senior police officers said that in 1928, Sukhdev, a prominent member of the Hindustan Socialist Republican Association (HSRA), was arrested and lodged at the Shahdara police station in the aftermath of the assassination of British police officer John Saunders. Sukhdev and Chandrashekhar Azad were involved in the plot while Bhagat Singh and Rajguru shot Saunders on December 17, 1927; Bhagat Singh, Sukhdev and Rajguru were later hanged to death.

'Brutal interrogation'

"During his detention, Sukhdev, like many other political prisoners, faced brutal interrogation methods at the police station. His incarceration here was just one chapter in his long resistance against British repression. Eventually, he, Bhagat Singh, and Rajguru were transferred to other prisons and their trials became a focal point for the growing demand for independence," said DCP (Shahdara) Prashant Gautam.

The records at Shahdara police station attest to its role as a centre for intense interrogation of revolutionaries of the freedom struggle. Members of the HSRA were detained here after their involvement in the Kakori train robbery case of 1925, one of the most significant revolutionary acts against British rule. Others associated with the Chittagong uprising of 1930 and other resistance movements also spent time within its walls.

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Modern building

The old structure that housed the who's who of freedom struggle made way for a modern building that was inaugurated in February 2022.

"The station became a symbol of the suffering endured by revolutionaries who had sacrificed their lives for the nation's freedom," said Mr. Gautam.

SIX KILLED, DOZENS INJURED IN STAMPEDE OVER TIRUPATI TOKENS

Ninety counters have been set up at eight centres in Tirupati to distribute free tokens for darshan at the Sri Venkateswara Swami Temple on the occasion of the Vaikunta Ekadasi festival, and arrangements have been to manage the large crowds, the trust that manages the temple said after six people were killed Wednesday night in a stampede when thousands gathered to collect tokens.

• On Wednesday night, at least six people were killed and dozens injured when tokens for the darshan of Lord Venkateswara were being distributed at the MGM High School at Bairagipatteda in Tirupati, located close to the Vishnu Nivasam temple.

• Thousands of devotees seeking the tokens started gathering at the counters on Wednesday morning, and by evening, there was already pushing and jostling.

• CM N Chandrababu Naidu said the stampede was triggered when the gate was opened to let out a woman who was feeling uneasy, but the gathered devotees pushed in all at once.

• The Vaikunta Ekadasi festival is a 10-day special event attended by lakhs of devotees. The incident occurred as Chief Minister Naidu was seeing off Prime Minister Narendra Modi at Visakhapatnam after his brief visit to launch projects worth over Rs 2 lakh crore.

Do You Know:

• Wenguo Weng and others define a stampede as "an impulsive mass movement of a crowd that often results in injuries and deaths" ("Review of analyses on crowd-gathering risk and its evaluation methods", 2023).

• According to Illiyas and others, a stampede can be described as the "disruption of the orderly movement of crowds… leading to injuries and fatalities", often "in response to a perceived danger, loss of physical space", or "a will to attain something seen as gratifying".

• Most stampede casualties are caused by traumatic asphyxia — there is partial or complete cessation of respiration due to external compression of the thorax and/or upper abdomen. Notably, significant compression forces, enough to hurt and kill humans, have been reported in even moderate crowds of six to seven people pushing in one direction.

• Other possible reasons for stampede-related deaths include myocardial infarction (heart attack, caused by decreased or complete cessation of blood flow to a portion of the heart), direct crushing injury to internal organs, head injuries, and neck compression.

• Stampedes almost always take place during mass gatherings — either spontaneous gatherings, like in a metro station during the rush hour, or planned ones, like the Hathras satsang.

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LESSONS LEARNT FROM FREE INDIA'S FIRST MAHA KUMBH

"Over 70 years ago, Allahabad hosted Independent India's first mela, from January 14 to March 3, 1954. Instead of being known for its record turnout of nearly 40 lakh devotees — all of whom took a dip at the Triveni Sangam, the confluence of the Ganga, the Yamuna and the mythical Saraswati — the mela is remembered for a stampede on February 3, 1954, that claimed the lives of nearly 800 pilgrims. However, government estimates put the figure at half that number."

• Twelve years earlier, in 1942, a Maha Kumbh was held in Allahabad under the shadow of World War II. Organised by the British, the number of pilgrims at the 1942 mela were restricted due to "security concerns".

• An Ardh Kumbh (half Kumbh) was held in the city in 1948, but Mahatma Gandhi's assassination in New Delhi on January 30, 1948, cast a pall over the event. Six years later, in 1954, the Maha Kumbh was held in Allahabad.

• Just as it is being done for the 2025 Kumbh, in 1954 too, Kumbh Nagar was named as a temporary district. Allahabad District Magistrate (DM) J N Ugra served as the DM of Kumbh Nagar too, while IPS officer J P Tripathi was designated as the Senior Superintendent of Police (SSP).

• The 1954 Maha Kumbh was special on many counts. As per the Hindu calendar for that year, the Kumbh would coincide with many auspicious days: January 14 (Makar Sankranti), February 3 (amavasya or the new moon day), March 3 (Shivratri), seven snan (bath) days, Paush Purnima (full moon day) on the intervening nights of January 18-19 and a constellation that would appear after over a century.

• Even advisories from the state health department related to a cholera epidemic, effective between January 7 and February 8, 1954, directing persons not inoculated against cholera to not come within 10 miles (around 16 km) of Allahabad, failed to dampen devotee enthusiasm.

• On February 3, 1954, the day of the stampede, President Rajendra Prasad, Prime Minister Jawaharlal Nehru, Uttar Pradesh Governor K M Munshi, Chief Minister Govind Ballabh Pant, Punjab Governor C P N Singh, West Bengal Chief Minister Bidhan Chandra Roy and Madhya Bharat (now Madhya Pradesh) Chief Minister Ravi Shankar Shukla were in Allahabad. Save for the Punjab Governor, who visited the site that afternoon, and West Bengal CM, most VIPs went to the Sangam in the morning.

• Around 9 am, a stampede would end up killing hundreds. UP Advocate General Kanhaiya Lal Mishra too got caught up in the stampede. Despite rumours of his death, he managed to get to safety. News of the tragedy was broadcast by All India Radio (AIR) four hours after the incident.

• The report of the enquiry committee headed by Justice Kamalkant Verma, notes, "This is late even for an ordinary Kumbh Mela, to say nothing of a Kumbh of the type of the 1954 Kumbh." However, preparations were made rapidly after that.

Do You Know:

• One of the biggest religious events in the world is the Maha Kumbh Mela. This mega-festival, which takes place every 12 years at four different locations in India—Haridwar, Allahabad (Prayagraj), Nashik, and Ujjain—attracts millions of pilgrims, devotees, and visitors from all over

the world. The Maha Kumbh Mela 2025 is scheduled to commence on January 13, 2025, with the Paush Purnima Snan, and will conclude on February 26, 2025.

• Maha Kumbh Mela is one of the largest and most sacred gatherings in Hinduism. It is deeply rooted in Hindu mythology and is considered an opportunity for devotees to absolve sins and attain Moksha, or liberation.

• In 2017, the Kumbh Mela was declared India's 'Intangible Cultural Heritage' by UNESCO. The event was inscribed on the Representative List of the Intangible Cultural Heritage of Humanity by the UN body. The list describes Kumbh Mela as "the festival of the sacred Pitcher" where pilgrims bathe or take a dip in a sacred river. The list includes forms of expression that testify to the diversity of the intangible heritage and raise awareness of its importance. The UNESCO Convention for Safeguarding the Intangible Cultural Heritage, adopted in 2003, defines intangible cultural heritage as the practices, representations, expressions as well as knowledge and skills that communities, groups and, in some cases, individuals recognise as part of their cultural heritage.

WHY IS DECIPHERING THE INDUS SCRIPT IMPORTANT?

On January 5, Tamil Nadu Chief Minister M.K. Stalin announced a $1-million prize for experts or organisations in the event of their success in deciphering the scripts of the Indus Valley Civilisation (IVC). He made the announcement at the inauguration of an international conference to mark the centenary of the IVC discovery, which was disclosed through an article published in September 1924 by the then Director-General of the Archaeological Survey of India (ASI) John Marshall. That the Chief Minister of a southern State in the country had made such an announcement was due to the possible Dravidian connection with the IVC. Notwithstanding the political dimension of the Dravidian concept, historians, archaeologists and linguistic scholars have been debating over the Dravidian hypothesis ever since the publication of Marshall's article.

How do scholars define the Indus Valley Civilisation (IVC)?

The IVC, also called the Harappan Civilisation, spanned 2,000 sites across 1.5 million sq. km. in the territories of modern-day India, Pakistan, and Afghanistan during the Bronze Age (3000-1500 BCE). It had a wider geographical area than the combined areas of its contemporary civilisations — Egyptian and Mesopotamian. Talking of the IVC's importance, Pakistan's veteran archaeologist Ahmad Hasan Dani, in the December 1973 issue of UNESCO Courier, observed that the Valley lies across "ancient migration routes from central and western Asia to India." The IVC introduced urban life for the first time in the valley when similar civilisations had developed on the banks of the Nile and the Tigris-Euphrates valleys.

Why is deciphering the Indus script important?

Other scripts encountered in the contemporary Mesopotamian and Egyptian civilisations had been deciphered in a more satisfying manner, But, the non-decipherment of the Indus script prevents scholars from providing a complete picture of Harappan culture, which is why scholars tend to call it a "mystery script."

What is the Dravidian hypothesis?

The Indus script carries proto-Dravidian references— this is the position of scholars including Suniti Kumar Chatterji, Father Heras, Yri Valentinovich Knorozov, Walter Fairservis, Iravatham

Mahadevan, Kamil Zvelebil, Krishnamurti and Asko Parpola — which can be found in the latest study on Indus signs and graffiti marks of Tamil Nadu.

The IVC "is non-Aryan and pre-Aryan," argued Mahadevan in his article published in The Hindu on May 3, 2009. Attributing "solid archaeological and linguistic evidence," the scholar, who passed away in 2018, emphasised that "the Indus script is a writing system encoding the language of the region (most probably Dravidian)". Ruling out Aryan authorship of the civilisation, he hastened to add that this did not automatically make it Dravidian. Yet, "there is substantial linguistic evidence favouring the Dravidian theory: the survival of Brahui, a Dravidian language in the Indus region; the presence of Dravidian loanwords in the Rigveda; the substratum influence of Dravidian on the Prakrit dialects; and computer analysis of the Indus texts revealing that the language had only suffixes (like Dravidian), and no prefixes (as in Indo-Aryan) or infixes (as in Munda)," Mahadevan wrote. As the Dravidian models of decipherment had still little in common except certain basic features, "it is obvious that much more work remains to be done before a generally acceptable solution emerges," according to him.

What does the latest work have to offer?

Commissioned by the Tamil Nadu government's State Department of Archaeology (TNSDA), the study, which is morphological in nature, reveals that nearly 90% of the graffiti marks found during excavations at archaeological sites in the State have parallels to those found in the Indus Valley Civilisation. "...the exact shapes and their variants found both independently and in composite forms vividly indicate that they were not accidental. It is believed that the Indus script or signs would have not disappeared without any trace[s], rather they would have transformed or evolved into different forms," concludes K. Rajan, formerly professor with Pondicherry University and academic-research advisor to the TNSDA, and R. Sivanantham, joint director in the department, who carried out the study.

Defining the terms "graffiti" and "script," the duo, in a monograph, explain that all the recognisable scratches engraved on the ceramics in south India and, to some extent, on Indus ceramics are identified as graffiti. The ones engraved on seals and other metal objects of the IVC are designated as script. Even though both were written by the same people, they were differentiated and documented as script and graffiti. "However, the extensive comparative study of graffiti marks and Indus scripts evidently suggests that both are undeciphered signs," the two scholars observe.

Which project has preceded the work?

The findings of a two-year-long project of the TNSDA, called 'Documentation and Digitisation of Graffiti and Tamili (Tamil-Brāhmī) Inscribed Potsherds of Tamil Nadu', have formed the basis of the monograph.

Aimed at documenting, compiling and analysing the graffiti bearing potsherds and Tamili inscribed potsherds unearthed in archaeological excavations of the State, the project, launched during 2022-23, seeks to compare those graffiti marks with the Indus script to explore whether any cultural relationship existed between the two.

The datasets from the project suggested that 15,184 graffiti-bearing potsherds were reported from 140 sites in the State and nearly 14,165 sherds were documented. Of them, nearly 2,107 signs had been morphologically categorised within a group of 42 base signs, 544 variants and 1,521 composites. Any additional strokes added to the base signs were considered variants of the base signs while a group of signs containing more than one base sign was regarded as a composite

sign. "Several signs encountered in Tamil Nadu had exact parallels in the Indus scripts. Likewise, some signs had near parallels. These signs probably evolved from the base signs. Out of 42 base signs and their variants, nearly 60% of them found their parallels in the Indus script," the document explains.

How has the question of cultural contact between the IVC and south India been explored by the work?

The monograph talks of a "possibility of cultural exchanges." Even though the occurrences of identical graffiti marks in south India suggest a kind of cultural contact, one needs more material evidence and tangible data to support or strengthen the view.

The recent chronometric dates indicate that when the Indus Valley experienced the Copper Age, south India experienced the Iron Age. "In this sense, the Iron Age of South [sic] India and the Copper Age of Indus are contemporary." If that is so, there is a "possibility of cultural exchanges either through direct or intermediate zones," the authors of the monograph point out.

The document goes on to state that the occurrence of a large number of carnelian and agate beads and high-tin bronze objects, particularly from Iron Age graves, give a clue about the contact, as carnelian, agate, copper and tin have to come from the north or elsewhere. Besides semiprecious stones and copper, a few more cultural items are required to prove the existence of contact "convincingly," the authors state, calling for future explorations, excavations, scientific investigations and historical linguistic analysis.

CHIDAMBARAM, DOYEN OF NUCLEAR PROGRAMME, NO MORE

Rajagopala Chidambaram, 88, former Chairman of the Atomic Energy Commission who was involved in both of India's nuclear tests in 1974 and in 1998, died in Jaslok Hospital in Mumbai on Saturday. He was the longest serving Principal Scientific Adviser (PSA) to the Indian government with a tenure from 2002 to 2018.

An atomic energy scientist who spent his whole career with the Department of Atomic Energy (DAE) and its affiliated agencies, Dr. Chidambaram was the nuclear scientist whose professional history was intertwined with the history of India's nuclear ambitions.

In 1974, he was part of an operation, codenamed 'Smiling Buddha', which was carried out in great secrecy as a "peaceful nuclear test" at Pokhran, Rajasthan. This made India the sixth country to test a nuclear device, though it invited condemnation, particularly from Canada and the U.S. The plutonium for the test came from the Cirus reactor at the Bhabha Atomic Research Centre in Mumbai, which was supplied by Canada, and heavy water from the U.S.

Operation Shakti

In 1998, as the Chairman of the Atomic Energy Commission, he led a similar operation, again at Pokhran, to detonate four nuclear fission and one nuclear fusion bomb on May 11 of that year. Called Operation Shakti, this was a more explicitly military test and invited international sanctions, and led to six nuclear tests by Pakistan in the same month. The second Pokhran test, which exploded bombs far more powerful than those in 1974, underlined India's credentials as a military nuclear power, but the denial of critical technologies needed for civilian programme has critics, to this day, debating its secondary impact. Nuclear sanctions following this were effectively lifted only after the Indo-U.S. civil nuclear deal championed by the then Prime Minister Manmohan Singh and U.S. President George Bush in 2008.

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A recipient of the Padma Shri (1975) and Padma Vibushan (1999), Dr. Chidambaram contributed significantly to condensed matter physics, nuclear energy, and strategic technologies. As Chair of the Scientific Advisory Committee to the Cabinet, he championed advancements in energy security, materials science, supercomputing, and nanotechnology, says a statement from the Office of the PSA.

His tenure as PSA saw the launch of several initiatives, including the Rural Technology Action Group (RuTAG), which empowered rural communities through innovative technologies; the Society for Electronic Transactions and Security (SETS) to contribute towards advancing India's cybersecurity and hardware security infrastructure," a press note from the Office of the PSA said.

VETERAN JOURNALIST, FILMMAKER, POET PRITISH NANDY DIES AT 73

Veteran journalist, poet, film producer and former Rajya Sabha MP Pritish Nandy died in Mumbai on Wednesday, just days shy of his 74th birthday on January 15.

Nandy, a Padma Shri awardee, died after a cardiac arrest at his home in south Mumbai and his last rites were performed in the evening, sources said.

Born in Bihar's Bhagalpur in 1951, Nandy pioneered The Illustrated Weekly of India, revitalising its form and content, and hosted the hugely popular The Pritish Nandy Show on Doordarshan, with his 1985 interview of singer Kishore Kumar known for being one of the rare few that opened up the artist.

Nandy spent nearly a decade at The Times of India in the 1980s and later founded a production company, Pritish Nandy Communications (PNC), which made films like Sur, Kaante, Jhankaar Beats, Chameli, Hazaaron Khwaishein Aisi and Pyaar Ke Side Effects. PNC also produced the web series Four More Shots Please! and Modern Love Mumbai.

Nandy was also known for his poetry, winning the Padma Shri for his contribution to literature in 1977. Nandy wrote around 40 books of poetry in English and translated poems from Bengali, Urdu and Punjabi into English.

Nandy received the EM Forster Literary Award, the UNESCO Asia Pacific Heritage Award, the International Association Award from the Humane Society of the United States, the Friends of Liberation War Honour from Bangladesh, and hundreds of award nominations for the films PNC has produced, from all over the world, said the company's website.

Though he spent much of his latter life in Mumbai, he dedicated one of his most popular poems, Calcutta If You Must Exile Me, to the city he used to live in.

SHORT NEWS

IRAQ, UAE GAIN AS INDIA'S RUSSIAN OIL IMPORTS SLIP TO 12-MONTH LOW IN DEC

India's crude oil imports from West Asia—specifically Iraq and the United Arab Emirates (UAE)—surged in December with Indian refiners looking to replace the shortfall in supplies from their largest source market Russia, which cut exports to meet heightened oil demand from its domestic refineries, shows an analysis of oil tanker data. Saudi Arabia, however, was unable to capitalise on the opportunity due to its barrels being priced higher than Iraqi and Emirati oil.

INDIA JOINS UN COMMITTEE ON BIG DATA FOR OFFICIAL STATISTICS

India has joined the UN Committee of Experts on Big Data and Data Science for Official Statistics (UN-CEBD), which underscores the country's growing stature in the global statistical community and highlights its commitment to leveraging data and technology for informed decision-making. The UN-CEBD was created to further investigate the benefits and challenges of Big Data, including the potential for monitoring and reporting on sustainable development goals India will contribute to shaping global standards and practices in harnessing Big Data and data science for official statistical purposes, the statement by Ministry of Statistics and Programme Implementation (MOSPI) said. India's engagement will highlight its pioneering initiatives, including the establishment of the Data Innovation Lab.

SC: WIFE CAN GET MAINTENANCE EVEN IF SHE DEFIES COHABIT DECREE

In a significant judgment, the Supreme Court has ruled that a woman can be given the right to maintenance even after she has not complied with the decree to cohabit if she has valid and sufficient reason to refuse to live with her spouse.

FUTURE OF JOBS REPORT 2025

— According to the Future of Jobs Report 2025, published by the World Economic Forum (WEF), about 170 million new jobs will be created by 2030, while 92 million are projected to be displaced. This results in 78 million net new jobs.

— Farm workers and drivers will figure among the fastest growing jobs over the next five years. However, the roles of cashiers and ticket clerks will see the largest decline.

— Technological advancements, demographic shifts, geoeconomic tensions, and economic pressures are the key drivers of these changes, reshaping industries and professions worldwide.

— Technology skills in AI, big data, and cybersecurity are expected to see rapid growth in demand, but human skills, such as creative thinking, resilience, flexibility, and agility, will remain critical.

— Frontline roles, including farm workers, delivery drivers, and construction workers, are poised to see the largest job growth in absolute terms by 2030. The fastest-growing skills by 2030 will include AI and big data, networks and cybersecurity, technological literacy, and creative thinking.

2024 GLOBAL WATER MONITOR REPORT

— The report was produced by an international team of researchers from universities in Australia, Saudi Arabia, China, Germany, and elsewhere.

— The water cycle involves water evaporating from the ground and sea, and eventually returning to the Earth as rain snow. Climate change has intensified this cycle as air temperatures soar, more water evaporates into the air.

— Warmer air can hold more water vapour — for every 1 degree Celsius rise in average temperature, the atmosphere can hold about 7% more moisture. This makes storms more dangerous as it leads to an increase in precipitation intensity, duration and/or frequency, which ultimately causes severe flooding across the world.

— As the rise in temperatures causes more evaporation, soils are drying out. And when the rain does arrive, most of the water runs off the hard ground into rivers and streams, and the soil remains dry.

— According to the report, in 2024, water-related disasters caused more than 8,700 fatalities, displaced 40 million people, and resulted in economic losses exceeding $550 billion globally.

— There were 38% more record-dry months in 2024 than for the baseline period (1995-2005).

— Rainfall records are being broken with increasing regularity. For instance, record highs for monthly rainfall were set 27% more often in 2024 than in the year 2000, and daily rainfall records were set 52% more frequently.

GRAMEEN BHARAT MAHOTSAV 2025

— Prime Minister Narendra Modi inaugurated the Grameen Bharat Mahotsav 2025 on 4th January at Bharat Mandapam, New Delhi.

— The Mahotsav was organised from 4th to 9th January, celebrating rural India's entrepreneurial spirit and cultural heritage. The theme of this year's event was 'Building a Resilient Rural India for a Viksit Bharat 2047,' with the motto "गांव बढ़े, तो देश बढ़े."

PRAVASI BHARATIYA DIVAS 2025

— The Pravasi Bharatiya Divas (PBD) is observed once every two years on January 9th. The 18th PBD 2025 was organised in collaboration with the State Government of Odisha from 08-10 January 2025 in Bhubaneswar, Orissa.

— It was celebrated under the theme, "The Diaspora's Contribution to a Viksit Bharat," with a considerable number of members of the Indian diaspora from over 50 different countries having registered to participate in the PBD Convention.

— The Pravasi Bharatiya Divas (PBD) Convention was created in 2003 by then-Prime Minister Late Shri Atal Bihari Vajpayee as a platform for recognising and engaging with the Indian population residing abroad.

— January 9 was chosen as the day to commemorate this milestone since it was on this date in 1915 that Mahatma Gandhi, the greatest Pravasi, returned to India from South Africa, led India's liberation war, and permanently transformed the lives of Indians.

— An award called the Pravasi Bharatiya Samman Award is given out as part of the programme. The award is to commemorate the contribution of the Indian diaspora to create a better understanding of India abroad, support India's causes and work for the welfare of the local Indian community.

PM-KISAN

— The Centre has made it mandatory for new applicants to obtain a farmer ID for enrolment into the Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) to get benefits under the scheme.

— Kisan Pehchaan Patra or farmer ID is an Aadhaar-like unique digital identity linked dynamically to the state's land records with information like demographics, crops sown, and ownership details.

— The database created through the farmer ID will be known as Farmer's Registry — one of the three registries under the Agri-Stack component of the Centre's Digital Agriculture Mission for the creation of digital public infrastructure in the farm sector, which was approved by the Union Cabinet last year.

— Under the PM-Kisan scheme, eligible farmer families receive Rs 6,000 per annum in three equated instalments (Rs 2,000 in each instalment) through Direct Benefit Transfer (DBT) every four months.

— The scheme was launched on February 24, 2019, just before the 2019 Lok Sabha elections. With 100 per cent funding from the Centre, the money is directly transferred to the bank accounts of the beneficiaries.

JARAWA TRIBES

— In a historic step, the Andaman and Nicobar Islands administration has enrolled and distributed voter ID cards to 19 members of the Jarawa community.

— The Jarawas are one of the indigenous tribes of the Andaman Islands, known for their semi-nomadic lifestyle, reliance on forest resources, and deep connection to their natural environment.

— They inhabit the western coasts of South and Middle Andaman Islands, a region rich in biodiversity that supports their traditional way of life.

GREEN CRABS

— Green crabs are an invasive species native to Europe. Sea otters are devouring thousands of green crabs at the Elkhorn Slough National Estuarine Research Reserve in California, helping save the ecosystem of the West Coast of the United States.

— Green crabs first arrived in North America in the 1800s, likely via the ballast water — fresh or saltwater held in the ballast tanks and cargo holds of ships — of merchant ships from Europe.

— Around the late 1980s, green crabs came to be seen as a threat to coastal ecosystems in the region.

— The Convention on Biological Diversity (CBD) defines invasive alien species (IAS) as "species whose introduction and/or spread outside their natural past or present distribution threatens biological diversity". These include animals, plants, fungi, and even microorganisms, and can influence all kinds of ecosystems.

SEA OTTERS

— Sea otters are devouring thousands of green crabs — an invasive species native to Europe — at the Elkhorn Slough National Estuarine Research Reserve in California, helping save the ecosystem of the West Coast of the United States, according to a new study.

— Once thought to be extinct, sea otters have rebounded along the coast, and have eaten so many crabs that they have locally solved a problem that has plagued the West Coast for years.

— Sea otters are a "super voracious predator" as unlike most marine mammals, they rely on a very rapid metabolism to stay warm in chilly oceans. Sea otters not only hunt green crabs but also sea urchins — small, spiky animals that can destroy entire forests of kelp, leaving behind deserts called urchin barrens.

—Sea otters are classified as endangered on the IUCN Red List due to habitat loss and pollution.

POLAR VORTEX

— At least five people have died in the United States after a winter storm hit a large swathe of the country over the weekend. The extreme weather has been caused by the expansion of the polar vortex southwards.

— The polar vortex is a large area of low-pressure and cold air that swirls like a wheel around both of the Earth's polar regions. There are two types of polar vortex: tropospheric and stratospheric.

— The tropospheric polar vortex occurs at the lowest layer of the atmosphere — it extends from the surface up to about 10 km to 15 km — where most weather phenomena occur.

— The stratospheric polar vortex occurs at around 15 km to 50 km high. Unlike the tropospheric polar vortex, the stratospheric polar vortex disappears during the summer and is the strongest during the autumn.

— The US, parts of Europe, and Asia experience chilly winds when the polar vortex at the North Pole weakens travel from its usual position. "As this system weakens, some of the cold, arctic air can break off and migrate south, bringing plenty of cold air with it. Areas as far south as Florida may experience arctic weather as a result," according to a report in the National Oceanic and Atmospheric Administration (NOAA) SciJinks.

US ENTITY LIST

— In a step towards operationalising the Indo-US nuclear deal Washington is finalizing steps to remove long-standing regulations including removing Indian government entities from the US entity list.

— The US Entity List is a list of foreign individuals, businesses, and organizations that are subject to export restrictions and licensing requirements for certain goods and technologies.

— The list — compiled by the Bureau of Industry and Security (BIS) of the U.S. Department of Commerce — is ostensibly used to prevent unauthorized trade in items that could be diverted to terrorism, weapons of mass destruction (WMD) programs, or other activities that are perceived by the US as going its foreign policy or national security interests.

INITIATIVE ON CRITICAL AND EMERGING TECHNOLOGY (ICET)

— The current trip of US National Security Advisor Jake Sullivan aims to strengthen the innovation alliance under the US-India initiative on Critical and Emerging Technology (iCET).

— The iCET was launched by Prime Minister Narendra Modi and US President Joe Biden in May 2022 to forge greater collaboration between India and the US in areas of critical technologies.

BRICS

— Indonesia has become a full member of BRICS. The group, which brings together major emerging economies, now consists of Brazil, Russia, India, China, South Africa, and Indonesia.

— Brazil, which holds the presidency of BRICS in 2025, said member states had unanimously approved Indonesia's membership during the 2023 BRICS summit in Johannesburg.

— However, Indonesia chose to finalise its membership after its presidential election in 2024, which saw President Prabowo Subianto take office in October.

RAT-HOLE MINING

— The bodies of three more men were recovered from the flooded rathole mine in Assam's Dima Hasao district on Saturday, five days after they got trapped.

— Rat-hole mining is a method of extracting coal from narrow, horizontal seams, prevalent in Meghalaya. The term "rat hole" refers to the narrow pits dug into the ground, typically just large enough for one person to descend and extract coal.

— Once the pits are dug, miners descend using ropes or bamboo ladders to reach the coal seams. The coal is then manually extracted using primitive tools such as pickaxes, shovels, and baskets.

— The National Green Tribunal (NGT) banned the practice in 2014, and retained the ban in 2015.

HEPATOCELLULAR CARCINOMA

— Hepatocellular carcinoma or HCC is a type of cancer where malignant cells grow in the liver's main cells, called hepatocytes.

— It accounts for the vast majority of liver cancer cases and is one of the leading causes of cancer deaths globally. According to available data, the incidence rate of hepatocellular carcinoma (HCC) in India for men "ranges from 0.7 to 7.5 and for women 0.2 to 2.2 per 100,000 population per year," said Dr Sheetal Mahajani, senior hepatologist and one of the pioneers of the liver transplant programme in Pune.

— Hepatocellular carcinoma is treated by transarterial chemo-embolization (TACE). This is a minimally invasive procedure that involves injecting chemotherapy drugs and particles that block blood supply to the tumour through a catheter. Once the particles block blood to the tumour, starving it of oxygen and nutrients, chemotherapy drugs reach it in higher concentrations for a longer period of time, which can kill more cancer cells.

V NARAYANAN

— The Central Government has appointed Dr V Narayanan, currently the director of Liquid Propulsion Systems Centre (LPSC), Thiruvananthapuram, as the new chairperson of the Indian Space Research Organisation (ISRO), and also as the secretary of the Department of Space.

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— Dr Narayanan started his career at the space agency in 1984 and has worked towards developing key technologies used in the launch vehicles of today, including the workhorse PSLV and the country's heaviest LVM3.

— LPSC, the center that Dr Narayanan was heading, is working towards developing the Next Generation Launch Vehicle (NGLV) — a heavier launch vehicle that would be needed for India's ambition of setting up its own space station and sending a man to the moon.

GENERAL JOSEPH AOUN

— General Joseph Aoun, a 60-year-old career soldier, has been elected president of Lebanon, filling a position that had been vacant for over two years. He is the fifth army commander in Lebanon's history to become president, and succeeds former President Michel Aoun, who is not related to him.

— During a year-long conflict between Israel and Hezbollah, Aoun kept the Lebanese military neutral. Despite the deaths of over 40 Lebanese soldiers in Israeli strikes, the army avoided direct engagement in the conflict.

THE RAM KATHA MUSEUM, AYODHYA

—Ram Katha Museum has been proposed at sangrahalaya (archives) building, 4 kilometres from the temple site on the occassion of the first anniversary of Ram mandir in Ayodhya.

— The museum, which will also showcase the findings from archaeological excavations to offer "concrete evidence of the temple's ancient roots", will span over 40,000 square feet and become the second-largest attraction in Ayodhya once completed.

— The project is in the concept and design stage, after which a detailed project report (DPR), including architecture drawings, will be finalised.

NATIONAL GAMES 2025

— Uttarakhand is set to host the 38th National Games from January 28 to February 14, 2025.

— The mascot, named "Mauli," is inspired by the Monal, the state bird of Uttarakhand, symbolizing the region's uniqueness and encouraging young athletes to aim high.

— The logo, also inspired by the Monal, highlights the natural beauty and diversity of Uttarakhand.

— The tagline for the Games is "Sankalp Se Shikhar Tak" (From Resolve to Zenith).

ARTESIAN AQUIFER:

According to the United States Geological Survey's website, an artesian aquifer refers to water stored under pressure, between layers of sediments and soil below the earth's surface. It is also described as "confined" water because of hardy materials above and below it.

BUSINESS & ECONOMICS

MIGRATION OF DATA TRANSMISSION SYSTEM LED TO GOLD COUNTING ERROR, SAYS GOVT

The commerce and industry ministry on Thursday said that the overestimation of gold import figures between April to November was a result of an error that took place due to migration of data transmission mechanisms and subsequent double counting of imports coming into special economic zones (considered foreign territory) and clearance to domestic zones.

• The explanation comes a day after the ministry revised the gold import figures for November lower by $5 billion to $9.9 billion from $14.8 billion narrowing the overall goods trade deficit for the month to $33 billion from $38 billion.

• "It was observed that due to migration of data transmission mechanism from Special Economic Zone (SEZ) to Indian Customs Electronic Gateway (ICEGATE), figures of precious metals needed revision as it was noticed as the system was calculating both imports into SEZ and subsequent clearance into Domestic Tariff Area (DTA) as separate transactions after the migration," the ministry said.

• The ministry said that DGCI&S receives trade data from over 500 locations and about 2.5 lakh transactions every day from different sea ports, land ports, airport and inland container depots and trade data from more than 100 SEZs was earlier captured by SEZ Online System and EXIM data for all other ports was captured by ICEGATE system.

• "The principal commodity level data, which have been uploaded recently at DGCIS Data Dissemination Portal, incorporates the first phase of reconciliations made till date. Revision has been done for trade figures from April 2024 to November 2024, which are made public in compliance to the regular publication cycle maintained as per international standard data dissemination norms," the ministry said.

• The revised data can be accessed through the Data Dissemination Portal of DGCIS. A committee has been formed with stakeholders from DGCIS, DG Systems (CBIC) and SEZs for creation of a robust mechanism for publishing consistent data, the ministry added.

Do You Know:

• The ICEGATE is the national portal of Indian Customs of the Central Board of Indirect Taxes and Customs (CBIC) that provides e-filing services to trade, cargo carriers and other trading partners electronically.

• The double counting which occurred on account of migration to ICEGATE has now been largely rectified, but the migration is still underway.

• Earlier all imports and exports by SEZs were recorded on an online system that was managed by NSDL and then from May it was decided to migrate this data to Indian Customs Electronic Gateway (ICEGATE) system for streamlined reporting.

• Due to the double counting the imports of the yellow metal was overstated by as much as $ 11.73 billion. Gold imports in April-November now stand at $ 37.35 billion from $ 49.08 reported earlier.

The deficit for April-November in goods trade would now come down to $ 190.69 billion from $ 202.42 billion reported earlier.

• A similar migration to a newer software in 2011 led to overstating of export numbers by $ 9 billion. The numbers were revised a month later.

• India's trade data compilation process starts with exporters and importers filing Shipping Bills (for exports) and Bills of Entry (for imports) through the Electronic Data Interchange (EDI) system at Customs. All the data comes to the server of ICEGATE. The data is verified and then transmitted to the Directorate General of Commercial Intelligence and Statistics (DGCIS) in real-time for compilation.

GROWTH CHILL

The National Statistics Office (NSO) has confirmed emerging fears about the economy's evidently sluggish trajectory through this year in its first Gross Domestic Product (GDP) estimates for 2024-25. While the election-focused first quarter hit public capital spending, the second quarter (Q2) was marred by weak demand and still underwhelming public capex, dragging GDP growth to a seven-quarter low of 5.4%. The Centre and the Reserve Bank of India (RBI), which were projecting that India would log a fourth year of 7%-plus growth, had pared their hopes to 'about 6.5%' and 6.6%, respectively. This was predicated on a bump-up of about 7% in the second half of the year to offset the first half's 6% rise. The NSO, slightly less sanguine, expects GDP to grow at a four-year low pace of 6.4%, from 8.2% in 2023-24, with just agriculture seen rising significantly faster than last year. Manufacturing and mining growth may virtually halve, and though services sectors seem relatively better off, there is some concern of momentum loss. Purchasing Managers' Indices averaged lower than Q2 through Q3, for both manufacturing and services. The NSO expects private consumption to rebound 7.3% this year from just 4% last year. But Q3 trends do not indicate a significant lift-off in urban demand. So, this could be a tad optimistic despite inflation easing slightly since October.

The Finance Ministry has sought to link the demand slowdown to a "combination of monetary policy stance and macroprudential measures by the central bank". Slow wage growth has also been blamed for cramped household demand. The NSO's projection of gross fixed capital formation growth slipping to 6.4% this year from 9% in 2023-24 indicates that private capex — that is contingent on domestic and global demand — remains weak while public capex goals are unlikely to be met. Of course, these early NSO projections are largely conjured up for informing the Union Budget formulation, and some upgrades may happen later, but most economists see significant downside risks for now. Nomura economists, for instance, who have been arguing that India is in the grip of a cyclical slowdown for a while, reckon growth will end up around 6%, implying a flat-lined second half. With the global outlook also shrouded in uncertainty, winter seems to be here for India's economy. How far behind spring lags will depend on policymakers' actions, and inactions. The Union Budget 2025-26 needs to move from incremental tinkering to tailoring reforms and fiscal actions that can bring India's growth back to the 7% mark, if not 8%, at the earliest. If that entails some hard calls such as slashing income, fuel and consumption taxes, along with import tariffs, so be it. Just pining for interest rate cuts will not suffice anymore.

THE CENTRE'S SHARE IN STATES' REVENUE HAS SURGED IN THE LAST DECADE

Over the last decade, States have been relying more and more on transfers and grants from the Centre.

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In the last decade (FY16 to FY25), 23-30% of the total revenue of States was collected from the Centre as transfers. However, in the 2000s and the first half of 2010, the share was 20-24%. Also, close to 65-70% of the non-tax revenue of States was collected from the Centre as grants in the last decade compared to the 2000s and the first half of the 2010s when the share was lower at 55-65%.

States have also not done enough to efficiently collect taxes to increase their own tax revenue. In addition, revenue from non-tax revenue, other than Central grants, has been diminishing.

The combination of these factors has meant that the dependency of States on Central funds has risen in recent years.

For over a decade now, States' own tax revenue as a share of their total revenue has remained considerably below the 50% mark, while in the 2000s and in the early 2010s, it had crossed the 50% mark for many years or remained close to it. Own tax revenue of States includes money raised through stamp duty, registration fees, motor vehicle tax, and other taxes, along with the State component in Goods and Services Tax (GST), or State GST (SGST).

Moreover, the share of non-tax revenue in States' total revenue is likely to go below the 24% mark in FY25 for the first time in the past 25 years. Non-tax revenue of States includes grants from the Centre, earnings from social, fiscal, economic, and general services rendered by the States, interest receipts, and dividends/profits from State public sector enterprises.

While the share of own tax revenue and non-tax revenue of States has reduced, the share of transfers from the Centre has increased (23-30% in the last decade compared to 20-24% in the 15 years before that).

Kausik K. Bhadra, PFM consultant, UNICEF, says, "While expenditure responsibilities have been rapidly spiralling, the nearly stagnant own tax revenue mobilisation impedes the States' counter-cyclical expansionary fiscal measures in a sustained manner to boost aggregate demand in the economy."

Mr. Bhadra adds that the share of own tax revenue in States' total revenue is largely driven by SGST. While SGST accounted for 15% of the States' total revenue in FY18, it currently makes up about 22%. Consequently, the share of own tax revenue, without the contribution from SGST, has declined from 34% to 28%.

This means that not only is the share of States' own tax revenue consistently below the 50% mark, but also an increasing share of it is derived from SGST. It is important to note that the SGST is earned based on rates set by the GST Council and these rates have remained a bone of contention. In the past, Finance Ministers of many Opposition-ruled States including Tamil Nadu, Kerala, and West Bengal have spoken out against the Council's decisions.

States' non-tax revenue includes the share of grants from the Centre, earnings from services, interest receipts, and dividends/profits from State public sector enterprises in the States' non-tax revenue. Interest receipts have not exceeded 5% of non-tax revenues in the last decade compared to the 2000s and first half of 2010 when it formed 5-9% of non-tax revenue. Moreover, the share of dividends and profits garnered from State public sector enterprises has remained under 1%.

Earnings from services rendered, such as public health (social service) and power (economic service), did not cross the 30% mark in the last decade. It is only estimated to cross the mark in FY25. Compare this to the 2000s and first half of 2010 when it crossed the mark for many years.

While the share of interest receipts and earnings from services has come down, the share of grants from the Centre has increased (65-70% in the last decade compared to 55-60% in the 15 years before that).

It is clear that the Centre is playing a major role in the revenue earned by the States. However, it is also true that many States are not efficiently collecting taxes using avenues at their disposal.

For Tamil Nadu, the own tax revenue to GSDP ratio has gradually declined from 7.72% in FY13-15 to 6.17% in FY 22-24. This has also been the case in Karnataka, Kerala, Bihar, Delhi, and Madhya Pradesh, too. While the ratio has risen in Maharashtra, Manipur, Meghalaya, Odisha, and Uttarakhand, it has remained stagnant in other States.

"Various States have undertaken a number of measures to improve tax collection from stamp duty, registration fees, and motor vehicle tax. This could likely be considered inadequate and sporadic efforts since these two taxes lack a high degree of technical efficiency according to a number of studies," Mr. Bhadra says.

He adds that "the own tax revenue mobilisation efforts at the State level seems to be falling short of upholding the redistributive macroeconomic implications of tax policies."

RBI ASKS CREDIT BUREAUS, BANKS TO PAY RS 100 COMPENSATION PER DAY FOR DELAY IN DATA UPDATION

With customers facing inordinate delays in data updation by credit information companies (CICs) and credit institutions (CIs) like banks and finance companies, the Reserve Bank of India (RBI) has directed them that complainants should be given a compensation of Rs 100 per calendar day in case their complaint is not resolved within a period of 30 calendar days from the date of the initial filing of the complaint by a customer with a CI or CIC.

Further, CIC should inform the customers by email or SMS when their credit information is sought by a bank or NBFC and banks should inform customers when they are in default.

Banks should pay compensation to the complainant if they have failed to send updated credit information to the CICs by making an appropriate correction or addition or otherwise within 21 calendar days of being informed by the complainant or a CIC, the RBI said.

"A CIC shall pay compensation to the complainant if the CIC has failed to resolve the complaint within 30 calendar days of being informed by the complainant or a CI, despite the CI having furnished the updated credit information to the CIC within 21 calendar days of being informed by the complainant or the CIC," RBI said in its Master Direction on Credit Information Reporting.

Currently, there are four CICs which are authorised by the RBI: TransUnion CIBIL, CRIF High Mark, Equifax and Experian.

MICROFINANCE DELINQUENCIES NEARLY DOUBLE TO OVER RS 28,000 CRORE IN A YEAR

India's microfinance sector is experiencing a notable rise in delinquencies, particularly in the top ten states, despite the banking sector's celebration of a 12-year low in non-performing assets (NPAs). Microfinance loans to low-income groups saw a significant surge in portfolio at risk (PAR) — loans with an overdue of 31-180 days — doubling to ₹28,154 crore by September 2024 from ₹14,617 crore a year ago.

• MFIs also cut down their exposure from `4.32 lakh crore to `4.14 lakh crore during the three months ended September 2024, CRIF report said.

• Several factors contributed to this decline in portfolio quality. MFIs were lending to over-leveraged borrowers and they were taking on too much debt, leading to repayment difficulties. Further debt-waiver campaigns by states and politicians to waive off debts have disrupted the repayment cycle. There was high field-staff attrition with frequent changes in field staff, affecting the quality of loan disbursal and collection.

• Elections and extreme weather conditions hindered loan recovery efforts. This rise in delinquencies may push up the credit cost for NBFC-MFIs, potentially impacting the microfinance sector's growth.

• The slowdown in the economy has also contributed to the indebtedness and stress in the microfinance sector. The Reserve Bank of India has set a common household limit of `300,000 for loans to qualify as microfinance. This limit applies to all entities in the microfinance sector.

Do You Know:

• All advances given by banks are termed "assets", as they generate income for the bank by way of interest or instalments. However, a loan turns bad if the interest or instalment remains unpaid even after the due date — and turns into a nonperforming asset, or NPA, if it remains unpaid for a period of more than 90 days.

LABOUR MINISTER'S EMPLOYMENT NUMBERS DO NOT TELL THE WHOLE STORY

Last week Union Labour Minister Mansukh Mandaviya sought to highlight the NDA government's job creation, drawing a comparison with the record on employment of the Congress-led UPA government. The total number of employed people in India increased from 47 crore in 2014-15 to 64 crore by the end of 2023-24, the minister said. That's an increase of 17 crore (or 36 per cent) — far in excess of the 2.9 crore new jobs (signifying an increase of just 7 per cent) during the preceding decade, 2004 to 2014, under UPA rule. He underlined that since 2017-18, the unemployment rate has fallen while the employment rate (or worker population ratio or WPR) as well as labour force participation rate have risen steadily. Minister Mandaviya has flagged overall improvements, and yet there are persisting reasons for disquiet.

It is true that India had more people with jobs in the decade 2014-2024 than between 2004-2014. But since absolute numbers must be read against total population size, it is best to look at the employment rate or WPR; the WPR for 15 years and above in this case is the percentage of people employed as a proportion of the total population. Here's how India's WPR moved over the past two decades: It was 62.2 per cent in 2004-05, which was the first full year under UPA rule. Since then, despite unprecedented rates of GDP growth, it fell to 55.9 per cent in 2009-10 and 54.7 per cent in 2011-12. The WPR continued to fall well into the first four years of the decade under the NDA to hit a low of 46.8 per cent in 2017-18. It is from this low level that the WPR started its steady upward climb and by the end of 2023-24 (July to June year), rose to 58.2 per cent. In other words, the dip and recovery in employment rate does not follow the neat political divide. Similarly, data on the labour force participation rate also shows a secular decline from 63.7 per cent in 2004-05 to 49.8 per cent in 2017-18, reversing the trend thereafter. Data on the unemployment rate (defined as the percentage of persons unemployed among persons in the labour force) shows that it actually fell between 2004-05 and 2011-12 before rising to a 45-year high in 2017-18.

Most notably, perhaps, the recent improvement in India's labour statistics hides the poor quality of the new jobs being created in the economy. For instance, the minister highlighted the fact that employment in India's agriculture sector had declined by 16 per cent between 2004 to 2014 under the UPA whereas it had grown by 19 per cent between 2014-2023 in Prime Minister Narendra Modi's first two terms. The increase in farm employment should be seen as a backward step — a move away from the structural transformation India has been trying to achieve since Independence. Similarly, the fact that most of the new jobs are in the low-paying "self-employment" category — especially as "unpaid helpers in household enterprises" — actually suggests deepening economic distress.

INCOME DISPARITY REDUCED IN FY23; TOP 10% STILL HOLDS LARGE SHARE OF NATIONAL INCOME'

After worsening in the aftermath of the Covid-19 pandemic in 2020-21, income inequality in India has reduced in 2022-23, suggesting effective post-pandemic recovery measures, a working paper released by the People Research on India's Consumer Economy (PRICE) showed.

• While economic growth has been achieved, income inequality has seen periods of both improvement and deterioration. The Gini index improved from 0.463 post-independence to 0.367 in 2015-16 but worsened to 0.506 by 2020-21 due to the Covid-19 pandemic, and then improved again to 0.410 in 2022-23.

• While the decline in the Gini index from 0.506 in 2020-21 to 0.410 in 2022-23 suggests improvement in income disparities, the paper flagged the concentration of wealth among the top income earners. Investments in education, healthcare, and infrastructure, particularly in rural areas, along with social safety nets and progressive taxation, are pivotal for ensuring that the benefits of growth are equitably distributed, the paper said.

• Despite a slight decrease to 30.6 per cent in 2022-23, the top 10 per cent still hold a significant portion of national income. For the bottom 10 per cent, the pandemic period saw their share drop to 1.1 per cent in 2020-21, the lowest point in the dataset, before a slight recovery to 2.4.per cent in 2022-23.

• India's economic journey reflects a "sea-saw" pattern of inequality, with periods of progress often countered by external disruptions or policy shortcomings, the paper said.

Do You Know:

• The Gini index measures the extent to which the distribution of income or consumption among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

• Social welfare schemes like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Direct Benefit Transfer (DBT), and financial inclusion initiatives have led to a slight increase in the income share of the bottom 50 per cent.

• The bottom 50 per cent, which includes labourers, traders, small business owners, and small and marginal farmers, saw their share of total household income rise from 15.84 per cent in 2020-21 to 22.82 per cent in 2022-23, even as it stayed lower than 24.07 per cent share in 2015-16.

• The income share of the middle 40 per cent rose to 46.6 per cent in 2022-23 from 43.9 per cent earlier. However, the Covid-19 pandemic in 2020-21 exacerbated existing inequalities, with the income share of the top 10 per cent rising to 38.6 per cent in 2020-21 from 29.7 per cent in 2015-16 due to digitisation and boom in sectors like technology and e-commerce during the pandemic even as the bottom 50 per cent struggled with job losses and economic instability, it said.

A JOURNEY TO VISIBILITY

S Irudaya Rajan, Kuldeepsingh Rajput Writes: Due to distress-driven high mobility, they face disenfranchisement, trafficking, lack of unionisation and poor access to public services, and are in urgent need of social protection. However, the e-Shram portal has merely been a 'registration drive' for workers — silent on their inclusion in social security.

• The Ministry of Labour & Employment (MoL&E) recently claimed that, with over 300 million workers registered, the e-Shram portal is the largest database of unorganised workers in the world.

• In view of the pathetic condition and exodus of migrant workers during the pandemic, the Supreme Court of India had directed the Union government to build a national database of workers. Subsequently, the e-Shram Portal was started by the MoL&E in May 2021 with the objective of creating a national database of this labour force.

• However, the need to maintain the data of migrants and unorganised workers was identified and recommended much earlier. For instance, the Interstate Migrant Workmen Act (1979) mandated that every labour contractor obtain a licence from the specified authority and provide the particulars of interstate workers employed to the authorities.

• In 2007, the National Commission for Enterprises in the Unorganised Sector insisted upon a universal registration system for migrant workers. The Unorganised Workers' Social Security Act (2008) also had a provision for registering workers and issuing an identity card to them. Unfortunately, these recommendations and legal provisions never received adequate attention and for years, migrants and workers remained largely invisible

• Due to distress-driven high mobility, these precarious migrants — mainly seasonal and circular workers — face unique and intense challenges such as disenfranchisement, stigma, trafficking, lack of unionisation, poor access to public services, etc.

• The MoL&E recently launched the 'One-Stop Solution' (OSS) to provide seamless access to different social security schemes to e-Shram registrant migrants and workers.

Do You Know:

• According to recent data, female workers comprise 53.59 per cent of all registered workers on the e-Shram platform. This trend is a positive sign, given the labour market has deep-rooted, gendered structural inequalities.

• A large proportion of unorganised workers are inter-state migrants.

• Migrant workers are not a homogeneous category — there is substantial socio-cultural, regional, demographic, and economic diversity.

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• e-Shram is a comprehensive National Database of Unorganised Workers (NDUW) launched by the Government of India under the Ministry of Labour & Employment. Its primary purpose is to facilitate delivery of welfare benefits and social security measures to unorganised sector workers across the country. The platform aims to register and provide identity cards to unorganised workers, enabling them to access various government schemes, benefits, and services more efficiently.

• Any worker who is a home-based worker, self-employed worker or a wage worker working in the unorganised sector and not a member of ESIC or EPFO, is called an unorganised worker.

WHAT IS 'BADGE ENGINEERING' IN CARS, HOW IT HELPS CUSTOMERS, AUTOMAKERS

Almost one in two cars sold by Toyota Kirloskar Motor over the past one year in India was a rebadged Maruti Suzuki product — which propelled Toyota to its best-ever wholesale figures and a more than 40% year-on-year growth in unit sales in FY24.

"Badge engineering" is proving to be an effective sales strategy for carmakers, and it is likely to remain popular in the new year. What is it, and why is it working so well for manufacturers such as Toyota and Suzuki in India?

Platform sharing, with tweaks

Badge engineering refers to the sharing of a platform or an entire vehicle by different car manufacturers, with at least one of them not needing to design or engineer a new model from scratch.

Thus, two differently branded cars can share the same platform, broad design cues, and the engine or parts of it, with perhaps some of the aesthetics tweaked to align with the design characteristics of the individual brands.

There are differences in aims and degrees — so, rebadging could produce completely different cars from the same platform, or maybe just swap badges with little else done to give each car a different or distinctive look.

For a century, from GM to Tata

One of the first documented cases of badge engineering dates back to 1909, when General Motors started sharing its chassis and platforms with all its different brands.

So GMC, which was traditionally identified as a truck builder, began to offer its products with Chevrolet bending on the hood — and vehicle platforms were progressively shared with the other GM brands including Oakland, Oldsmobile, Buick, and Cadillac. Exterior appearances were upgraded and interiors were spruced up for the premium brands such as Buick and Cadillac.

In India, the Hindustan Motors Ambassador was probably the earliest successful badge-engineered product, with a production life from 1957 to 2014. At its core, the good old Ambassador was a rebadged Series III Morris Oxford.

The Rover CityRover, marketed by the former British manufacturer MG Rover under the Rover marque from 2003-05, was a rebadged version of the Tata Indica.

While the Indica was a success in India, the souped-up Rover version was pummelled in the United Kingdom as a crude attempt to keep MG Rover out of bankruptcy.

The costs and the benefits

The auto industry is highly capital intensive, and economies of scale matter. By producing more of the same, companies can share costs and increase volumes, while keeping overheads low by spreading investments across models.

While most consumers know the cars are similar, they can base their buying decision on factors such as familiarity with a particular brand, the warranty on offer, or convenience of reaching a dealership. And carmakers can position themselves as builders of a premium product that costs more than the models they are generally associated with.

Companies also get the opportunity to widen their customer base in both directions — thus, Maruti Suzuki can reach the upward end of consumer segments, and Toyota Kirloskar can tap consumers at the lower end.

Maruti Suzuki can offer a Grand Vitara owner an upgrade to an Invicto premium utility vehicle — a rebadged Toyota Innova Hycross — which allows it to retain customers even as they move up the price bracket.

For Toyota, there is the option of offering customers multiple options in the lower-end segment, where it has traditionally struggled in India. With the Taisor and Glanza in Toyota showrooms, a Fortuner owner now has the option to buy a smaller second car.

The partnership also enables Toyota to offer cars kitted with the CNG option, a big draw in the utility vehicle segment.

While the Toyota-Maruti Suzuki twins are practically the same cars, the Toyota versions tend to be slightly more expensive. For instance, the Taisor is about Rs 22,000-25,000 costlier than the Fronx variants with the 1.2-litre petrol engine. The trims with the more premium 1.0-litre turbocharged engine are almost identically priced, however.

In the case of the Grand Vitara, Maruti sells more of the lower-priced mild hybrid variants, while Toyota sells higher volumes of the strong hybrids. Executives in both companies say this is not the result of a deliberate strategy, but is related more to the consumer-pull effect.

Collaborating, not twinning

The other type of cross-brand partnership involves collaboration at the platform level, when the cars are being developed.

In the Indian market, the Hyundai Creta and Kia Seltos have pretty close underpinnings, although they're not as alike as the Hyryder and Grand Vitara. The other example is the Hyundai Venue and Kia Sonnet.

The Hyundai-Kia cars have some similarities in their basic platforms and share some engines and gearbox options, but much of this collaboration is seeded at, and limited to, the early development stages. Thereafter, the two South Korean companies — Kia is a subsidiary of Hyundai — fiercely compete in the markets they are sold in.

Germany's Volkswagen and its Czech group subsidiary Skoda have had a similar partnership, visible in case of the VW Taigun and Skoda Kushaq, or VW Virtus and Skoda Slavia. In these models, while the basic platform may be shared or broadly similar, there are marked differences in parameters such as appearance, ground clearance, or the engines and gearbox options.

Limits and some lessons

While Toyota and Maruti Suzuki's brand engineering partnership has been a winner, others have struggled with it.

Renault and Nissan tried it, with the Terrano being offered as a badge-engineered Duster, and the Japanese company offering its Sunny as the Renault Scala. Both the Nissan Terrano and the Renault Scala flopped.

Some flagship models have been kept out of bounds — for instance, Suzuki has not shared the Swift or Jimny with Toyota, and the latter has not offered the Innova Crysta or Fortuner to its partner.

Badge engineering has been tried out across price segments as well.

The iconic British sports car maker Aston Martin put Toyota's city car iQ on the road in 2011. The Aston Martin Cygnet was a Toyota iQ with more bells and whistles, some cosmetic restyling, and a big jump in the price tag. Autocar UK recorded that the car sold very poorly, and Aston Martin has not attempted anything similar since.

The Audi 50 — the smallest Audi ever — was actually the first-generation VW Polo, which was interestingly launched even before the Polo's production had commenced. The Polo went on to win over customers across markets, while the Audi 50 was soon discontinued.

MICROSOFT UNVEILS $3-BILLION OUTLAY PLAN FOR INDIA TO BOOST AI, CLOUD INFRASTRUCTURE

Microsoft on Tuesday announced a $3 billion investment in India, marking its largest-ever expansion in the country.

The announcement, made by CEO Satya Nadella at a Microsoft AI Tour event in Bengaluru, underscores the tech giant's commitment to bolstering India's AI infrastructure and driving innovation in one of the fastest-growing digital markets.

The investment will be focused on building new data centres across India, enhancing Microsoft's computing capabilities and enabling cutting-edge AI solutions. The move comes at a time when several tech companies are experimenting with AI tools and agentic frameworks to streamline workflows.

The company's recent partnership with local enterprises, like Jio, further highlights the importance of the Indian market in the global race for AI dominance.

"India's unique combination of entrepreneurial energy, robust infrastructure, and demographic strength creates an unmatched environment for innovation," CEO Satya Nadella said at the event.

The company's initiative aligns with the country's rapid adoption of AI tools and platforms, empowering industries across healthcare, contract management, and knowledge work. In his key

note address, Mr. Nadella highlighted India as an AI powerhouse, noting that by 2028, the country's developers would be the largest community on GitHub. Project contributors from India are second on the platform after the U.S.

Mr. Nadella also showcased Microsoft's AI platform, Copilot, which integrates seamlessly into workflows, offering transformative capabilities to businesses. Copilot's applications, from automating tasks to facilitating complex decision-making processes, are expected to revolutionise productivity and efficiency in Indian enterprises.

"Infrastructure is the foundation for driving future innovation, and India is poised to lead the way," Mr. Nadella emphasised.

This investment announcement follows Microsoft's plan to invest $80 billion to build AI-enabled data centres in 2025. Over 50% of this spend will be made in the United States. During the event, Microsoft also announced a free tier of GitHub Copilot, launched in December.

The company emphasised its broader vision of integrating AI into products like Windows 365 and next-generation devices through collaborations with companies like Qualcomm, AMD and Intel.

LONG BEFORE JEJU AIR CRASH, SOUTH KOREA ROSE TO BE A ROLE MODEL OF AIR SAFETY

JEJU AIR crash in South Korea last week, the deadliest plane accident in years, has stunned the global aviation industry. The country is regarded as a model for how to turn poor air safety practices into some of the world's best.

• Around the turn of the century, South Korea began an immense project to over haul its aviation safety practices, drawing on the experiences of other countries including the United States. By 2008, South Korea had earned one of the world's highest scores in a safety audit conducted by the International Civil Aviation Organisation. At the time of the crash, it was considered one of the safest countries for flying.

• Air safety experts cautioned that it was premature to speculate about what caused the crash December 29 of Jeju Air Flight 7C2216, in which 179 of the 181 people on board died. It was Jeju Air's first fatal crash in its two-decade history, and the worst ever on South Korean soil.

• In the United States, the FAA specifies that runway safety areas at most large airports should extend 1,000 feet beyond the runway's end and 500 feet on the sides.

• The International Civil Aviation Organization, a United Nations agency that sets global safety standards, recommends a Standard buffer zone of about 180 to 300 meters (591 to 984 feet) from the end of the runway and ones on the sides at least twice the width of the runway.

• Any structures within these zones should be "frangible," meaning they must be able to break or give way to minimize damage in the event of a crash.

• At Muan Airport, the hard, concrete structure, surrounded by a mound of dirt, sits approximately 250 meters, or 820 feet, from the runway's end, according to local officials. A series of deadly Korean Air crashes more than two decades ago helped spur South Korea to reassess its aviation safety protocols and rebuild with much higher standards.

• In response, Korean Air began new efforts to improve its safety record. It brought in specialists from Delta Air Lines and Boeing to help revamp training and other practices. Korean Air also invited the Flight Safety Foundation, based in Virginia, to take a look at its operations.

Do You Know:

• Three decades ago, South Korea had a dismal record of air safety. Its flagship airline, Korean Air, experienced several deadly crashesinthe1980s and 1990s.In 2001, the US Federal Aviation Administration downgraded South Korea's air safety rating for failing to meet international standards.

• Nearly 180 people died after a plane crashed as it was landing in South Korea on the morning of Sunday 29 December. The twin-engine Boeing 737-800, arriving from Bangkok, had 175 passengers and six crew members onboard. Only two, both cabin crew members, survived the deadliest air crash in South Korea.

• The International Civil Aviation Organization (ICAO) is a United Nations agency which helps 193 countries to cooperate together and share their skies to their mutual benefit. Since it was established in 1944, ICAO's support and coordination has helped countries to diplomatically and technically realize a uniquely rapid and dependable network of global air mobility, connecting families, cultures, and businesses all over the world, and promoting sustainable growth and socio-economic prosperity wherever aircraft fly.

• The safety management Standards and Recommended Practices (SARPs) are intended to assist States in managing aviation safety risks, in coordination with their Service Providers.

LIFE & SCIENCE

DINOSAUR HIGHWAY: WHERE DINOS WALKED

In 1997, workers at the Dewars Farm Quarry revealed more than two score dinosaur footprints, some of them extending for more than 180 metres. Further studies revealed the footprints were from the Jurassic period.

Recently, on January 4, a team of more than a hundred scientists from the University of Birmingham and the University of Oxford announced the discovery of more than 200 footprints in the same quarry. In June last year, a quarry worker had stumbled upon "unusual bumps," as he called them, when he was digging for clay. After he reported them, the scientists got together and found that the footprints were from 166 million years ago — the Middle Jurassic period.

The team found five trackways — or series of footprints — in all. They said four were created by sauropods (long-necked herbivores) called cetiosaurus and one by a carnivore called megalosaurus. Analysis by the team suggested all the animals had been walking, not running, at the (possibly different) times the prints were made.

The megalosaurus footprint is particularly serendipitous because 2024 was the 100th year of its study. In 1824, a megalosaurus fossil became the first dinosaur fossil to be unearthed and examined in detail by the British theologian and geologist William Buckland.

limestone quarry in Oxfordshire in the UK has come to be called a "dinosaur highway" for the number of footprints of the long-lost giants scientists have discovered there.

HOW CURIOSITY-DRIVEN RESEARCH INTO A WORM WON FOUR NOBELS

Victor Ambros and Gary Ruvkun won the 2024 Nobel Prize in Physiology or Medicine for discovering microRNAs and their role in controlling gene expression. This pioneering discovery was made using the roundworm Caenorhabditis elegans. This 1-mm long, slender, and transparent nematode has been the star of many pathbreaking discoveries in biology, four of which have won Nobel Prizes.

How did C. elegans, a tiny invertebrate, become such a crucial tool for biological research? What insights did this worm yield? What is the value of such research for society when one can argue that our focus should be on studying human biology?

Advances necessary for human health and welfare often arise from solving fundamental biological problems. One major difficulty isn't just finding the right question to ask but also finding the right place to ask it where it can be solved. C. elegans provides exactly such a setting: a relatively simple yet versatile model for biological investigations whose results often reveal general principles that remain valid or have parallels in other organisms, including humans.

The worm's story also highlights how breakthroughs can arise from research driven by curiosity.

Humble beginnings

In 1963, biologist Sydney Brenner wrote to his peer Max Perutz his thoughts on research in the fields of development and neurobiology. He believed that as the nature of problems in these areas

wasn't clearly defined, there was a gap in identifying the right experimental approach that would lead to "defining [the] unitary steps of any given process."

Brenner suggested the use of genetic analysis in defining these steps in both animal development and the nervous system. He chose the nematode C. elegans for its simplicity and because it has several organ systems akin to those found in humans, allowing a chance to identify principles in development.

In 1963, Brenner requested another scientist, Ellsworth Dougherty, for a culture of C. elegans and sought his guidance on its growth conditions. This culture of sharing resources and unpublished information continues to this day.

Cell death

Brenner shared the 2002 Nobel Prize for medicine with H. Robert Horvitz and John Sulston "for their discoveries concerning genetic regulation of organ development and programmed cell death." In his award ceremony, Brenner said, "Without a doubt, the fourth winner of the Nobel Prize this year is Caenorhabditis elegans: it deserves all of the honour, but, of course, it will not be able to share the monetary award."

Brenner established C. elegans as a genetic model and demonstrated that genes in the worm could be mutated, resulting in observable changes in development and behaviour.

In 1976, Sulston elucidated the cell lineage of C. elegans, which is the developmental history of all cells of this nematode. He tracked cell divisions from the fertilised single cell to the final 959 cells in the adult organism. This was possible because of the worm's transparency but nonetheless was a daunting task.

Sulston showed that precisely 131 of the 1,090 cells born died during development and that cell death was genetically controlled. He described the steps involved in programmed cell death, where healthy cells killed themselves.

Horvitz identified the genes essential for cell death and the genes that prevented it. He found that the process of cell death arose from interactions among key genes and followed a specific molecular pathway.

His team's work in C. elegans showed that many genes involved in cell death also have counterparts in humans. Thus, research in C. elegans was particularly important in advancing understanding of the role of programmed cell death in human development, e.g., of fingers, the nervous system, and in some cancers.

Ageing and genome sequencing

Work in C. elegans also revealed insights into the pathways that regulate ageing. The early work of Michael Klass, Tom Johnson, and Cynthia Kenyon in the 1980s and 1990s identified some of the genes leading to longer lifespans than seen in normal worms. Further work in this direction led to the appreciation of the role of insulin signalling pathways in ageing. This has led to C. elegans being used as a key model for discovering the molecular mechanisms of ageing and as a test bed for drugs that might influence this process.

The genomic information of any organism is invaluable in linking the observable characteristics to a particular gene. Sequencing the C. elegans genome started in 1990 and was an exemplar for

the larger Human Genome Project. The whole genome sequence of C. elegans was carried out by a consortium working together across continents. It was led by Robert Waterston at the Genome Sequencing Center at Washington University, U.S., and Richard Durbin at the Sanger Centre in the U.K.

The technology and the software tools developed to sequence the C. elegans genome led the way in achieving the scale and efficiency critical to sequencing larger genomes.

It was debated if human whole-genome sequencing data should be publicly available, as private sequencing efforts wished to patent some of the genes. The open sharing of C. elegans data and community feedback provided a model for the public human genome sequencing effort.

Gene silencing

A geneticist's dream is to control gene expression, which is the ability to turn genes "on" or "off" in a controlled manner. Andrew Fire and Craig Mello discovered using C. elegans that providing double-stranded RNA could lead to destruction of a much larger amount of the corresponding cellular RNA, suggesting double-stranded RNA was a catalyst for RNA interference. For their work, Fire and Mello jointly received the 2006 Nobel Prize for medicine.

The discovery of RNA interference led to technologies for a highly specific approach to gene-silencing that work in all known organisms. They also have applications in therapeutics for cancer and some inherited gene disorders.

Glowing worms

A dream of biologists is to track biological processes and gene products in living cells. The green fluorescent protein (GFP) revolutionised our ability to do this. How this came about is another success story of curiosity-driven research.

Osamu Shimomura was trying to understand why jellyfish are fluorescent. In the 1960s, he identified bioluminescent proteins like GFP from the jellyfish Aequorea victoria. In 1994, Chalfie was able to introduce GFP into live C. elegans. The transparency of the organism meant he could see green glowing cells when the organism was illuminated by blue light.

GFP was soon widely used in many organisms and has transformed biological research. Together with Roger Tsien's success in making fluorescent proteins of multiple colours, scientists today can follow multiple processes and proteins simultaneously in a variety of organisms.

Shimomura, Chalfie, and Tsien received the 2008 Nobel Prize in chemistry for developing GFP.

The microRNA prize

The discovery of microRNAs (miRNA) challenged the central dogma, which said RNAs were mere conduits of information that flowed from DNA to proteins.

miRNAs are a class of molecules that turn off gene expression at the right time and place. This fundamental advance, which won Victor Ambros and Gary Ruvkun a Nobel Prize in 2024, is another example of an unexpected finding arising from curiosity. The duo discovered in C. elegans that miRNAs could bind corresponding cellular RNAs to reduce protein expression.

It is established that gene regulation by miRNAs is an essential process during development and for organisms to have normal physiological processes. There is increasing recognition of the value of miRNAs in diagnostics and therapeutics as well.

A prize for neuronal circuits

C. elegans has just 302 neurones, yet exhibits complex behaviour. Thus it offers a promising model to study a nervous system simple enough to analyse while still yielding valuable lessons about general principles.

Naturally, a useful step is to build a layout of all its neurones. Brenner began such a reconstruction of the C. elegans nervous system in the 1970s. It was a formidable challenge, never attempted before. John White, Brenner's PhD student, set up a computer system for neuron reconstructions from electron micrographs. He stayed on after his PhD to reconstruct the C. elegans connectome, a map of all neuronal connections.

This was well before sophisticated tools were available and was the first such effort for any organism. The connectome immediately opened the door to questions about how neural circuits function. For example, in the 1980s, Chalfie used laser-based neurone-killing experiments to determine the circuit for the escape response to touch.

Holding promise

We can ask questions about the relationship between the genetics of neural circuits and behaviour. The answers, when we can find them in specific contexts, are difficult to obtain, extremely complex, and yet vital for our understanding.

Cornelia Bargmann won the 2013 Breakthrough Prize in Life Sciences for her research on the olfactory system of C. elegans. The sense of smell is very important for many organisms. C. elegans has a large number of olfactory receptors and uses complex machinery to sense smells and respond, adapt, and learn.

Bargmann took on this complex problem and unearthed remarkable insights in all these aspects through elegant experiments. She identified smell neurones in C. elegans. Her lab also showed that despite there being a fixed template for sensing attractive and repulsive cues, individual genetic variation and an ability to integrate environmental cues allowed the olfactory circuit to be very flexible as well.

Many of these findings also hold true in organisms like mice, with promise for understanding the human brain.

HEART REPAIR

How are zebrafishes able to repair damaged hearts?

Unlike humans, zebrafish grow new heart muscle cells: they have a regenerative capacity. When a zebrafish heart is damaged, it can fully restore its function within 60 days. Researchers have discovered that the protein Hmga1 plays a key role in heart regeneration in zebrafish. The Hmga1 gene is present in mice and humans too, and the Hmga1 protein is important during embryonic development when cells need to grow a lot. However, after embryonic development, the gene for this protein is turned off in mice and humans. The researchers discovered that Hmga1 in zebrafish removes molecular 'roadblocks' on chromatin, which is the structure that packages DNA. When it

is tightly packed, genes are inactive. When it unpacks, genes can become active again. The Hmga1 protein clears the way allowing dormant genes to get back to work. While in human hearts, as in adult mice, the gene for the Hmga1 protein is not active after a heart attack, in zebrafish the gene for the Hmga1 protein is active during heart regeneration.

LIPASE INHIBITORS CAUSE MOSQUITO STERILITY, STUDY SHOWS

As per a study published recently, the development of *Plasmodium falciparum*, which causes malaria, can be severely impacted when the lipid transport by lipophorin (Lp) in *Anopheles gambiae* mosquitoes is targeted. The study found that exposing adult female mosquitoes to broad-spectrum lipase inhibitors prior to an infectious blood meal can induce mosquito sterility. Impairing the breakdown of the stored fat in the mosquitoes can be lethal for the embryos. When lipolysis is impaired, the embryos develop normally during early embryogenesis but fail to hatch due to severely impaired metabolism. This is because lipoproteins, particularly lipophorin and the yolk protein vitellogenin (Vg), which transports approximately 5% of lipids within oocytes, are essential for egg development. The results were published in the journal *PLOS Biology*.

The authors demonstrated that the maternal lipolytic machinery in the mosquitoes plays a key role in shaping the development and survival of progeny. Silencing triglyceride lipase or lipid storage droplet of the mosquitoes significantly disrupts the progeny's energy metabolism, which stops embryos from hatching and results in embryonic death. Treating adult females with orlistat, a broad-spectrum hydrolase inhibitor, mimics the effects of silencing triglyceride lipase, causing death of embryos. "These data provide a proof of principle that targeting lipolysis can aid mosquito control and increase our understanding of the importance of lipid metabolism during pregnancy and embryonic development," the authors write.

To determine the role of triglyceride mobilisation in *An. Gambiae* reproduction, the authors silenced the expression of triglyceride lipase. This resulted in a reduction in the number of eggs laid by the mosquitoes compared with controls. When triglyceride lipase is silenced, the glyceride levels in midguts and fat bodies tend to increase, while there was a large drop in glyceride levels in ovaries by the end of 24 hours. As seen in oocytes, embryos from triglyceride lipase-depleted mosquitoes had low levels of glyceride. Due to depleted glyceride levels, only a handful of larvae emerged from eggs.

Even the metabolic profiles of the embryos from triglyceride lipase-depleted mosquitoes were strikingly different. While the controls showed a steady increase in major metabolites over time, the embryos of triglyceride lipase-depleted mosquitoes had significantly reduced levels of most of these metabolites.

"While changes in lipid and metabolite composition started early during embryogenesis, we observed limited differences in the transcriptional profile of the two groups at the two earlier time points. However, by 38 hours post oviposition, there were large differences in the triglyceride lipase-depleted group characterised by hundreds of up- and down-regulated genes," the authors write. "This reveals that maternal triglycerides are essential for driving key metabolic processes during embryogenesis, such that when these lipids are limiting, embryos cannot complete development."

Since mosquitoes absorb insecticides and sterilising compounds through their legs when they land on bed nets coated with these ingredients, as in the case of pyriproxyfen nets, the authors tested the delivery of lipase inhibitors by allowing mosquitoes to rest on a surface coated with

lipase inhibitor orlistat before blood feeding. As tested in the lab, the number of larvae emerging from eggs was drastically reduced in a dose-dependent manner in field settings.

"The data reveal that the development of Anopheles-specific lipase inhibitors may represent a promising tool for field interventions aimed at reducing the size of field mosquito populations," they write.

EXTREME RAINFALL, FEROCIOUS FLOODS: HOW CLIMATE CHANGE IS AFFECTING EARTH'S WATER CYCLE

Climate change has been "wreaking havoc" on Earth's water cycle by disrupting how water circulates between the ground, oceans and atmosphere, according to a new report. This has led to extreme precipitation, ferocious floods and droughts, which affected billions of people across the world in 2024.

• The water cycle involves water evaporating from the ground and sea, and eventually returning to the Earth as rain snow. Climate change has intensified this cycle as air temperatures soar, more water evaporates into the air.

Do You Know:

• The water cycle is the constant movement of water in all its phases — solid, liquid and gas — on the ground, inside the ground and in the atmosphere.

—Most water cycles through the planet because of the energy from the Sun and changes in temperatures. For instance, water on the ground or in bodies of water escapes into the atmosphere as water vapour through a process called evaporation.

—Some water is taken up by plants from the soil and released as water vapour, a process known as transpiration.

—Water vapour eventually condenses into clouds, and later falls as precipitation in the form of rain or snow.

—Precipitation enters the ice caps, oceans, lakes, rivers, or glaciers, and can be absorbed by plants, or seep into soil or deeper into the ground. After this, the water cycle starts again.

The report found that:

—In 2024, water-related disasters caused more than 8,700 fatalities, displaced 40 million people, and resulted in economic losses exceeding $550 billion globally.

—There were 38% more record-dry months in 2024 than for the baseline period (1995-2005).

—Rainfall records are being broken with increasing regularity. For instance, record highs for monthly rainfall were set 27% more often in 2024 than in the year 2000, and daily rainfall records were set 52% more frequently.

—Last year, most of the world's dry regions experienced ongoing low values of the terrestrial water storage (TWS) — the sum of all water on the continents, including soil water, groundwater and surface water, as well as snow and ice. However, the values increased in western, Central and Eastern Africa.

—In 2025, droughts could worsen in northern South America, southern Africa, and parts of Asia. Wetter regions such as the Sahel and Europe may witness increased flood risks.

THE LATEST SCIENCE ON CLIMATE CHANGE

After another record-breaking year for global temperatures in 2024, pressure is rising on policymakers to step up efforts to curb climate change. The last global scientific consensus on the phenomenon was released in 2021, but scientists say evidence shows the effects of global warming are unfolding faster than expected.

Here is some of the latest climate research.

The world may already have hit 1.5 degrees C of warming above the average pre-industrial temperature — a critical but also arbitrary threshold beyond which it is at risk of irreversible and extreme climate change, scientists say.

A group of researchers made the suggestion in a study released in November based on an analysis of 2,000 years of atmospheric gases trapped in Antarctic ice cores.

Scientists have typically measured today's temperatures against a baseline temperature average for 1850-1900. By that measure, the world is now nearly 1.3 C warmer.

But the new data suggests a longer pre-industrial baseline, based on temperature data spanning the year 13 to 1700, which put warming at 1.49 C in 2023, the study published in Nature Geoscience said.

The Atlantic Meridional Overturning Circulation (AMOC), which transports warm water from the tropics to the North Atlantic, has helped to keep European winters milder for centuries. Research in 2018 showed AMOC has weakened by about 15% since 1950, while research published in 2024 in the journal Science Advances suggested it could be closer to a critical slowdown than previously thought.

In addition, with the world in the throes of a fourth and the largest mass coral bleaching event, scientists fear the world's reefs have passed a point of no return.

Ocean warming is causing storms to intensify faster, with some leapfrogging strength categories in just hours.

Likewise, global warming is drying waterways and sapping moisture from forests, creating conditions for bigger and hotter wildfires. Research published in October in Nature Climate Change calculated that about 13% of deaths associated with toxic wildfire smoke during the 2010s could be attributed to the climate effect on wildfires.

The Amazon in 2024 was in the grip of its worst, most widespread drought since records began in 1950. River levels sank to all-time lows while fires ravaged the rainforest. That added concern to findings last year that 10-47% of the Amazon will face combined stresses of heat and drought by 2050.

That could push the Amazon past a tipping point, with the jungle no longer able to produce enough moisture to quench its own trees, at which point the ecosystem could transition to degraded forests or sandy savannas.

Globally, forests appear to be struggling. A July 2024 study found that forests overall failed to absorb the year before as much carbon dioxide from the atmosphere as in the past.

Scientists fear climate change could even boost volcanic eruptions. In Iceland, volcanoes appear to be responding to rapid glacier retreat. As ice melts, less pressure is exerted on the earth's crust and mantle.

2024 WAS THE FIRST YEAR TO BREACH GLOBAL WARMING LIMIT, SHOW DATA

Humanity has stepped into a future that climate scientists for decades have warned about. Temperature data made public on Friday by the Copernicus Climate Change Service (C3S), an authoritative source on historical trends in climate, show that 2024 was the first year in history when mean global temperature went 1.5 degrees Celsius above the pre-industrial level.

Annual climate conferences, or the Conference of Parties convened by the United Nations, are about getting world leaders to agree on measures to curb emissions to keep temperatures from going over 2 degrees Celsius above the temperature in the 1850-1900 pre-industrial period and "as far as possible" keeping it below 1.5 degrees Celsius.

Consistent rise

The way climatological boundaries are determined, a single year in the red doesn't by itself spell catastrophe. Only when temperatures consistently breach the 1.5 degrees Celsius mark for a decade or two would a boundary considered to have been breached. However, experts say that given the high rate of carbon emissions at present, the 2024 temperatures represent a point of no return.

"While there may be year to year variability, an El Nino in some years or a major volcanic eruption in others might influence temperatures, this suggests that there is no going back and that we are on a trajectory on exceeding 2 degrees Celsius by 2050," Roxy Mathew Koll, climate scientist, Indian Institute of Tropical Meteorology, Pune, told *The Hindu*.

At an average temperature of 15.1 degrees Celsius, 2024 was the warmest year in global temperature records, which go back till 1850, and was 0.72 degrees Celsius above the 1991-2020 average. It was 0.12 degrees Celsius above the average of 2023, the previous warmest year on record. It was also 1.6 degrees Celsius above an estimate of the 1850-1900 temperature designated to be the 'pre-industrial' level. Each of the past 10 years (2015–2024) was one of the 10 warmest years on record.

For 11 months in 2024, the monthly global average temperature exceeded 1.5 degrees Celsius above pre-industrial levels.

In 2024, the annual average sea surface temperature (SST) over the extra-polar ocean reached a record high of 20.87 degrees Celsius, 0.51 degrees Celsius above the 1991-2020 average.

The average extra-polar SST was at record high levels for the time of year from January to June 2024. From July to December 2024, the SST was the second warmest on record for the time of year, after 2023.

Among the reasons for the record-breaking temperatures in 2024 was the El Nino, which is warming of the Central Equatorial Pacific, that began in June 2023 with effects lasting well into 2024.

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR

Telegram: http://t.me/DreamIAS_Jamshedpur

'Serious implications'

"A single year with temperatures 1.5°C above pre-industrial levels does not mean we've reached 1.5°C of global warming. However, it does mean we're getting dangerously close. Every fraction of a degree — whether 1.4, 1.5, or 1.6°C — brings more harm to people and ecosystems, underscoring the continued need for ambitious emissions cuts," Professor Joeri Rogelj, Director of Research at the Grantham Institute – Climate Change and Environment, Imperial College London, said in a statement.

Other experts referred to the latest, failed talks at Baku, Azerbaijan, where countries couldn't bring themselves to agree on a financial package that would realistically account for the costs of mitigating runaway carbon emissions.

"The year on year increase in average global temperature has serious implications for developing economies reeling under frequent climate disasters. This, coupled with the failure of COP29 to deliver on meaningful finance, only implies that developing economies will have to allocate more funds to deal with climate impacts and disasters in the future. Mitigation ambition of the developing world would be hit hard, unless fast and meaningful action happens on the carbon markets front," said Vaibhav Chaturvedi, Senior Fellow, Council of Energy, Environment and Water (CEEW).

OIL COMPANIES BACKTRACK ON RENEWABLES

Major European energy companies doubled down on oil and gas in 2024 to focus on near-term profits, slowing down — and at times reversing — climate commitments in a shift that they are likely to stick with in 2025.

The retrenchment by oil majors comes after governments around the world slowed the rollout of clean energy policies and delayed targets as energy costs soared following Russia's full-scale invasion of Ukraine in 2022.

Big European energy companies that had invested heavily in the clean energy transition found their share performance lagging U.S. rivals Exxon and Chevron, which had kept their focus on oil and gas.

Against this backdrop, the likes of BP and Shell this year sharply slowed their plans to spend billions on wind and solar power projects and shifted spending to higher-margin oil and gas projects.

BP, which had aimed for a 20-fold growth in renewable power this decade to 50 gigawatts, announced in December it would spin off almost all its offshore wind projects into a joint venture with Japanese power generator JERA.

Shell, which once pledged to become the world's largest electricity company, largely stopped investments in new offshore wind projects, exited power markets in Europe, and China and weakened carbon reduction targets.

"Geopolitical disruptions like the invasion of Ukraine have weakened CEO incentives to prioritise the low-carbon transition amid high oil prices and evolving investor expectations," Rohan Bowater, analyst at Accela Research, told Reuters. He said BP, Shell, and Equinor reduced low-carbon spending by 8% in 2024.

Shell said it remained committed to becoming a net zero emissions energy business by 2050 and continues to invest in the energy transition.

Equinor said: "The offshore wind segment has been through demanding times in the last couple of years due to inflation, cost increase, bottlenecks in the supply chain, and Equinor will continue to be selective and disciplined in our approach."

BP did not respond to a request for comment.

The oil companies' retrenchment is bad news for efforts to mitigate climate change. Global heat-trapping carbon emissions are forecast to climb to a new high in 2024, which will be the warmest year on record.

And 2025 is shaping up to be another tumultuous year for the $3 trillion energy sector, with climate-sceptic Donald Trump returning to the White House. China, the world's biggest crude oil importer, is trying to revive its faltering economy, potentially boosting oil demand.

Europe faces continued uncertainty over the war in Ukraine and political turmoil in Germany and France.

All those tensions were laid bare at the annual United Nations climate conference in Azerbaijan in November, when the host country's President Ilham Aliyev hailed oil and gas as "a gift from god."

That summit yielded a global climate finance deal but disappointed climate advocates who had hoped governments would coalesce around a phase-out of oil, gas, and coal.

WHAT IS THE HUMAN META- PNEUMOVIRUS?

China's diseases control authority said that it was piloting a monitoring system for pneumonia of unknown origin. The country was already witnessing an upward trend in overall infections as of mid-December, and is expecting to see more respiratory infections in the winter and spring. One of the pathogens that was detected, especially among people under the age of 14, was human metapneumovirus. Subsequently, posts showing crowds of people in what looked like Chinese hospitals appeared on social media along with statements about China declaring an emergency over the virus. So far, there has been no such declaration.

What is human metapneumovirus?

Human metapneumovirus (HMPV) is a respiratory virus that causes mild infections similar to that caused by a common cold. First identified by scientists in 2001, the virus belongs to the Pneumoviridae family, of which respiratory syncytial virus (RSV), measles and mumps are also members. HMPV can cause both upper and lower respiratory tract infections and is generally seen in winter and early spring. Children, the elderly and those with weakened immune systems are more susceptible to the infection and to developing complications from it. The symptoms of HMPV can resemble those caused by a common cold. They include a cough, runny or blocked nose, sore, throat, fever and wheezing. The estimated incubation period is three to six days. In most people, the illness goes away on its own within a few days, with rest and supportive care at home. In a few people however, complications such as bronchitis or pneumonia may arise, requiring medical care.

How does HMPV spread?

HMPV spreads through contact with an infected person or touching objects that have the virus on them. This can be through secretions from coughs and sneezes; close contact with someone who has the infection by shaking hands, hugging; touching a doorknob or a phone or a keyboard that may be contaminated with the virus and then touching the mouth, nose or eyes.

How is HMPV treated?

There is no vaccine and no specific antiviral to treat HMPV. Most people require over-the-counter medications to relieve fever and pain, possibly with a decongestant. Antibiotics will not work for HMPV. However, the virus can be prevented. As with most other respiratory viruses, the best way to protect yourself from illness is to wash your hands frequently with soap and water, avoid close contact with infected persons, avoid touching your face, nose, eyes and mouth and wear a mask if you think you may be infected, so that you can prevent transmitting it to others. People with lung conditions such as asthma or COPD should be extra cautious and protect themselves from infection.

What has the Indian govt. said?

In light of the reports from China, the National Centre for Disease Control (NCDC) under the Union Health Ministry is closely monitoring respiratory and seasonal influenza cases in the country, and is in touch with international agencies. "We will continue to monitor the situation closely, validate information and update accordingly," sources said.

HMPV cases have been confirmed in two infants from Karnataka and one in Ahmedabad, Gujarat. In Chennai too, two children tested postive for the virus. The Union Health Minister J.P. Nadda in a video statement said, "Health experts have clarified that the HMPV is not a new virus. It was first identified in 2001 and it has been circulating in the entire world for many years. HMPV spreads through air, by way of respiration... The health systems and surveillance networks of the country are vigilant and there is no reason to worry."

STUDY TRACES THE ROUTE OF EBOLA VIRUS TO THE SKIN SURFACE

While transmission of Ebola virus through contact with bodily fluids from an infected person is well known, more recent Ebola outbreaks have demonstrated that the infectious virus is also found on the skin's surface of those who have succumbed to infection or at late times during infection. In a new study, researchers in the U.S. have traced a cellular route the virus uses to traverse the inner and outer layers of skin and emerge onto the skin's surface. The study identifies new cell types within the skin that are targeted by the virus during infection and shows that human skin specimens actively support virus infection. The results published in *Science Advances* suggest that the skin's surface may be one route of person-to-person transmission.

The researchers developed a new approach to examine which cells within the skin are infected by Ebola virus. They created a human skin explant system using full-thickness skin biopsies from healthy individuals, which contained both deeper (dermal), and surface (epidermal) layers of skin.

Previous clinical and animal studies had reported that cells within the skin become infected with the virus, but the specific cells targeted by the virus had not been identified. In the new study, the team showed that the virus infected several different cell types in the skin explant, including macrophages, endothelial cells, fibroblasts, and keratinocytes. While some of these cell types are

also found to be infected by the virus in other organs, keratinocytes, which are unique to the skin, had not been previously appreciated to support Ebola virus infection.

Interestingly, virus replication was more robust in the epidermal layer than in the dermal layers on a per gram basis. Additionally, the infectious virus was detected on the epidermal surface within three days, indicating that the virus rapidly spreads and moves through the explants to the skin's surface.

WHY PUBLIC HEALTH NUTRITION POLICIES NEED PRECISE TARGETING

Global Nutrition Targets (GNTs) were set by the World Health Assembly as key national indicators of the effect of public health policies in alleviating maternal and child malnutrition. Some of the targets were—to reduce stunting by 40% in under-5 children, reduce anaemia by 50% in women of reproductive age, and no increase in childhood overweight.

A recent evaluation of the global progress toward the achievement (or not) of the targets was published in*The Lancet*. This colossal analysis provided estimates of progress at a regional and national level in 204 countries from 2012 to 2021, with projections up to 2050. In general, there appeared to be slow and insufficient progress across countries. By 2030, it was projected that few countries (not India) would meet the targets for stunting, and none would meet low birthweight, anaemia and childhood overweight.

We are now in the last year of the first quarter of the 21st century. Fresh thinking is needed if the same sorry situation is to be avoided at the end of the next quarter of this century. The immediate questions are: why is there slow progress, and what next?

Slow progress can be blamed on poor programme implementation. However, other important aspects merit consideration too. For instance, the prevalence of anaemia has remained static in India for the last two decades. First, with no national surveys, we do not know the cause of anaemia in India. This is presumed to be iron deficiency, resulting in policies to improve dietary iron intake through fortification and supplementation. But recent large-scale surveys reveal that iron deficiency accounts for only a third of anaemia, while unknown causes account for another significant third. A medley of nutrients prevents anaemia, and the whole diet works better than the sum of its parts. Therefore, rather than focusing on select nutrient deficiencies, it is time to diversify diets effectively.

Second, the static anaemia prevalence begs the question of the metrics of measurement, which vary by context and method. In India, a national survey of children showed that venous blood-based anaemia prevalence (as recommended by WHO) was roughly half the capillary blood-based prevalence in comparable national surveys. Third, the actual diagnostic cut-off for anaemia (true for stunting as well) is the subject of much science: one cut-off might not fit all populations. Accurate metrics are crucial for successful public health interventions.

The consequences

As for the sustained negligible progress in the target for stunting, the knee-jerk response might be to feed even more. But this has unintended consequences—children are more likely to grow fatter rather than faster when overfed after two years of age. This is because stunting actively occurs within the first two years of life; in India, stunting increases from about 7-8% at birth to nearly 40% at two years of age. On average, children reach half their adult height in two years. If already stunted at two, it is difficult to un-stunt children by overfeeding in the hope of faster

growth. Prevention in the first two years is most important, even though the global nutrition target refers to stunting in under-5 children.

Second, energy intake is the driver of growth in the first two years. The most energy-dense food is oil. It is disheartening that the average fat intake of poor children in India is just 7 grams per day (NNMB reports), versus their requirement of 30-40 grams per day. But it is encouraging to note that the new POSHAN guidelines for feeding children aged under 3 with take-home rations now include oil, which was not specified earlier.

Finally, *The Lancet* paper showed that overweight had increased in children in almost all countries but was less than the prevailing undernutrition. This might mean that policy should continue to focus on undernutrition. But overweight does not capture the risk of 'metabolic overnutrition' in children. It has been shown that metabolic risk occurs in no less than 50% of Indian children aged 5-19 years, even in those stunted and underweight. Therefore, the burden of childhood overnutrition should be an important policy target.

The slow progress in GNTs on undernutrition, notwithstanding the considerations pointed out above and the hidden overweight burden, tells us that the need of the hour is to zealously and precisely focus on double-duty actions to simultaneously address the under- and over-nutrition burden. Else, ongoing efforts that are skewed towards undernutrition will continue to fuel overnutrition and related non-communicable diseases.

'PERIODIC SCREENING' REQUIRED TO AVERT SUDDEN CARDIAC DEATHS IN ATHLETES

During vigorous physical activity, there is a substantial increase in sympathetic nervous system activity. In predisposed individuals, this surge can trigger arrhythmias and potentially lead to sudden cardiac arrest. Understanding this mechanism is crucial for prevention and risk assessment.

Exercise is a vital tool for promoting health and well-being. It improves cardiovascular risk factors like lipid levels, hypertension, insulin sensitivity, and weight. Multiple studies have established a positive correlation between moderate aerobic exercise and reduced risk of coronary artery disease. However, instances of sudden cardiac death (SCD) in athletes, while rare, remain a significant concern that requires careful attention and preventive measures.

SCD is defined as a sudden, unexpected death due to cardiac causes or sudden death in a structurally normal heart with no other explanation and a history consistent with cardiac-related death. The most common cause of SCD is sudden cardiac arrest (SCA), characterised by an unexpected circulatory arrest typically due to cardiac arrhythmia, occurring within an hour of symptom onset. SCA may be reversible with prompt medical intervention, particularly defibrillation.

SCD in athletes draws unwanted media attention and emotionally affects the athlete and the family. An activity that is normally associated with health can draw negative attention.

What does exercise do?

What happens during exercise? During vigorous physical activity, there is a substantial increase in sympathetic nervous system activity. In predisposed individuals, this surge can trigger arrhythmias and potentially lead to sudden cardiac arrest. Understanding this mechanism is crucial for prevention and risk assessment.

The risk factors for SCA and SCD include coronary artery disease, a genetic predisposition, hypertrophic cardiomyopathy, and arrhythmias; pre-existing heart conditions, weight issues, high-intensity exercise without proper training, a history of smoking (current or past), and increased ambient temperature.

According to International Olympic Committee recommendations, pre-participation screening and periodic health evaluation are the only ways to reduce the incidence of cardiovascular accidents and other injuries in athletes.

Elite athletes and people in competitive sports who perform at the highest level are not exempt from cardiovascular incidents on the field. Although the incidence is low, hereditary and congenital abnormalities of the heart are the leading cause of non-accidental deaths in young athletes.

The World Athletics Health and Science Department, based on IOC guidelines, recommends a pre-participation medical evaluation (PPME) at the start of the season for athletes in competitive sports. This includes personal history, family history, physical examination, and 12-lead resting ECG. Those with a positive history or findings will be further evaluated with an echo cardiogram, ambulatory ECG, stress testing, or cardiac MRI, as the case may be.

A study conducted on the benefits of PPME demonstrated a drop in the incidence of SCD by 90% in young athletes from 3.6/100,000 person-years to 0.4/100,000 person-years. They also found that most of the deaths in athletes under 35 years are due to congenital or acquired cardiac malformations. In the middle-aged population it is due to undiagnosed coronary artery disease.

This kind of screening may not be possible in mass endurance events where the majority of participants are recreational athletes. As event organisers, the registration form for such events could carry specific questions that could identify at-risk individuals. Such individuals could be asked to get a thorough assessment to be done by their physician before the event. Medical bibs could be distributed to help identify athletes at risk.

Despite screening, sudden cardiac arrest may be challenging to predict. But evidence points to excellent survival rates after arrest in this group when appropriate resuscitation is started promptly. For every minute delay, there is a 7% decreased chance of survival. Personnel trained in CPR and access to defibrillators on the route and at sports venues are crucial in reducing the incidence of sudden cardiac death. It is essential for race organisers to have a medical team and plan in place for events with mass participation. The goal isn't just to identify risk — it's to create pathways for safe participation whenever possible.

Health evaluations

The onus just doesn't lie on the organisers. As athletes, competitive or recreational, it is important to have periodic health evaluations. A metabolic panel with a 12-lead ECG is sufficient as step 1. The ECG needs to be read by a trained physician who is aware of the physiological and structural adaptations in the heart of an athlete. There is no benefit in doing an echocardiogram or cardiac MRI as a primary prevention tool. Athletes should also be honest in providing correct medical information.

Although SCD is rare, it is a traumatic event that has a significant impact on society. Exercise is health-promoting and the benefits for physical and mental well-being far outweigh the risks. The risk of sudden cardiac death is higher in those with pre-existing conditions, and hence it is

important that exercise be carried out under supervision or with the help of a trained coach. While sudden cardiac events in sports are concerning, they shouldn't prevent us from embracing the profound benefits of physical activity.

Through thoughtful preparation, supportive communities, and responsive care systems, we can create environments where everyone can pursue their athletic aspirations safely. By combining evidence-based preventive measures and responsible training with compassionate support systems, we can help ensure that sports remain a source of health, joy, and community for all participants.

LONELINESS HITS HEALTH THROUGH EFFECT ON PROTEIN LEVELS: STUDY

RESEARCHERS have found that loneliness and social isolation can impact the levels of proteins that are associated with various diseases, and even death.

The analysis, 'Plasma proteomic sig- natures of social isolation and loneliness associated with morbidity and mortality', was published in the journal Nature Human Behaviour on Wednesday. The re- search was carried out by scholars at the University of Cambridge (UK) and Fudan University (China).

Prof Barbara Sahakian, a co-author of the study at the University of Cambridge, told The Guardian, "I think the message is that we have got to start to get people to realise that it (loneliness and social isola- tion) is part of a health thing, both for their mental health and their wellbeing but also for their physical health, that they have to remain connected with other people".

How was the study carried out?

The researchers examined the 'proteomes' - entire set of proteins expressed by an organism - of blood samples from more than 42,000 adults aged 40-69 years who took part in the UK Biobank.

This allowed the researchers to deter- mine whether the 9.3% who reported social isolation and 6.4% who reported loneliness had different levels of proteins in their blood compared with those who did not, according to the report in The Guardian.

The researchers also used a statistical technique called Mendelian randomisation to examine the relationship between social isolation and loneliness on the one hand, and proteins on the other.

In a statement, co-author of the study, Prof Jianfeng Feng from Fudan University, said: "There are more than 100,000 proteins and many of their variants in the hu- man body. AI and high throughput proteomics (the study of proteomes) can help us pinpoint some key proteins in prevention, diagnosis, treatment and prognosis in many human diseases and revolutionise the traditional view of human health."

What were the findings?

The researchers noted 175 proteins as- sociated with social isolation and 26 proteins associated with self-reported loneliness, many of which overlapped approximately 85% of the proteins associated with loneliness were shared with social isolation. Most of these proteins were found at higher levels in people who had reported social isolation or loneliness.

"Many of these proteins are produced in response to inflammation, viral infection and as part of our immune responses, as well as having been linked to cardio- vascular disease, type 2 diabetes, stroke, and early death," according to a press statement by the University of Cambridge.

Researchers found that one of the proteins produced at higher levels due to loneliness was ADM. Previous studies have found that ADM plays a part in responding to stress and in regulating stress hormones and social hormones such as oxytocin-the so-called "love hormone" - which can reduce stress and improve mood, the statement said.

Another protein known as ASGR1, which was found to be in high levels, is associated with higher cholesterol and an increased risk of cardiovascular dis- ease. Other proteins that were identified play a role in the development of insulin resistance, cancer progression, etc.

"The proteins we have identified give us clues to the biology underpinning poor health among people who are socially isolated or lonely, highlighting why so- cial relationships play such an important part in keeping us healthy," Feng said.

WHAT US SURGEON GENERAL SAYS ABOUT DRINKING AND CANCER RISK

Alcohol is the third leading preventable cause of cancer in the United States after tobacco and obesity, according to a new report by the US Surgeon General. The advisory, released last week, also said all alcoholic drinks — whether beer, wine or spirits — should carry a label warning consumers about their cancer risks, like packs of cigarettes do.

According to the report, alcohol use contributes to 100,000 cancer cases and 20,000 related deaths each year.

The report is also a blow to those, including alcohol companies, who have been advocating that moderate drinking can help prevent heart attacks and strokes. Growing research has shown that even one drink per day can increase the risk of certain cancers such as breast, mouth, and throat cancers.

How does alcohol lead to cancer?

According to the report, there are four ways. These are:

DNA DAMAGE: The body processes alcohol into acetaldehyde, a chemical compound that can damage DNA and prevent cells from repairing the damage. This can raise the chances of mutations and uncontrolled cell growth, which play a part in the formation of tumours.

OXIDATION & INFLAMMATION: Acetaldehyde is converted into acetate in a process that involves oxidation, producing dangerous unstable oxygen-containing molecules that damage cells and contribute to cancer-causing inflammation.

RAISING RISK FROM TOBACCO: Carcinogens from other sources, especially particles of tobacco smoke, can dissolve in alcohol, making it easier for them to be absorbed into the body.

HORMONE PRODUCTION: Alcohol consumption increases levels of some hormones, including oestrogen, which can increase risks for breast and ovarian cancers.

What types of cancers have been linked with alcohol use?

According to the report, alcohol use increases the risk for breast, colon and rectum, esophagus, liver, mouth, throat, and larynx cancers.

"The risk for cancers of the breast, the mouth and the throat may rise with consumption of as little as one drink a day, or even less," the US Surgeon General Dr Vivek Murthy said, according to a report in The New York Times.

The report highlighted that alcohol irritates and damages the protective mucosal lining — the moist, inner lining found in the mouth, nose, lungs, and stomach — that usually guards cells from carcinogens.

What about the likelihood?

The report said that an alcohol-related cancer will develop in about 10 of every 100 men who consume less than one drink per week, 11 of every 100 who average one drink daily, and 13 of every 100 who consume two drinks daily.

Higher alcohol consumption increases breast cancer risk in women from roughly 11 cases in every 100 of those who consume less than one drink per week, to 13 cases in every 100 who consume one drink per day and 15 in every 100 who consume two drinks per day, according to the report.

The US Centers for Disease Control and Prevention defines one alcoholic beverage as 1.5 ounces of 80-proof liquor, 5 ounces of wine with 12% alcohol, or 12 ounces of beer with 5% alcohol.

'DRINK YOUR COFFEE, BUT ONLY IN THE MORNING': WHAT A NEW STUDY SAYS

People who drink coffee in the mornings reap benefits that are not seen by those who consume the beverage later in the day, a new study found. The study, which drew from more than 42,000 adults, is the first of this scale to look into the health benefits of drinking coffee at different times of the day.

According to the British Coffee Association, a trade group, coffee Is the most popular drink in the world, with roughly two billion cups consumed every day. The beverage has been hailed both for its various health benefits and risks.

Coffee & lower mortality

The study titled 'Coffee drinking timing and mortality in US adults' was published in the European Heart Journal on Wednesday (January 8).

It found that morning coffee drinkers were 16% less likely to die of any cause, and 31% less likely to die from cardiovascular disease than those who did not consume the beverage. But medical records showed no significant reduction in mortality for all-day drinkers compared to non-drinkers.

"It's not just whether you drink coffee or how much you drink, but the time of day when you drink coffee that's important," study author Lu Qi, an expert in nutrition and epidemiology at Tulane University in New Orleans, told The Guardian.

The study reported lower mortality risk among morning coffee drinkers, irrespective of how much coffee they drank. In fact, it found that the health benefits associated with coffee were smaller for those who drank only one cup in the morning.

The analysis was based on data collected from 40,275 adults who participated in the US National Health and Nutrition Examination Survey between 1999 and 2018. It was further verified using the smaller Women's and Men's Lifestyle Validation Studies (2010-13) which included the seven-day dietary record of 1,463 adults in the US.

Rationale behind findings

Although the study did not explain what led to lower mortality among morning coffee drinkers, other research might provide an answer to this question.

One study published in The Journal of Clinical Sleep and Medicine in 2013 found that caffeine consumption — caffeine being the main stimulant in coffee — even six hours prior to bedtime can have major disruptive effects on sleep, which in turn has deleterious effects on the heart, and overall health.

A more recent study published in 2023 in the journal Sleep Medicine Reviews found that even moderate caffeine consumption less than 8 hours before bed time reduced total sleep time by 45 minutes, and sleep efficiency (the ratio of the time one spends asleep to the total time one spends in bed) by 7%. It also increases sleep onset latency (amount of time it takes to fall asleep after switching off lights) by 9 minutes.

That said, coffee also contains hundreds of other bioactive compounds which too might play a role in its morning benefits. The researchers wrote that some substances in the blood that drive inflammation often peak in the morning, and could be countered by anti-inflammatory compounds in a morning coffee.

Prof Thomas F Lüscher, in an accompanying editorial to the study, referred to the growing body of evidence suggesting that coffee drinking is indeed beneficial to human health. He wrote: "Drink your coffee, but do so in the morning!"