



CURRENT AFFAIRS for UPSC

15th to 21st September 2024

DreamIAS



INTERNATIONAL

DOWN TO THE WIRE

A second, apparent attempt on the life of former U.S. President and Republican candidate for the White House, Donald Trump, has again lent an air of drama to the unfolding U.S. election campaign. Unlike the first such attempt, in Pennsylvania in mid-July, and in which a shooter's bullet hit Mr. Trump's ear, a man with a rifle at the golf club where Mr. Trump was located was confronted by the Secret Service and taken into custody. While the two attempts may win Mr. Trump some sympathy votes on November 5, it remains to be seen whether these incidents impact the public psyche sufficiently to tip the race in his favour. As it stands, the race between Mr. Trump and his Democratic rival, Vice-President Kamala Harris, is poised on a knife's edge, with the latest national average of polls putting Ms. Harris ahead by three percentage points — 49%. Yet, analysts argue that the difference is not beyond the margin of statistical error, which would make it unwise to assume a winner based on the current trend.

Leaving aside unexpected or shock events that could dramatically shift the terms of the race between now and voting day, the old election adage and past statistical observation that a greater turnout may benefit Democrats will likely hold true in 2024. Indeed, in the 2022 mid-term elections, the performance of Republicans, who were on a strong wicket after incumbent President Joe Biden's approval rating had fallen to relatively low levels, was dented by Democratic Party supporters who turned out in greater numbers in the wake of the Supreme Court decision overturning Roe vs Wade on the federal right to abortion. Similarly, Democrats may have felt encouraged after the first Trump-Harris presidential debate, wherein Mr. Trump made unfounded allegations about immigrants eating the pets of Americans. Immigration reform has always been a thorny issue that has punctured the campaign of many a previous presidential candidate or the policy plans of elected representatives. Mr. Trump already alienated many voters during his first term and campaign when he implemented his so-called "Muslim ban" — travel to the U.S. from certain Muslim-majority nations — and made derogatory remarks about immigrants from Mexico and parts of Latin America. While it is clear that he intends to continue down this path of racist nativism, it remains to be seen whether Ms. Harris will be able to offer a rational and humane border and asylum policy for undocumented workers, including a reasonable and just path to citizenship for those who are productive members of American society. There is a palpable need for bipartisan politics and policy at this juncture.

THIRD FRONT

Sunday's missile attack on Israel by Yemen's Houthi rebels marked the second breach of Israel's highly fortified skies by Houthi weapons in two months, pointing to the expanding nature of the conflict in West Asia. In July, an Iranian-made drone launched by the Houthis from Yemen, roughly 2,000 km south of Israel, had killed one person and wounded 10 others in Tel Aviv. In retaliation, Israel launched an air strike on Hodeida, a Houthi-controlled Red Sea port in Yemen. But that has done little in deterring the Houthis. Israeli authorities have provided conflicting accounts about Sunday's attack. They first said the missile had landed in central Israel and caused a fire but added later that it had "fragmented mid-air". Another official said it was intercepted, breaking it into parts but not destroying it. Whatever the facts, it should remain a security concern for Israel, which has been fighting a disastrous war in Gaza for over 11 months, and a slow-burning war with Lebanon's Hezbollah in Israel's north, that the Houthis are penetrating its air space. Israel might



launch retaliatory strikes on Yemen again, but the question is whether this would deter the Houthis.

The Houthis, who control parts of Yemen, have survived multiple air strikes by foreign powers ever since they captured Sana'a, Yemen's capital, in 2014. A Saudi-led coalition, which backed a rival government in Yemen, declared war against the Houthis in 2015, months after Salman ascended the throne and Mohammed bin Salman became the Defence Minister. But Saudi bombing failed to dislodge the Houthis, which eventually led to a fragile ceasefire between the Houthis and the Saudi-backed government in Yemen. When Hamas attacked Israel on October 7, 2023 and Israel launched its retaliatory invasion, the Houthis "declared war" against Israel, primarily targeting tankers in the Red Sea. In response, a U.S.-led coalition declared an air strike campaign against the Houthis. But months of air strikes led by the U.S. and the U.K. have done little in diminishing Houthi fire power. Israel faces the same dilemma when it comes to tackling the Houthi problem. The Houthis, who have direct Iranian support, are entrenched in Yemen. By taking up the Palestine cause, they are both serving Iran's strategic purpose and consolidating power at home. And the drone and missile attacks on Israel are an indication of what is to come in Israel's unending wars. If Israel went to Gaza to crush Hamas 11 months ago, the Jewish state is now fighting three enemy militias at the same time — Hamas, Hezbollah and Houthis — with no military solution in the offing. This means that unless there is an immediate ceasefire in Gaza, the security situation in West Asia will deteriorate on multiple fronts.

RETURN OF THE HARDLINERS

In the absence of the 'Begums' in ruling Bangladesh, Islamists have staked claim to the nation's polity once again. Just like Bangladesh's former Prime Minister Sheikh Hasina who attempted to placate hardliner outfit Hefazat-e-Islam, leader of the caretaker government Muhammad Yunus too has adopted a similar approach by inducting the extremist group's deputy chief Prof. A.F.M. Khalid Hossain as Adviser for Religious Affairs in the interim government.

Hefazat-e-Islam, which translates to 'Protectors of Islam', was formed in 2010 to oppose the Sheikh Hasina government's Women's development policy which promised equal rights to property for women. Comprising mainly of Sunni clerics heading a network of 19,199 Quami madrassas and its students in Bangladesh, Hefazat rose to prominence as they took to the streets against the Women's Bill. The group also protested against the repeal of the Fifth Amendment which had altered the Constitution's secular, socialist nature during the military rule. The demonstrations, in which dozens were injured in clashes with the police, eventually resulted in the passage of a watered-down Women's Bill.

Founded by Islamic scholar Shah Ahmad Shafi, the group initially started off as a 'purely religious' outfit with an aim to restore an Islamic administration in Bangladesh. Its current amir (chief) is Muhibbullah Babunagari who heads the central committee comprising several Maulanas. Most of the committee members were incarcerated in 2021 for staging violent protests against Narendra Modi's visit to Dhaka. According to a 2017 Economist report, Hefazat's madarassas are funded by Salafi-Wahabi Islamists in Saudi Arabia.

Hasina's soft stance

Emboldened by its initial display of street power, Hefazat launched a 'long march' to Dhaka in 2013 demanding capital punishment against 'atheist' bloggers involved in the Shahbag protests who had allegedly 'insulted Islam'. Through a series of massive rallies in Dhaka, the extremist



group rolled out its 13-point agenda which demanded a stricter dress code as per Islam, a ban on statues, candlelit vigils, women's development policy, public mixing of men and women and to declare Ahmadiyas as 'non-Muslims'. Violent clashes broke out between the Islamist protestors and security forces as Hefazat attempted to 'lay siege to Dhaka', killing at least fifty.

Despite its extremist policies, Sheikh Hasina chose to indulge Hefazat. Ms. Hasina's decision to remove the statue of the Greek Goddess Themis from the premises of the Supreme Court in 2017, recognising Dawra-e-Hadith (a master's degree equivalent offered by the Quami madarssas) in 2018, and altering history texts are proof of her choice to appease the fundamentalists.

After its successes, Hefazat launched its biggest protest in 2021 when Mr. Modi visited Dhaka. Accusing Mr. Modi of anti-Muslim riots in Gujarat in 2002, Hefazat, along with several other Islamist bodies, launched anti-Modi protests clashing with the police, resulting in at least 13 deaths. Several Hindu temples were also targeted and a train was attacked in Brahmanbaria.

Upon Mr. Modi's departure from Dhaka, the Sheikh Hasina government cracked down on Hefazat, arresting hundreds of its members including 23 of its top leaders such as Mamunul Haque, Harunur Rashid and Monir Hossain Qasemi. As Hefazat began reorganising and reforming, Ms. Hasina once again indulged the group by promising to 'look into its more reasonable demands' in 2022. Most of the incarcerated leaders except Mr. Haque and Mr. Qasemi were granted bail in 2023.

Bigger ally

Following Ms. Hasina's olive branch to Hefazat and her abrupt departure, Islamists have found an even bigger ally in Bangladesh's chief adviser Muhammad Yunus.

The Yunus government has lifted the ban on Jamaat-e-Islami and granted bail to Jashimuddin Rahmani, the chief of the al-Qaeda-inspired terror group Ansarullah Bangla. Moreover, Mr. Yunus also met Mr. Haque, who had spearheaded Hefazat's 2021 anti-Modi protests, raising alarms in India. Amid reports of multiple attacks on Hindus and vandalism of temples and houses, Mr. Yunus has downplayed it saying they were not communal, but a fallout of a political upheaval due to the community's supposed support for the Hasina government – marking Bangladesh's dark return to a hardline Islamist regime.

CAN SHEIKH HASINA BE EXTRADITED?

The story so far:

The chief prosecutor of Bangladesh's International Crimes Tribunal (ICT) has announced plans to seek the extradition of ousted leader Sheikh Hasina from neighbouring India. "As the main perpetrator has fled the country, we will start the legal procedure to bring her back," Mohammad Tajul Islam said on September 8. Ms. Hasina had sought refuge in India in August after a mass uprising compelled her to step down. Since her departure, numerous criminal cases have been lodged against her and her aides, encompassing charges of murder, torture, abduction, crimes against humanity, and genocide. Additionally, India and Bangladesh have a bilateral extradition treaty in place that could allow for her return to face trial.



What does the extradition treaty say?

The ICT was established in 2010 by Ms. Hasina to investigate crimes committed during the 1971 independence war from Pakistan. Under the International Crimes (Tribunals) Act of 1973, Bangladeshi courts can proceed with criminal trials even in Ms. Hasina's absence. However, this is bound to raise concerns about the fairness of the proceedings, and adherence to due process, while also complicating the enforcement of judicial orders. Therefore, the extradition of the former Prime Minister is crucial.

In 2013, India and Bangladesh signed an extradition treaty as a strategic measure to address insurgency and terrorism along their shared borders. It was amended in 2016 to ease the process of exchange of fugitives wanted by both nations. The treaty has facilitated the transfer of several notable political prisoners. For instance, in 2020, two convicts involved in the 1975 assassination of Ms. Hasina's father, Sheikh Mujibur Rahman, were extradited to Bangladesh for execution. Similarly, India successfully secured the extradition of Anup Chetia, the general secretary of the banned United Liberation Front of Assam (ULFA), who had spent 18 years imprisoned in Dhaka. The treaty mandates the extradition of individuals charged with or convicted of crimes that warrant a minimum sentence of one year's imprisonment. A key requirement for extradition is the principle of dual criminality, meaning that the offence must be punishable in both countries. Since the charges against Ms. Hasina are prosecutable in India, and the penalties for her alleged crimes are also substantial, she qualifies for extradition on these grounds. Additionally, the treaty encompasses within its ambit attempts to commit, as well as aid, abet, incite, or act as an accomplice in such crimes.

Notably, the 2016 amendment to the treaty substantially lowered the threshold for extradition by removing the requirement to furnish concrete evidence against the offender. Under Article 10 of the treaty, only an arrest warrant issued by a competent court in the requesting country is sufficient to initiate the extradition process.

Can extradition be refused?

Article 6 of the treaty stipulates that extradition may be refused if the offence is of a "political nature". However, there are stringent limitations on this particular exemption. A host of offences such as murder, terrorism-related crimes, and kidnapping, are explicitly excluded from being classified as political. Given that several of the charges against Ms. Hasina — such as murder and enforced disappearance— fall outside the scope of this exemption, it is unlikely that India will be able to justify them as political transgressions to deny extradition.

Another basis for refusal is outlined in Article 8, which permits denial of a request if the accusation is not "made in good faith in the interests of justice" or if it involves military offences not considered "an offence under general criminal law." India could potentially refuse extradition on the ground that the charges against Ms. Hasina have not been levelled in good faith and there is a possibility of her being subjected to political persecution or an unfair trial upon her return to Bangladesh. Such concerns are further exacerbated by recent reports that ministers from Ms. Hasina's cabinet were physically arrested by bystanders while being transported to court for remand hearings.

What are the potential implications?

Sreeradha Datta, professor of international relations at O.P. Jindal Global University told The Hindu that the treaty does not guarantee Ms. Hassina's extradition, as the final decision will hinge



more on diplomatic negotiations and political considerations. “Even if India were to decline the extradition request, it would likely serve as a minor political irritant rather and is unlikely to dent bilateral relations, especially in critical areas of cooperation between the two nations,” she said.

Bangladesh is India’s largest trade partner in South Asia, with bilateral trade estimated at \$15.9 billion in the fiscal year 2022-23. Before Ms. Hasina’s ouster, both nations were poised to commence dialogue on a comprehensive economic partnership agreement (CEPA) to foster economic ties. Following the regime change in Dhaka, Indian Prime Minister Narendra Modi has spoken with the Chief Adviser of the new interim government, Muhammad Yunus, and pledged continued support for ongoing development projects.



DreamIAS



NATION

POWER ASYMMETRY BETWEEN CHINA AND RUSSIA

The Russian invasion of Ukraine in 2022 has brought about a major shift in the world order. Not only did it bring about a stronger trans-Atlantic alignment vis-a-vis Russia, but it has also pushed the latter closer to China. Consequently, strategists around the globe have been preoccupied with the repercussions of such a partnership between the two countries. The deepening Sino-Russian relationship has become a subject of discussion in India as well. The concern that one of India's most trusted partners now possibly shares an indispensable friendship with India's primary adversary has instigated debate around the reliability of Russia as a security partner. In this context, the most recurrent question that is being raised is: has Russia become a junior partner of China? The answer to the question will determine the autonomy that the Kremlin can exercise when it comes to choosing between Beijing and New Delhi.

Against the U.S.-led financial order

The two countries have a shared grievance against the dual hegemony of the dollar and the SWIFT messaging system central to the current global financial system. Their perpetual tension with the U.S.-led geopolitical order of the West puts them in a vulnerable spot — the effects of which have become more pronounced lately.

Following Russia's invasion of Ukraine in 2022, the U.S. and its allies froze close to \$300 billion of Russia's forex reserves held overseas. China fears a similar threat in the event of a conflict with the West as around \$770 billion of China's \$3 trillion forex reserves are currently held in U.S. treasuries. Further, in 2024, the West imposed a SWIFT ban on Russian financial institutions involved in transactions of dual-use goods or weapons. The U.S. also threatened secondary sanctions on third-country financial institutions involved in such transactions with Russia. Fearing secondary SWIFT sanctions, Chinese financial institutions have withheld transactions worth tens of billions of yuan from Russia.

Thus, the two countries have a joint objective to reform (upend) the existing financial and economic order. The two have tried to promote de-dollarisation and alternative payment settlement systems, albeit without much success. Even as the two settled more than 90% of their bilateral trade in local currencies in 2023, this amounted to less than a percent of current account transactions globally. Renminbi-denominated transactions in settling trade amount to only around 6% of global transactions, which were otherwise dominated by the dollar, euro, pound and yen.

China's effort to promote the Cross-Border Interbank Payment System (CIPS) — its home-grown payment settlement system — is far from challenging SWIFT anytime soon, limiting its utility.

However, Russia's isolation from the Western-dominated global financial system makes its need for an alternative much more urgent. China's requirements aren't as urgent despite its grievances, as Beijing is still very much a part of the system. This essentially leaves Russia at China's mercy to set the pace for reforms. Furthermore, China alone has the diplomatic and monetary resources to mount a potential challenge to the Western-dominated financial order. Russia's isolation and limited resources render it completely dependent on China to pull it out of its misery.



Asymmetry in bilateral trade

At first glance, China-Russia trade appears symmetric over the years. In fact, Russia maintains a modest trade surplus over China. However, the asymmetry becomes apparent when their bilateral trade is put in the wider context of their respective overall trade.

In 2023, while exports to China made up for around 30.4% of Russia's total exports, Russia accounted for only 3% of China's total exports. While imports from China accounted for 36% of Russia's total imports in 2023, China's imports from Russia amounted to ~5% of its total imports.

Secondly, more than 70% of Russia's exports to China were energy (fossil fuel) in 2022. In contrast, China's exports to Russia were relatively more diversified. This makes Russia's exports to China prone to shocks and uncertainties. Thirdly, not only are Russia's exports to China dominated by energy, but a majority of Russia's global energy exports are also concentrated in China. This is significant because the revenues from the energy sector have contributed between 30-50% of Russia's annual federal budget in the last 10 years. Moreover, the oil and gas sector contributes about 20% of Russia's GDP.

This renders the Kremlin's economy largely dependent on China.

And lastly, Russia has lately become completely dependent on China for its requirement of high-priority goods — a list of “50 dual-use products that are essential for manufacturing weaponry like missiles, drones, and tanks.” The war in Ukraine has significantly enhanced the importance of the metalworking industry, which is critical to producing machine tools necessary for arms manufacturing. As supplies from Moscow's traditional partners have dried up under sanctions and Russia's domestic capacity remains stretched, China has stepped up to help its friend. Compared to 2021, when high-priority goods from China accounted for 32% of Russia's import needs, China's share soared to 89% in 2023. Additionally, China's share in Russian imports of critical machine tools has increased from 28% in 2021 to 59% in 2022. In 2023, almost all of Russia's requirements were sourced from China.

In the process, over the last few years, China has completely dethroned the EU as Russia's primary trade partner. Moreover, it has absorbed majority of Russia's losses emanating from reduced trade with the EU. This has kept Moscow's trade figures largely stable despite stringent sanctions from the West. To sum up, China has emerged as Russia's most indispensable partner.

What does it mean for India?

Despite all the goodwill that exists in the India-Russia relationship, the Kremlin's geopolitical goals align more closely with Beijing's than New Delhi's.

Further, trade between India and Russia constitutes only a minuscule percentage of the expanding China-Russia trade. The strategic alignment between China and Russia is too deep, and the asymmetry in their economic ties is too wide for Moscow to exercise any autonomy vis-a-vis India if it ever came down to choosing between New Delhi and Beijing. The question is no longer about Russia's willingness but its capability to resist China's pressure.

NO PROGRESS IN RESOLUTION OF DEMCHOK AND DEPSANG FRICTION POINTS IN 2 YEARS

There has been much hype over External Affairs Minister S. Jaishankar's comments that 75% of disengagement has been completed by India and China along the Line of Actual Control (LAC) in



eastern Ladakh and the Chinese response that both sides have undertaken disengagement from four areas in the border areas.

However, the fact remains that both sides have undertaken mutually agreed and verified disengagement from five friction points while two more friction points, Demchok and Depsang, remain and there has been no progress towards their resolution in the past two years.

The widespread optimism, once again, of a possible breakthrough between the two countries in achieving further disengagement in the four-year-long stand-off, comes in the run-up to the BRICS (Brazil, Russia, India, China, and South Africa) Summit in October, which both Prime Minister Narendra Modi and Chinese President Xi Jinping are scheduled to attend. This is akin to a similar situation last year before the BRICS Summit in August.

Speaking in Geneva on September 12, Mr. Jaishankar said “roughly” about “75% of disengagement problems are sorted out”. “We still have some things to do,” he said, adding that “there is a bigger issue that both of us have brought forces close up and in that sense, there is a militarisation of the border.”

“There has been no change in the ground situation since the last disengagement two years back,” a defence official noted. Both sides have stated that after disengagement from the friction areas, they would undertake de-escalation, though the phrase “restoration of status quo ante” is being heard less and less. However, there is expectation of a possible disengagement from Demchok, though there is no clarity on any immediate Corps Commander-level talks.

‘Generally stable’

Responding to questions on National Security Adviser Ajit Doval and Chinese Foreign Minister Wang Yi’s meeting, Chinese Foreign Ministry Spokesperson Mao Ning, at a regular press conference on September 13, said, “In recent years, frontline armies of the two countries have realised disengagement from four areas in the western sector of the China-India border, including the Galwan Valley. The China-India border situation is generally stable and under control.”

With disengagement undertaken from five of seven points, as stated by officials on several occasions, it is statistically around 71.5%, quite close to 75%, and also withdrawal of forces was acknowledged and verified on the ground, each time, by both sides.

Since the Corps commander-level talks in 2020, the two sides have so far undertaken disengagement from five friction points — from Galwan after the violent clash in June 2020, from the North and South Banks of Pangong Tso in February 2021, from Patrolling Point (PP) 17 in the Gogra-Hot Springs area in August 2021 and PP15 in September 2022. The last disengagement, from PP15, was a result of the understanding reached during the 16th round of Corps Commander-level military talks on July 17, 2022.

STAUNCH THE BREACH

In its fourth notice to Pakistan since January 2023, India has escalated its demand for the renegotiation of the 1960 Indus Waters Treaty (IWT), now calling off all meetings of the Permanent Indus Commission (PIC) until Pakistan agrees to sit at the table for talks. India’s demand last year followed a logjam in the entire process, once held up internationally as a model template for water-sharing agreements. Even in the new millennium, the tenets of the treaty held firm, and India was able to win two major disputes by adhering to the processes laid out, including



the Baglihar Dam project in 2007, and another dispute over allegations that India was interfering with Pakistan's Neelum project in 2013. The issue over how to proceed on dispute resolution for the Kishenganga and Rattle projects has snowballed since 2016, when Pakistan escalated the disputes — having a neutral expert look at them and demanding a Permanent Court of Arbitration (PCA). In a moment of weakness, that it may come to regret, the World Bank — it is a co-signatory and guarantor of the IWT — decided to allow two parallel processes of the dispute mechanism to run at the same time. To make matters worse, Pakistan turned its back on the neutral expert's proceedings, while India has boycotted the PCA hearings at The Hague. Pakistan has been cold to India's notices on renegotiating the treaty and the decision by the Modi government to stop all PIC meetings has put the future of the process in peril. Unlike in past decades, when the IWT was considered off-limits for partisan politics, leaders on both sides are now not above using fiery rhetoric. Mr. Modi's statement after the 2016 Uri attack, that "blood and water" cannot flow together, is perhaps the most egregious example.

It is no coincidence that the spiral mirrors the unravelling of the India-Pakistan bilateral relationship in the same period. There is no political engagement or trade and the 2021 LoC ceasefire agreement is in danger after growing terror attacks and deaths of Indian Army personnel. It may be possible to re-open the treaty talks, but concluding any agreement will be that much more difficult. All eyes are now on New Delhi's response to Pakistan's invitation for the SCO Heads of Government meeting on October 15-16. Such an opening could present an opportunity for talks on the way forward. No doubt, new-age issues such as climate change and the need for renewable energy and hydropower options on the Indus necessitate a re-opening of the 64-year-old Treaty. How that is done, along with resolving current disputes, will decide whether the two countries can save the treaty, once referred to as the "one bright spot" in a "very depressing world picture" by U.S. President Dwight D. Eisenhower.

SC ASKS GOVT. TO EXPLAIN DELAY IN THE APPOINTMENT OF JUDGES

The Supreme Court on Friday asked the government to explain its reasons for sitting on names reiterated by the Collegium for months or even years together, reminding the Centre that it cannot treat the latter like a mere "search committee" whose recommendations can be ignored or accepted at the Union's discretion.

A three-judge Bench headed by Chief Justice of India D.Y. Chandrachud asked Attorney-General R. Venkataramani to place on record, within a week, a tabulated chart of every pending name reiterated by the Collegium, why they were still pending and at what level they were stuck in the machinery.

The Chief Justice said the intention of the court behind this exercise was not to "unearth skeletons in the cupboard but to move forward so that the business of governance proceeds".

"Give us a tabulated chart showing the status of each one of the recommendations reiterated by the Supreme Court Collegium and what is the difficulty in making such appointments... The Supreme Court Collegium is not a search committee. It has a certain status in terms of the constitutional fabric... On the other hand, in the case of a search committee, there is an absolute discretion on whether to accept or not its recommendation," Chief Justice Chandrachud said.

The Second Judges case mandates that Collegium reiterations must be cleared for judicial appointment as a healthy convention. In a December 2022 order, the court had observed that



ignoring or returning names reiterated by the Collegium would amount to acting in breach of the Second Judges case, which had evolved the Collegium system of judicial appointments in 1993.

The brief hearing began with Mr. Venkataramani pressing for a week's adjournment, saying he would need more time to get "some responses" on some of the pending High Court appointments. The Chief Justice agreed, saying some appointments in the pipeline were "expected to be cleared" soon.

But senior advocate Kapil Sibal and advocate Amit Pai, for petitioners, raised the issue of several High Courts functioning with Acting Chief Justices for "months together".

Lawyer Prashant Bhushan said reiterated names must be appointed immediately. "There are a very large number of reiterations, including that of senior advocate Saurabh Kirpal... We have in our petitions pointed out 12 of them," he submitted.

Mr. Kirpal, who if appointed would be India's first openly gay High Court judge, was recommended by the Delhi High Court Collegium in October 2017. The Collegium recommended him for appointment as Delhi High Court judge in November 2021 and had reiterated his name in January 2023. The government had objected to his strong advocacy of gay rights.

Similarly, advocate John Sathyan was recommended by the Collegium for the Madras High Court Bench in 2022. The Collegium had reiterated his name in January 2023. Mr. Bhushan sought a direction that Collegium recommendations should be deemed to have been accepted if the government chooses not to respond within six weeks.

FAST-TRACK COURTS: JUSTICE ON THE CLOCK

Fast-track courts in India were established to address the phenomenal judicial backlog and ensure the timely delivery of justice. These courts were designed to deal with heinous crimes, including sexual offences and crimes against women and children. However, the effectiveness of fast-track courts has been plagued by several factors, such as resource limitations, inefficient investigations, and insufficient staff at the judiciary. The demand for these courts occasionally resurfaces when incidents like the tragic rape and murder of a doctor at Kolkata's R.G. Kar Medical College happen, though the inherent limitations of the judicial system remain largely overlooked.

Between 2018 and 2020, India saw a significant rise in the number of fast-track courts. In 2018, 699 courts were operational, growing to 907 by 2020. This increase was largely a response to public outcry over delays in high-profile cases such as Nirbhaya gang rape, which ignited a nationwide demand for quicker justice. However, this progress has slowed since 2020, with the number of functional courts dropping to 832 in 2023. This decline reflects the challenges States face in maintaining these courts due to financial and administrative constraints. While the Union government provides support, the responsibility of running fast-track courts rests with the States, many of which struggle to allocate the necessary resources.

While States such as Uttar Pradesh, Maharashtra, and Tamil Nadu have maintained a high number of operational courts, others have far fewer or, in some cases, none. For instance, in 2023, several States, including Odisha, Kerala, Karnataka, Rajasthan, Madhya Pradesh, and Telangana, either had no functional fast-track courts or were struggling to establish them. These disparities are a reflection of local resource limitations, varying levels of prioritisation, and differing administrative capabilities.



The number of functional fast-track courts over time across select major States. States with fewer financial capabilities struggle to keep fast-track courts functioning optimally.

Even in States where these courts are operational, they are often overburdened by the sheer volume and variety of cases, resulting in delays. The jurisdiction of fast-track courts is disproportionately wide compared to their capacity, further delaying justice.

Another challenge, many States have not expanded the scope of fast-track courts beyond sexual offences, limiting their ability to address other categories of high-pendency cases.

By broadening their jurisdiction, these courts could alleviate some of the burdens on the regular judiciary and better fulfil their intended purpose of delivering faster justice across a wider range of cases.

The future of fast-track courts has huge potential to ensure speedy justice. But, for these courts to live up to their promise, the States must prioritise their operation and ensure they have the necessary resources to function efficiently. The States must improve their sophisticated investigation, providing cutting-edge forensic services.

One possible solution lies in leveraging technology. Digital case management systems, e-filing, and video conferencing could help reduce procedural delays, allowing fast-track courts to work more effectively.

The road to justice is long, but with the right support, fast-track courts can help ensure that justice is delivered efficiently, providing victims the closure they deserve without unnecessary delays.

A WAY OUT

After five attempts, the Mamata Banerjee government finally managed to hold talks with protesting junior doctors on September 16. Conceding to most of their demands, which included a call to replace the Kolkata Police Commissioner and several Health Department officials, the Chief Minister urged them to join duty for the sake of the people. Seeking justice for the rape and murder of a colleague on August 9, the doctors have been on a cease work agitation, which, with the support of civil society and other grassroots organisations, has morphed into a people's movement. Besides several 'reclaim the night' marches and other rallies, the doctors have laid siege to Swasthya Bhavan or the Health Secretariat, not calling off the protest even during two days of pelting monsoon rain. People from all across the city have flocked to the site, with water, tents, folding cots, bedding and food. Though senior doctors, nurses and attendants have pitched in with extra hours to help government hospitals, the strain is showing, and there is a clamour for junior doctors to call off the strike. People from the suburbs and districts flock to the top government hospitals in Kolkata and while out patient department footfalls have gradually increased, planned surgeries are still on hold. With about 7,000 to 10,000 junior doctors on strike, the government should have done more to end the impasse earlier.

There is an acute trust deficit between the two sides, and the whiff of a cover-up in the way the rape and murder investigation was handled in the initial stages till the CBI took over, particularly by the hospital administration and also by the government, further alienated the doctors. The former Principal of R.G. Kar Medical College and Hospital, Sandip Ghosh, has since been arrested. But the government has a lot of work to do if it wants to seriously address some of the other demands. It will take time, money and willpower to increase the safety and the security of doctors and end the "threat culture" pervading in government hospitals. The Supreme Court of India,



which is hearing the case suo motu, was sceptical about the deployment of contractual security personnel in government hospitals and medical colleges, and has pulled up the administration for the slow installation of CCTV cameras. To that end, the State government has told the doctors, and also informed the top court, that it is setting aside ₹100 crore to improve hospital infrastructure, and will form a task force headed by the Chief Secretary with representatives of doctors to sort out issues. To get doctors on her side, the Chief Minister, who holds the Health and Home portfolios, has to walk the talk.

SC PULLS UP CBI FOR 'ALLEGATIONS' AGAINST WEST BENGAL JUDICIARY

The Supreme Court on Friday pulled up the Central Bureau of Investigation (CBI) for casting “scandalous” aspersions against the West Bengal judiciary to justify its plea to transfer the trial of cases related to the violence that occurred after the State Assembly election in 2021.

The criticism from a Bench headed by Justice A.S. Oka saw the CBI, represented by Additional Solicitor General S.V. Raju, withdraw its transfer petition.

“Scandalous allegations have been made against all the courts in general in West Bengal. It has been repeatedly averred that there is a hostile environment prevailing in the courts. It is very unfortunate that the Central agency has chosen to cast aspersions on courts in West Bengal,” the apex court recorded in its order.

The court noted that though Mr. Raju maintained orally in court that the Central agency had not intended to level any accusations against the State judiciary, the averments made in the petition to seek a transfer of the cases outside the State were quite to the contrary.

The CBI had appealed to the Supreme Court in 2023 to shift the post-poll violence cases out of West Bengal, saying witnesses were facing intimidation. The investigating agency claimed courts were “illegally granting bail” in the cases and there was a prevalent hostile atmosphere.

During the hearing, Justice Oka said the CBI may not like a particular judicial officer or a State, but it had no business claiming that the “entire judiciary is not functioning” in a State. “The District Judges and Civil Judges and Session judges cannot come here and defend themselves,” the Bench remarked. Mr. Raju said the petition may have been loosely drafted.

SC FREEZES ILLEGAL 'BULLDOZER' ACTION TILL HEARING ON OCT. 1

The Supreme Court on Tuesday froze illegal bulldozer demolitions across the country till October 1, drawing attention to reports of “glorification, grandstanding and even justifications” of the razing of private homes and properties of undertrials and their immediate family members.

A Bench of Justices B.R. Gavai and K.V. Viswanathan said the authorities had continued with the demolitions despite a Supreme Court order on September 2 that the law did not permit the destruction of homes and properties of accused awaiting trial, or even of convicts. The court had observed that the authorities would not be permitted to bulldoze the laws of the land.

“There has been glorification, grandstanding and justification of bulldozers after September 2,” Justice Viswanathan addressed Solicitor General Tushar Mehta, appearing for the State of Uttar Pradesh.



Justice Gavai said that the bulldozer culture had continued even after the court decided to frame guidelines against illegal demolitions.

It was time to “stay your axe”, Justice Gavai said. “There needs some oversight. After our orders, there have been statements that bulldozers will continue... That it depends on [in] whose hands the steering is...,” he said.

The court said there would be no bulldozer demolitions without the leave of the Supreme Court till October 1, the next date of hearing. The court said the stay order would, however, not apply to unauthorised structures on public roads, streets, footpaths, or abutting railway lines, or on public places such as water bodies.

Justice Viswanathan asked Mr. Mehta to assist the court on ways to stop illegal, retributory or communal demolitions by State or municipal authorities. The judge said the court could even arraign the Election Commission of India in the case.

Mr. Mehta accused the petitioners, Jamiat Ulema-i-Hind, represented by senior advocate C.U. Singh, of giving the court a coloured narrative of the demolitions.

SC TAKES NOTICE OF KARNATAKA HC JUDGE’S REMARKS TO WOMAN LAWYER, SEEKS REPORT IN 2 DAYS

A five-judge Bench of the Supreme Court headed by Chief Justice of India D.Y. Chandrachud and comprising four seniormost judges on Friday took suo motu cognisance of a video clip on social media showing a Karnataka High Court judge’s “scandalous” remarks in open court to a woman lawyer during proceedings in a case.

The High Court judge, Justice Vedavyasachar Srishananda, was seen on video making a sexist and disparaging remark to the woman lawyer, creating a furore online.

The other four judges on the Bench were Justices Sanjiv Khanna, B.R. Gavai, Surya Kant, and Hrishikesh Roy. The Bench has sought the assistance of Attorney-General R. Venkataramani and Solicitor-General Tushar Mehta, both of whom were present in the courtroom.

The Bench directed the Registrar General of the Karnataka High Court to consult with the Chief Justice of the High Court and submit a report on the incident in the next two days. The Bench then listed the case for hearing on September 25.

Senior advocate Indira Jaising had posted the video on X with a comment, “We call upon the Chief Justice of India to take suo motu action against this judge and send him for gender sensitisation training.”

The same judge had, on a previous occasion, been in the eye of a public storm for reportedly referring to a Muslim-dominated sub-locality in west Bengaluru as ‘Pakistan’.

The video showed that the judge’s comment was triggered by the initiative taken by the woman lawyer to respond to a question directed at the male lawyer representing the opposite side in the case.

The judge said, in a jocular tone, that she seemed to know everything about him and may even reveal the colour of his undergarments if asked tomorrow.



NGT REJECTS CONFLICT OF INTEREST PLEA INVOLVING JUDGE'S SON AS AMICUS, CALLS IT 'BENCH HUNTING'

The National Green Tribunal (NGT) on Friday rejected a plea that had raised questions of propriety and potential conflict of interest against its judicial member Justice Sudhir Agarwal. The NGT said the plea appeared to be “bench hunting” and it had no reason to accept the applicant’s prayer for placing his case before another bench.

The plea in question was an intervention application filed by an advocate, Gaurav Bansal, in an ongoing petition on non-compliance of pollution norms in Himachal Pradesh. Bansal had alleged that Justice Agarwal had heard a case (unrelated to the Himachal matter) in which his son, Gaurav Agarwal, was appointed an amicus by the Tribunal.

Although Justice Agarwal was not part of the bench hearing the unrelated case when the NGT ordered Gaurav Agarwal’s appointment as amicus, judicial propriety, Bansal said, required that these cases are not heard by him when one of the parties is directly related to the judge. He said he did not feel secure about getting justice from the bench headed by Justice Agarwal and thus prayed that the Himachal application be heard by another bench.

An amicus is an officer of the court and the Tribunal relies on the amicus while hearing a case.

Friday’s order was passed by the Tribunal’s principal bench comprising Justice Agarwal and expert member Dr Afroz Ahmad, which heard the intervention application on August 20. Before filing the intervention application, Bansal had also flagged the same issues to the NGT chairperson, Justice Prakash Shrivastava, in a complaint on May 13.

In its order Friday, the Tribunal said Bansal’s approach was selective since his complaint as well as the intervention application seeking shifting of the Himachal application to another bench was made only after the Tribunal chairperson rotated the roster in May. It pointed out that Justice Agarwal was earlier part of a bench presided by the NGT chairperson and that he was rotated to another bench with effect from May 13.

It said that the intervention application lacked “bona-fide” and was not based on cogent reasons. “This kind of practice normally in judicial institutions is well-known and called forum shopping or bench hunting. Such practice/attempt has been severely criticised. It has been held that no such opportunity should be allowed to any person in this regard,” the order stated.

The order referred to Justice Agarwal’s son, advocate Gaurav Agarwal, as “an Advocate G”. While it did not address the issues — of propriety and possible conflict of interest — raised by Bansal in the intervention application, it said allowing parties to create ground and seek recusal will destroy “the very substratum of justice system” as the judge has no platform, occasion or opportunity to defend himself.

Rejecting the intervention application, the Tribunal ordered that it be listed before the bench that was hearing the Himachal application prior to the rotation of the roster. “We accordingly direct this matter to be listed before the bench concerned after obtaining directions from the Hon’ble chairperson,” the order said.

On the issue of advocate Gaurav Agarwal’s appointment as amicus in three matters, the NGT order said, “So far as order of another bench appointing Advocate G as Amicus Curie (sic) in the last



more than one year in two or three matters is concerned, basically it is judicial order of another bench and we do not find it appropriate to discuss the same in this matter.”

AS SC HEARS CASE ON UP MADRASA LAW, A PROFILE OF THESE INSTITUTIONS, THEIR FUNCTIONING

The National Commission for Protection of Child Rights (NCPCR) has told the Supreme Court that education imparted in madrasas “is not comprehensive and is therefore against the provisions of Right to Education Act”, and that textbooks in these institutions teach about the “supremacy of Islam”.

The NCPCR made its submission on September 11 in a clutch of appeals against an Allahabad High Court order of March 22 that had declared the Uttar Pradesh Board of Madarsa Education Act, 2004 “unconstitutional” on the ground that it violated “the principle of secularism” and fundamental rights guaranteed under Article 14 of the Constitution.

A Bench of Justices Vivek Chaudhary and Subhash Vidyarthi directed the state government to “take steps forthwith for accommodating the madrasa students in regular schools” recognised under the UP primary and high school and intermediate education boards. The UP government had submitted “that no doubt the Madrasa Board is providing religious education and instructions to students, but the state has sufficient powers to impart such education under the Constitution and is rightly permitting such education”.

On April 5, a Supreme Court Bench led by Chief Justice of India D Y Chandrachud stayed the High Court’s order.

Madrasas in history

Madrasa is an Arabic word for an educational institution. In the early centuries of Islam, mosques served also as places of education, but from the 10th century onward, madrasas came to acquire a distinct identity as institutions of religious and secular learning in the Islamic world.

The earliest evidence of madrasas comes from Khorasan and Transoxania, corresponding to modern eastern and northern Iran, central Asia, and Afghanistan. The bigger madrasas also had facilities for housing students, especially those from poor backgrounds.

Largest number in UP

As of 2018-19, there were 24,010 madrasas in India, 19,132 of which were recognised madrasas, and the remaining 4,878 were unrecognised, then Minister of Minority Affairs Mukhtar Abbas Naqvi told Rajya Sabha on February 3, 2020.

Recognised madrasas come under the state boards for madrasa education (more details below); the unrecognised ones follow the curriculum prescribed by the bigger seminaries such as the Darul Uloom Nadwatul Ulama (Lucknow) and Darul Uloom Deoband.

As many as 60% of the country’s madrasas were in Uttar Pradesh — 11,621 recognised, and 2,907 unrecognised madrasas. The second highest number of madrasas were in Rajasthan — 2,464 recognised, and 29 unrecognised madrasas, according to statewise data presented by Naqvi.

Several states and Union Territories, including Delhi, Assam, Punjab, Tamil Nadu, and Telangana had no recognised madrasas, the data showed.



Two broad categories

There are two categories of madrasas in India — Madrasa Darse Nizami, which are run as public charities, and are not bound to follow the school education curriculum of the state; and the Madrasa Darse Aliya, which are affiliated to the state’s madrasa education board (such as the Uttar Pradesh Board of Madrasa Education).

More than 20 states have their own madrasa boards. State madrasa boards are governed by the state government concerned; teachers and other officials at recognised madrasas are appointed by the state government.

Some 1.69 lakh students sat for the UP madrasa education board examinations — equivalent to Class 10 and Class 12 — in 2023. UP and some other states also have a separate Sanskrit board.

NCERT, state curricula

Education is similar to school and higher education. Madrasa students study to be Maulvi (equivalent to Class 10), Alim (equivalent to Class 12), Kamil (equivalent to a Bachelor’s degree), and Fazil (equivalent to a Master’s).

The medium of education in the charitable Madrasa Darse Nizami is Arabic, Urdu, and Persian. The Madrasa Darse Aliya use either textbooks published by the state textbook corporation or agency, or the curriculum and textbooks of the National Council of Educational Research and Training (NCERT).

Most madrasa boards in the country now follow the NCERT curriculum. Mathematics, Science, Hindi, English, and Sociology are compulsory subjects. There is also an optional paper, in which students have the choice of studying Sanskrit or Deeniyat (including the Quran and other religious teachings). Hindu religious scriptures and other religious teachings are taught in the Sanskrit optional paper.

Funded by state govts

The bulk of the funding for madrasas comes from the respective state governments. The central government has a Scheme for Providing Education to Madrasas/ Minorities (SPEMM), under which financial assistance is provided to madrasas and minority institutions across the country.

There are two sub-schemes under SPEMM — a Scheme for Providing Quality Education in Madrasas (SPQEM) and Infrastructure Development of Minority Institutes (IDMI). SPEMM was transferred from the Ministry of Minority Affairs to the Ministry of Education in April 2021.

DARGAHS DIFFERENT FROM OTHER WAQF PROPERTIES, SAYS SUFI BODY

The All India Sufi Sajjadanashin Council (AISSC), which claims to represent 600 dargahs in India, in a presentation before the Parliament’s Joint Committee on Waqf (Amendment) Bill, 2024, demanded a “separate” and “independent” dargah board, claiming that the current Waqf Boards are not “streamlined” for their needs.

The council argued that the dargahs were distinct from other Waqf properties, since they had a hereditary Sajjada Nashin as its head — which means a single family had been “continuously and uninterruptedly” looking after the property for several centuries. “These dargahs are centres of



communal harmony and their doors are always open to all. Non-recognition of such dargahs as a separate class, therefore, has so far impeded their welfare,” it said.

The council’s presentation at the Friday meeting of the panel set off a barrage of questions from the Opposition members. All dargahs, barring the Ajmer-i-Sharif, are governed by the Waqf Board. The Ajmer dargah comes under the ambit of Durgah Khawaja Saheb Act, 1955.

WHAT RIGHTS ARE QUEER COUPLES FIGHTING FOR?

The story so far:

A recent Finance Ministry advisory took a first step at easing some of the difficulties of daily life for queer couples who cannot legally marry. The clarification, along with a Reserve Bank of India (RBI) circular, made it clear to all commercial banks that people from the LGBTQIA+ community and those in queer relationships cannot be prevented from opening joint bank accounts and nominating their queer partners as their beneficiaries.

What are the problems queer people face when their unions are unrecognised?

Supriyo Chakraborty and his partner have been together for 12 years, but when one of them is in hospital or needs to take a medical decision, his partner does not have a legal right to weigh in. “We are scared. Right now, our parents are still alive, so we have managed. But we are getting older. What happens when they are no longer there? For these kinds of life and death decisions, the hospital looks for blood relatives or a legal spouse,” he points out.

If caregiving rights are at the heart of the demand for legally recognised marriages, funeral rites provide an even bleaker example. Earlier this year, a Kochi man named Jebin had to petition the Kerala High Court to be allowed to attend the funeral of his live-in partner Manu who died of injuries sustained in a fall. Manu’s family had refused to accept his body and pay his medical bills as they did not approve of their relationship. The court ruled that Jebin could pay his final respects at the funeral, provided Manu’s family did not object.

Beyond such grave matters, the mundane routines of daily life can all become harder for queer couples. They cannot obtain a ration card as a family; be nominated for the payment of gratuity, provident fund benefits, or insurance benefits as a dependent spouse; or receive tax benefits for payments made on behalf of the spouse. The laws of succession, inheritance, alimony, and maintenance do not take queer couples into account. Their communications are not protected by evidentiary privilege reserved for married couples, meaning they could be compelled to give evidence against each other in court. They cannot donate organs to each other. They cannot adopt a child together.

“In our country, it is marriage that gives a couple access to a bundle of legal rights. It is about so much more than social acceptance,” says Mr. Chakraborty, explaining why he went to court to seek the right to same-sex marriage.

What did the Supreme Court say?

In its October 2023 judgment, the court refused to recognise same-sex marriage, saying that judicial review must steer clear of matters that fall in the legislative domain. However, it also noted that the Constitution protects the freedom of all persons including queer couples to enter into a union, adding that “the failure of the State to recognise the bouquet of entitlements which flow



from a union would result in a disparate impact on queer couples who cannot marry under the current legal regime". It also noted the Union government's commitment to set up a committee chaired by the Cabinet Secretary to define the scope of such entitlements. This six-member panel — which includes the Secretaries to the Ministries of Home Affairs, Social Justice and Empowerment, Law and Justice, Women and Child Development, and Health and Family Development — was set up in April, held its first meeting in May, and began stakeholder consultations in July. Members of the LGBTQIA+ community have been encouraged to email the committee directly.

Apart from joint bank accounts, the court directed that the panel must consider how to enable partners in a queer relationship to be treated as a part of the same family for the purpose of a ration card. It also noted that "medical practitioners have a duty to consult family or next of kin or next friend, in the event patients who are terminally ill have not executed an Advance Directive. Parties in a union may be considered 'family' for this purpose." The court directed the panel to consider jail visitation rights and the right to access the body of the deceased partner and arrange the last rites, succession rights, financial and material benefits, and rights flowing from employment such as gratuity.

What kind of changes in rules are needed?

Even before last month's advisories from the Finance Ministry and the RBI, some banks claimed that their inclusive policies allowed queer couples to nominate each other as beneficiaries and open joint accounts over the last few years. Mr. Chakraborty dismisses such claims as a "marketing gimmick", noting that bank branch employees had not been given the sensitivity training to back up the policies proclaimed from their headquarters. "The local clerk simply trades in familiar stereotypes. But now that we have a government order, we can demand our rights. Legal backing is essential," he says.

Similar advisories from the insurance regulator, the State departments in charge of the Public Distribution System, medical boards' guidelines, and the Income Tax department may be sufficient for some benefits to be made accessible to queer couples. However, amendments to family and inheritance laws, the Juvenile Justice Act, and the Income Tax Act may need to be passed by Parliament and State legislatures to make deeper changes.

"We tried to get ourselves a bouquet of rights through the petition [to recognise same-sex marriages], but that did not work. So now, it is a longer slog to gain each of them one by one," says Mr. Chakraborty.

WHAT POWERS WILL THE NEW JAMMU AND KASHMIR ASSEMBLY HAVE?

The first phase of polling for the Jammu and Kashmir Assembly will take place on Wednesday. Given that this is the first election since 2019 when the constitutional compact of Jammu and Kashmir was altered by the abrogation of Article 370, the new Legislative Assembly will be substantially different from earlier Assemblies.

The constitutional changes of August 2019 took away the statehood of Jammu and Kashmir — thus, the new Assembly will be for a Union Territory (UT), not a state. What powers will the new Assembly of Jammu and Kashmir have?



J&K, Puducherry, Delhi

The Jammu and Kashmir Reorganisation Act, 2019 created two UTs — the UT of Ladakh without a legislature, and the UT of Jammu and Kashmir with a legislature.

An amendment was made to the First Schedule of the Constitution, which lists all states and UTs, and to Article 3 of the Constitution, which deals with the “Formation of new States and alteration of areas, boundaries or names of existing States”.

Article 239, which deals with the administration of Union Territories, states that “every union territory shall be administered by the President, acting, to such extent as he thinks fit, though an administrator...”.

Section 13 of the 2019 Act states that Article 239A of the Constitution (“Creation of local Legislatures or Council of Ministers or both for certain Union territories”), which provides for the administration of the UT of Puducherry, shall also apply to the UT of Jammu and Kashmir.

Delhi, the only other Union Territory with a legislature, is dealt with separately in the Constitution — under Article 239AA. As the national capital, Delhi has a unique constitutional status, which has been the subject of much litigation before the Supreme Court.

While the Supreme Court has, in judgments delivered in 2018 and 2023, upheld the powers of the legislature of Delhi, a constant, politically charged tussle between the Lieutenant Governor and the state government has been seen in recent years.

In Delhi’s case, three subjects — land, public order, and police — are reserved for the LG.

However, control over ‘services’, or the bureaucracy, has been a bone of contention between the state and the Centre. After the SC clarified that the LG cannot exercise independent discretion on subjects other than the three reserved subjects, the Centre enacted legislation in 2023, bringing services under the control of the LG. This too, is now under challenge before the court.

Delhi’s anti-corruption bureau (ACB) too, has been an issue between the state and the Centre.

The Union Ministry of Home Affairs issued a notification in 2015, saying Delhi will have control of ACB only to the extent that it deals with Delhi’s bureaucrats, and not government officers in the territorial jurisdiction of Delhi. Even so, the consent of the MHA is required to prosecute central government officers working in the Delhi government.

Powers of the Assembly

As per the 1947 Instrument of Accession, J&K had acceded to India in respect of only defence, foreign affairs, and communications. Under Article 370 as it stood before the abrogation, Parliament had limited legislative powers with respect to J&K. Over the years, however, the Centre’s lawmaking power was extended to cover several other subjects in the Union List (List I of the Seventh Schedule of the Constitution).

The Reorganisation Act of 2019 created a vastly different structure, in which the LG has a much bigger role compared with the state Assembly. This can be understood from two key provisions.

First, Section 32 of the Act, which deals with the extent of legislative power of the Assembly, states that “subject to the provisions of this Act, the Legislative Assembly may make laws for the whole or any part of the Union territory of Jammu and Kashmir with respect to any of the matters



enumerated in the State List except the subjects mentioned at entries 1 and 2, namely “Public Order” and “Police” respectively or the Concurrent List in the Seventh Schedule to the Constitution of India in so far as any such matter is applicable in relation to the Union territories.”

States, on the other hand, can legislate on subjects in the Concurrent List, to the extent that such a law is not repugnant or contrary to the central law on the issue.

Second, even for this, the 2019 Act has a key rider — Section 36, which deals with special provisions as to financial Bills. This provision states that a Bill or amendment “shall not be introduced into, or moved in, the Legislative Assembly except on the recommendation of the Lieutenant Governor”, if such Bill deals with, among other aspects, “the amendment of the law with respect to any financial obligations undertaken or to be undertaken by the Government of the Union territory...”.

This provision has wide import since virtually every policy decision could create a financial obligation for the Union Territory.

Powers of the J&K LG

The 2019 Act also specifies the powers of the J&K LG. Section 53, which deals with the role of the Council of Ministers, states: “The Lieutenant Governor shall, in the exercise of his functions, act in his discretion in a matter:

1. which falls outside the purview of the powers conferred on the Legislative Assembly; or
2. in which he is required by or under any law to act in his discretion or to exercise any judicial functions; or
3. related to All India Services and Anti-Corruption Bureau.”

This means that apart from public order and police, the bureaucracy and the anti-corruption bureau will also be under the LG’s control.

The provision also says that whenever “any question arises whether any matter is or is not a matter as respects which the Lieutenant Governor is by or under this Act required to act in his discretion, the decision of the Lieutenant Governor in his discretion shall be final, and the validity of anything done by the Lieutenant Governor shall not be called in question on the ground that he ought or ought not to have acted in his discretion”, and that “the question whether any, and if so what, advice was tendered by Ministers to the Lieutenant Governor shall not be inquired into in any court”.

In the run up to the elections, a series of administrative changes have extended the powers of the LG, granting him the power to also appoint the Advocate General and law officers, and to give him a say in decisions regarding prosecutions and sanctions.

CONGRESS TO CHAIR THREE LS STANDING COMMITTEES, 1 RS

The negotiations for the Parliamentary Standing Committees between the government and the Opposition are over, with the Congress having managed to get chairs for three committees in the Lok Sabha and one in the Rajya Sabha.



— Highly placed sources told *The Indian Express* that in the Lok Sabha, the Congress will get chairs for the External Affairs Standing Committee, Standing Committee on Agriculture and the Standing Committee on Rural Development. In the Rajya Sabha, the Opposition party will get the Standing Committee for Education.

For Your Information:

— The origin of the parliamentary committee system in India can be traced back to the British colonial era. The first committee established in the Indian legislature was the Public Accounts Committee (PAC) in 1921 under the Government of India Act, 1919 also called Montford Reforms.

— **Significance of parliamentary committees:** The increasing complexities of modern administration proved that traditional methods of legislative control over the executive was insufficient. It is difficult for MPs to scrutinise all government activities in the House in a limited time. In that context, the committee system is helpful in keeping pace with the increasing workload and demand for specialisation.

— Parliamentary committees help MPs devote more time to each item under scrutiny and examine matters in great detail. These committees can also seek inputs from experts from respective fields and ensure the participation of stakeholders in deliberations. These measures help members from various political parties to reach a consensus on insurmountable issues.

— In addition, parliamentary committees provide the opportunity for cross-pollination between two chambers of Parliament which is otherwise unlikely. These committees also accommodate the MPs who could not find a place in the Cabinet of coalition governments.

WRONG NOTION

Notwithstanding the opposition from political parties and many in civil society to the idea of simultaneous elections, the Union government has decided to accept the recommendations of a high-level committee headed by former President Ram Nath Kovind to go ahead with the scheme. The committee envisaged simultaneous Lok Sabha and State Assembly elections as the first step, followed by municipal and panchayat polls within 100 days of the general election. In order to do so, the government would need to get constitutional amendments to be passed, in Parliament and in the State Assemblies. Two key reasons have been evinced for the proposal — first, the costs of conducting these elections would be significantly reduced if held together, and, second, not having simultaneous elections has kept political parties in prolonged campaign mode, impacting governance and legislative work. There has been little to no empirical data to support the first reason. Already, general elections take an inordinately long time, with some State polls being held in phases. Simultaneous elections could prolong this process. One of the committee's recommendations is that if a State Assembly gets dissolved before five years of its term, after the "appointed date" — the date for synchronising Lok Sabha and Assembly elections — fresh "midterm" elections will be held but the new Assembly's will not have a full five-year tenure. Its tenure will end five years from the "appointed date". This provision militates against the original idea of cost cutting through simultaneous elections. It is also an anti-federal idea.

In a multi-tiered governance system, people choose their representatives based on their perception of who is best suited. The power being demarcated for different levels of government allows for distinct roles for each representative and suggests varied voter choices that could be based on party affiliation, candidate strength, ideological positions or socio-economic reasons that



are constituency-specific. Each tier has its exclusive importance and so does the related election. The second reason, that representatives are in perennial campaign mode and, therefore, polls to every tier should all be held during the same period, is problematic. For one, that national representatives of parties are forever in campaign mode is a consequence of the centralising tendencies of parties that are in power today and is not a reflection of the extant electoral democratic system. Second, subsuming multi-tier elections into simultaneous mode has the potential to reduce the importance of each tier, especially the Assembly and municipal/panchayat levels, and is anti-federal. Lastly, to effect this proposal, the tenures of quite a few State governments will have to be cut short. Parties and civil society actors committed to federalism must squarely reject this proposal by the Union government.

ARVIND KEJRIWAL WANTS EARLY ELECTIONS TO DELHI ASSEMBLY. WHAT DOES THE LAW SAY?

Delhi Chief Minister Arvind Kejriwal tendered his resignation to Lieutenant Governor V K Saxena on Tuesday, paving way for AAP leader Atishi to take over the top post.

Kejriwal told Aam Aadmi Party (AAP) workers on Sunday that he would give up his post and give an “agnipariksha” to prove his innocence in the alleged excise policy corruption case, in which he was granted bail by the Supreme Court last week.

Kejriwal has asked for Assembly elections to be held in Delhi along with Maharashtra, where a new House must be elected before November 26. However, the term of the Delhi Assembly ends only on February 23, 2025.

Who decides when Assembly elections will be held in Delhi?

Under Article 324 of the Constitution, the powers of superintendence, direction, and control of elections are vested in the Election Commission of India (ECI). The ECI works backwards from the date on which the five-year term of the existing House ends, ensuring that the election process is completed before then.

However, Section 15(2) of The Representation of the People Act, 1951, says the election cannot be notified less than six months before the end of the term of the Assembly — unless the Assembly is dissolved before it completes its term.

Can a Chief Minister force the ECI to hold an election before it is due?

Article 174(2)(b) of the Constitution says the Governor “may from time to time” dissolve the Legislative Assembly. The Council of Ministers can recommend dissolution of the House to the Governor before the end of its term, forcing a decision. Once the Assembly has been dissolved, the ECI has to conduct fresh elections within six months.

In September 2018, the Telangana Cabinet led by then Chief Minister K Chandrasekhar Rao recommended the dissolution of the Assembly, whose term was to end in June 2019. The Governor accepted the recommendation, and Assembly elections were held in 2018.

But Delhi is not a “full” state. In Delhi, the Government of National Capital Territory of Delhi Act, 1991, applies. While Section 6(2)(b) of the Act says the Lieutenant Governor may from time to time dissolve the Assembly, even if a Chief Minister of Delhi recommends the dissolution of the Assembly, the final say is the Centre’s (through the LG).



In any case, in the present situation, Kejriwal has only said he will resign as CM and asked for early elections — he does not appear to be planning to recommend the dissolution of the Assembly. His successor in the post could be announced after a meeting of AAP MLAs at the CM's residence on Tuesday morning.

What are the things the ECI looks at before deciding the election schedule?

The new Assembly (or Lok Sabha) has to be in place before the end of the current Assembly's term, which means the election process, including giving certificates of election to the winners and the completion of all formalities, has to be completed before that date.

The ECI works backwards from that date, planning the schedule based on the weather, availability of security forces, festivals, training of officers, procurement of EVMs, etc.

Before finalising the schedule, the ECI visits the state to take inputs from the administrative and police machinery. It also tries to club together voting in all states where polls are due around the same time.

What is the current state of preparedness for elections in Delhi?

Delhi is not preoccupying the ECI currently. The ECI is currently engaged in conducting the Jammu and Kashmir Assembly election, where voting in the first phase will take place on September 18. Two more phases will be held on September 25 and October 1.

Voting in Haryana will follow on October 5, and counting in both Haryana and J&K will be held on October 8.

Elections to the Maharashtra and Jharkhand Assemblies are due next; the terms of these two Houses will end in November and January 2025 respectively.

Usually, a special summary revision of the electoral roll starts a few months before elections are due. The electoral roll of Maharashtra has already been published with the eligibility date of July 1, which means those who have turned 18 by that date have had a chance to enrol.

The rolls of J&K, Haryana, Maharashtra, and Jharkhand were published in August. For all other states and UTs, including Delhi, the annual revision with the eligibility date of January 1, 2025 will be published on January 6, 2025, as per instructions issued by the ECI.

HOW DO EMERGENCY PROVISIONS IMPACT CENTRE-STATE RELATIONS?

The story so far:

The recent spate of renewed violence in Manipur has once again triggered the discussion around Centre-State relations and the use of emergency provisions by the Centre.

What is our federal set-up?

India is a federation with governments at the Centre and the States. The Seventh Schedule to the Indian Constitution distributes the power between the Union and States. Under this scheme, it is the domain of the State governments to maintain law and order in their respective States.



What are emergency provisions?

The emergency provisions are provided in Part XVIII of the Constitution. Articles 355 and 356 deal primarily with the affairs of government in a State under this part. Article 355 imposes a duty on the Centre to protect every State from external aggression and internal disturbance. It also specifies that the Centre should ensure that every State government operate according to the Constitution. Article 356 allows for the imposition of the President's rule if a State's government cannot function in accordance with constitutional provisions. While in the U.S. and Australia, federal government functions also involve protecting States, their constitutions do not contain provisions for removing State governments.

B.R. Ambedkar explained the purpose of Article 355, keeping in mind the federal character of our polity, that if the Centre is to interfere in the State's administration under Article 356, it must be by or under some obligation which the Constitution imposes on the Centre. Hence, Article 355 was incorporated to check any arbitrary or unauthorised use of Article 356.

What have the courts ruled?

Dr. Ambedkar again in the constituent Assembly wished that Articles 355 and 356 would never be called into operation and would remain a dead letter. However, it was a travesty of the Constitutional principles and federalism that Article 356 was misused on several occasions removing elected governments that enjoyed majority in the States. Reasons varied from loss in Lok Sabha elections to deterioration of law and order in the States. It was only after the Supreme Court's categorical judgement in the S R Bommai case (1994) that such misuse was restricted. The court held that Article 356 should be imposed only in the event of a breakdown of constitutional machinery, as distinguished from an ordinary breakdown of law and order. It also held that the imposition of the President's rule is subject to judicial review and should not be misused for political reasons.

On the other hand, the scope of Article 355 has been widened by various Supreme Court rulings. In State of Rajasthan Vs Union of India (1977), the court had a narrow interpretation of Article 355 as justifying the employment of Article 356. However, in subsequent cases such as Naga People's Movement of Human Rights Vs Union of India (1998), Sarbananda Sonowal Vs Union of India (2005), and H.S.Jain Vs Union of India (1997), the legal position with respect to Article 355 has shifted. The scope of actions under this article has been widened to permit all statutorily and constitutionally available actions by the Union to discharge its duties of protecting the State and ensuring that its governance is in accordance with the Constitution.

What are the suggestions?

The Sarkaria Commission on Centre-State Relations (1987), the National Commission to Review the Working of the Constitution (2002), and the Punchhi Commission on Centre-State Relations (2010) have all opined that Article 355 not only imposes a duty on the Union but also grants it the power to take necessary actions for the effective performance of that duty. Imposition of the President's rule under Article 356 must be used as a last resort in situations of utmost gravity and urgency.

The situation in Manipur is grave. Large-scale violence against innocent civilians, women and children; looting of ammunition from police armoury; drone and missile attacks targeting civilians cannot be viewed as just an ordinary breakdown of law and order. Constitutional as well as political expediency, considering that the same party is in power at the Centre and the State, has



resulted in Article 356 not being invoked. However, under Article 355, all possible instructions and actions should continue to be pursued to restore normalcy at the earliest.

NEW CODE, OLD CAPACITY

There has been many a furrowed brow and heavy hand on the pen about whether there was a need for a new criminal code, the abbreviated legislative process of its enactment and the content of the Bharatiya Nyaya Sanhita (BNS), Bharatiya Nagarik Suraksha Sanhita (BNSS), and the Bharatiya Sakshya Adhinyam (BSA).

— One of the ambitious aspects of the new laws is the emphasis on speeding up trials. Judgments must now be delivered within 45 days after trial completion, and charges must be framed within 60 days of the first hearing. This raises concerns about the system's preparedness to cope with the stringent timelines.

— National Judicial Data Grid (NJDG) data show that 5.1 crore cases are pending across all courts. The workload that averaged 2,391 per judge in 2022 has gone up to 2,474 in 2024. This means trials take longer.

— The cascading effect is seen in the number of people being held in prisons while awaiting trial or investigation. Between 2020 and 2022, the number of undertrials has gone up from 3.7 lakh to 4.2 lakh.

— Concerned that prisoners must be afforded more opportunity for bail, the BNSS now extends the provision of bail, as provided under CrPC's Section 436A, to allow first-time offenders who have served a third of their sentence to apply for bail.

— Several safeguards against unjust incarceration exist within the system. To mention a few — free legal aid and prison visiting lawyers for anyone without representation... the entire system, from police to legal aid to the judiciary, will need significant increases in numbers.

— The India Justice Report records a 21 per cent vacancy in lower courts and a 30 per cent vacancy in high courts. In other words, one in three judges is missing from the bench. Every increase in the number of judges will require a bump up in physical infrastructure and supporting administrative manpower and machinery.

— The BNSS also mandates that statements of victims in sexual violence cases must be recorded in the presence of female police officers and must be videographed...

— Despite the sharp rise in gender-based violence cases, only a small percentage of women officers are at ranks qualified to take statements — 80 per cent of women police personnel are in the constabulary...

— The new laws also mandate forensic investigations for crimes punishable by seven years or more and videography for search and seizures... However, current capacities to assist law enforcement are wanting by a long measure — a chronic shortage of labs and trained forensic professionals, inadequate infrastructure...

— The embrace of technology assumes that electronic evidence presented in court is tamper-proof and that the chain of evidence has remained intact as it passes from hand to hand over time.



— The success of the new laws hinges on more than addressing structural deficits. It requires comprehensive, across-the-board training to upgrade quality and knowledge and change mindsets.

For Your Information:

— The Bharatiya Nyaya Sanhita (BNS), the Bharatiya Nagarik Suraksha Sanhita (BNSS), and the Bharatiya Sakshya Adhinyam (BSA) will replace the Indian Penal Code, 1860 (IPC), the Code of Criminal Procedure, 1973 (CrPC), and the Indian Evidence Act, 1872 (IEA) respectively.

— Seventy five per cent of the existing provisions have been retained verbatim in the new laws, making any claim of decolonisation difficult to sustain. Besides, decolonisation cannot be understood as merely legislative changes.

NIA TO CREATE DATABASE OF GANGSTERS, PRISON NETWORKS, ASSOCIATES

To improve the information network on a national level against “organised criminals”, the National Investigation Agency (NIA) will make a database of gangsters, criminals running their gangs from behind jails, and their associates.

— The Central agency will put updated details of the criminals, their social media accounts, their financial network, and most importantly information about their associates and key operational areas, The Indian Express has learnt.

— Sharing some of the key features of the database as per the discussion, a source said it would have the latest photographs of the criminals, biometric details, interrogation report, their logistics provider, weapon suppliers, and harbourers.

— In the meeting, which lasted for around six hours, a senior officer of the Haryana Police Special Task Force (STF) flagged the increasing use of encrypted apps, VPNs, and “dabba calls” by the gangsters based abroad to carry out extortions.

— “In his presentation, he also flagged the issue of lack of response from service providers and social media platforms for providing data as some of these platforms are being used for extortion as well as recruitment of new shooters,” the source said.

For Your Information:

— During a “dabba” call, which involves threats being made through a second phone or a dabba, a henchman of a gangster makes an extortion call using the Internet. Next, the henchman makes a second call using another phone to his boss sitting in a different country, keeps the two phones side-by-side, and turns on the loudspeaker to let the boss do the talking.

WHY IS T.N.’S EDUCATION FUNDING ON HOLD?

The story so far:

Tamil Nadu is yet to receive this year’s funds from the Union government under the flagship education scheme Samagra Shiksha. According to the State government, the Centre has linked these funds to the complete implementation of the National Education Policy (NEP) 2020, which includes provisions that the State has opposed, including the contentious three-language formula.



The impasse has come to a head over the last two weeks, with a public war of words between the Centre and State erupting on X.

What is Samagra Shiksha and why has Tamil Nadu not gotten funds under it?

Samagra Shiksha is an integrated Centrally-sponsored scheme for school education from nursery till Class 12, with components for teacher training and salaries, special education, digital education, school infrastructure, administrative reform, vocational and sports education, with grants for textbooks, uniforms, and libraries, among others. The scheme's estimated outlay between 2021 and 2026 is ₹2.94 lakh crore, with the Centre and States contributing funds in a 60:40 ratio. For 2024-25, Tamil Nadu's allocation under the scheme amounts to ₹3,586 crore of which the Central share is ₹2,152 crore, with a first quarterly instalment of ₹573 crore, which has not yet arrived halfway through the financial year.

In a letter to Prime Minister Narendra Modi last month, Tamil Nadu Chief Minister M.K. Stalin accused the Centre of imposing a prerequisite for the fund's disbursement, namely, the signing of a Memorandum of Understanding (MoU) for another Centrally-sponsored education scheme called PM Schools for Rising India (PM Shri). This scheme, being run from 2022-2027, aims to create 14,500 model schools across the country to showcase the implementation of NEP 2020, and has a much smaller project cost of ₹27,360 crore. The Centre has sent at least 10 letters to Tamil Nadu from September 2022, asking the State to sign the MoU, which included an agreement to fully implement the NEP.

In March 2024, the State gave an undertaking that it would do so, with Tamil Nadu Education Minister Anbil Mahesh saying that this was because the PM Shri MoU was being linked to funding for the much larger Samagra Shiksha — the delayed third and fourth instalments from 2023-24, and the full funds for the current year. In July, the State signed a modified MoU, dropping the paragraph on NEP implementation, however, this was unacceptable to the Centre. In his August letter, Mr. Stalin noted that States which had signed the MoU had received the funds, and in a September post on X, accused the Centre of "denying funds to the best-performing States for refusing to bow to the NEP".

The Union Education department has taken umbrage at this implication. In response to an article by The Hindu, a Ministry spokesperson said it was "misleading" and "incorrect" to suggest any such "quid pro quo". However, the fact remains that Tamil Nadu has not signed the complete PM Shri MoU and has not received Samagra Shiksha funds.

What is Tamil Nadu's problem with the NEP 2020?

In a post on X, Mr. Mahesh said the State's objections "relate to specific elements like the three-language formula and curriculum changes", and noted that "Tamil Nadu is already implementing many acceptable aspects of NEP through its own initiatives". He also warned that linking the release of Samagra Shiksha funds to full NEP compliance "infringes upon the State's constitutional autonomy in education".

Tamil Nadu's draft State Education Policy (SEP), submitted in July, clearly indicates that the State wants to stick to the 5+3+2+2 curricular formula, rather than the NEP, which includes the pre-school years. The SEP also proposes five years as the age of entry to Class 1, as against six years in the NEP. The State wants undergraduate college admissions to be based on Class 11 and 12 marks, rather than a common entrance test as proposed by the NEP. The biggest hurdle, however, is the NEP's three-language formula.



Why does Tamil Nadu oppose the three-language formula?

The NEP 2020 recommends the mother tongue or the local language as the medium of instruction till Class 5 and says that all school students should be taught at least three languages, of which two must be native to India. This three-language formula recommendation has been in every NEP since 1968, and has been implemented in many States by teaching the local language, as well as English and Hindi, with Sanskrit also offered as an option, especially in Hindi-speaking States.

Tamil Nadu has had a long-standing opposition to this formula, dating back to social movements in the pre-Independence era. From a widespread agitation against mandatory Hindi in the 1930s to violent anti-Hindi riots in the late 1960s, to protests against the NEP and Navodaya schools in 1986, there has been a consistent political consensus on the issue.

Instead, the State implements a two-language formula, making it mandatory for all students to study both Tamil and English throughout their school years, and they are free to choose Hindi or any other language as an optional third. "We embrace Tamil as a pillar of our identity while also ensuring future generations are equipped with English proficiency," Mr. Mahesh said in a recent post on X.

NEP 2020 says that "there will be a greater flexibility in the three-language formula, and no language will be imposed on any State", indicating that it is not mandatory to include Hindi as one of the three languages. However, this would still allow students to choose Tamil as a third language, to be studied for just a few years in middle school.

All major political parties in Tamil Nadu have rejected this formula on principle. When Union Education Minister Dharmendra Pradhan asked whether this "principled" stance against NEP meant that Tamil Nadu was opposing education in the mother tongue including Tamil, Mr. Mahesh responded that the State's policy has "always prioritised inclusive learning with Tamil as a cornerstone, while empowering students with knowledge in English".

WITH EYE ON 2025 BIHAR ELECTION, NITISH SETS JULY DEADLINE FOR LAND SURVEY

Keeping next year's Assembly election in mind, Bihar Chief Minister Nitish Kumar has initiated a comprehensive land survey, aiming to digitise land records of 45,000 villages in the run-up to the poll, due in late 2025.

Mr. Kumar has set a July deadline for the Revenue and Land Reforms Department to complete the exercise, the first of its kind in over 100 years. The State government has appointed nearly 10,000 officials as Special Survey Assistant Settlement Officers to carry out the task.

It is being seen as a strategic move as the last such survey was conducted in the State in 1910. There is a huge number of disputes relating to land pending before different legal forums, overburdening the present machinery, including civil courts. About 60% of murder cases registered at police stations are related to land disputes, as per the State Crime Records Bureau, 2023. The government is faced with complexities owing to the delay in settlement of disputes related to land rights, titles, and possession.

Pointing out that the Chief Minister has taken several such bold decisions in the past like the liquor ban and caste-based survey, the JD(U) leader said if the land survey is completed before the election, the ruling party is "sure of getting maximum benefit because all sections and castes are affected by this".



He said the government will take possession of illegal land “encroached upon by others” and people will benefit as their “land will be declared legal with the right documents in their hand”. The JD(U) leader added that land is now transferred to the next generation without any documentation, and land value will increase once the survey is completed.

The JD(U)’s ally, the Bharatiya Janata Party (BJP), is however facing challenges owing to the land survey as people in villages are busy getting their land documents verified amid the party’s membership drive. Ever since the drive was launched in Bihar, the BJP has added only nearly five lakh members, whereas in “a small State like Assam more than 22 lakh people took membership”, a party official said.

Meanwhile, the Opposition has raised questions over the exercise, with RJD leader Tejashwi Yadav highlighting the difficulties faced by people in verifying land documents. The party’s Buxar MP, Sudhakar Singh, had recently shared a video purportedly showing a government official taking a bribe in lieu of verifying documents.

Panic was also triggered with regard to the deadline to submit online or offline self-declaration forms to join the survey, but Revenue and Land Reforms Minister and BJP State chief Dilip Kumar Jaiswal assuaged worries by stating that there is no fixed date.

Facing a problem

One major issue confronting survey officials is deciphering old documents in the Kaithi script, which can be read only by an average of seven to eight persons in every district.

TWO NAVY OFFICERS TO EMBARK ON GRUELLING BLUE-WATER GLOBAL VOYAGE

After three years of preparations, two women officers of the Indian Navy are set to embark soon on an arduous blue-water voyage around the world.

Lt. Commanders A. Roopa and K. Dilna will be undertaking the expedition of circumnavigating the globe onboard INSV Tarini, Navy spokesperson Commander Vivek Madhwal said on Sunday.

The officers are undergoing training under the mentorship of ace circumnavigator and Golden Globe Race hero, retired Commander Abhilash Tomy. The officers, as part of a six-member crew, had participated in trans-oceanic expedition from Goa to Rio de Janeiro in Brazil, via Cape Town in South Africa, and back last year.

Thereafter, they undertook a sailing expedition from Goa to Port Blair and back in double-handed mode. Further, the duo successfully undertook a sortie from Goa to Port Louis, Mauritius again in the same mode early this year.

“Indian Navy has made significant efforts to revitalise the sailing tradition, emphasising its commitment to preserve maritime heritage and promote seamanship skills,” the Navy spokesperson said.

He said the Indian Navy has taken a centre stage in ocean sailing expeditions through the pioneering efforts of sail training ships – INS Tarangini and INS Sudarshini, and circumnavigating aboard INSV Mhadei and INSV Tarini.



SPACE PROGRAMME BOOST

The Union Cabinet approved four big-ticket space projects, including the next mission to the moon, a mission to the planet Venus, follow-ups to the ongoing Gaganyaan mission and the setting up of an Indian Space Station. The approvals were in line with the Vision 2047 mapped by the space agency.

— The Indian Space Research Organisation (Isro) will aim for a March 2028 launch for the Venus mission — when Earth and Venus are at their closest. This will be India's second mission to a planet, after the Mars Orbiter Mission in 2014.

— The Union Cabinet also approved the continuation of the Gaganyaan mission and the establishment of the Bharatiya Antariksh Station (BAS) for a cost of Rs 20,193 crore. The space agency has set December 2029 as the timeframe for completing all launches and operations of the first BAS module.

— The project will feature eight missions, four of which are required to build the space station. This is in addition to the two uncrewed and one crewed missions that have previously been approved for the first human spaceflight under the Gaganyaan program. The project has been cleared for Rs 1,236 crores. An orbiter travelling around the world will examine the planet's surface, dust and clouds, volcanism, atmosphere, and ionosphere, as well as the interaction of the planet with the sun.

— The Chandrayaan-4 mission was approved for Rs 2,014 crore over 36 months. According to The Indian Express, the expedition would consist of five modules, which will be sent into space on two separate occasions. The mission is intended to land on the lunar surface, gather samples, keep them in a vacuum container, and return them. The mission will also include docking and undocking, which involves two spacecraft aligning and coming together in orbit, which India has not tried before. India intends to send humans to the moon by 2040.

For Your Information:

— Venus is the second brightest object in the sky, behind the moon. It appears brilliant because of the dense cloud cover, which reflects and scatters light. However, while Venus, the second closest planet to the Sun, is known as Earth's twin due to their comparable proportions, the two worlds differ significantly.

— Despite being the hottest planet in the solar system, it comes after Mercury, the planet nearest to the Sun. Surface temperatures on Venus can reach 471 degrees Celsius, which is hot enough to melt lead.

— EnVision is an ESA-led program with NASA support. It is expected to be released sometime in the 2030s. EnVision's earliest launch chance is in 2031, followed by 2032 and 2033.

— The spacecraft will carry a range of instruments to study the planet's atmosphere and surface, monitor trace gases in the atmosphere and analyse its surface composition. A radar provided by NASA will help to image and map the surface.

— DAVINCI+ is short for 'Deep Atmosphere Venus Investigation of Noble gases, Chemistry, and Imaging' and is the first US-led mission to the planet's atmosphere since 1978. It will try to understand Venus' composition to see how the planet formed and evolved. This mission also



consists of a descent sphere that will pass through the planet's thick atmosphere and make observations and take measurements of noble gases and other elements.

HOW KERALA REDUCED MORTALITY FROM AMOEBIC MENINGOENCEPHALITIS

Children frolicking in neighbourhood ponds in the summer months is a common sight in Kerala, a State that has an abundance of water bodies. The summer this year, however, took all the pleasure out of the water games for children when many young children fell prey to a rare but lethal infection of the central nervous system, amoebic meningoencephalitis, caused by free-living amoebae (FLA) found in freshwater, lakes, and rivers.

Reassurances from public health experts that the infections were sporadic did nothing to ease public anxiety because of the frequency with which amoebic meningoencephalitis was being reported in the State from various districts. Most of the affected were young children from 5–15. This picture changed dramatically in the month of August when, quite unusually, an all-adult case cluster of amoebic meningoencephalitis — eight cases in all — was reported from Thiruvananthapuram.

But despite reporting an unusually high number of 19 cases of amoebic meningoencephalitis in five months, Kerala also managed to create medical history of sorts because it managed to save 14 out of the 19 cases, bringing down the mortality rate of amoebic encephalitis, from the global rate of 97% to 26%. On September 12, all 10 persons who were undergoing treatment for amoebic encephalitis at Thiruvananthapuram Government Medical College hospital were discharged, having completed the 28-day treatment course of the State-adapted U.S. Centers for Disease Control and Prevention treatment protocol.

“This is a unique feat for Kerala, which is sure to enter global literature on the disease. It was a huge learning experience in itself because we could show that if identified and treated early, we have a fighting chance to save patients with amoebic meningoencephalitis. The infection usually deteriorates so fast that there is no therapeutic window for clinicians to intervene,” says R. Aravind, head of Infectious Diseases at Government Medical College Hospital, Thiruvananthapuram.

What is PAM?

Primary amoebic meningoencephalitis (PAM) is a disease caused usually by infection with *Naegleria fowleri*, a microscopic amoeba commonly called a “brain-eating amoeba”. This infection destroys brain tissue, causing severe brain swelling and death in most cases. PAM is rare and usually occurs in otherwise healthy children, teens, and young adults, and has a high fatality rate because of rapid onset and delayed diagnosis.

“Only 11 survivors of confirmed *N. fowleri* PAM have been reported in medical literature until now. There is not much in the literature on amoebic encephalitis caused by FLA other than *N. fowleri*. Kerala has reported amoebic infections caused by *N. fowleri*, *Vermamoeba vermiformis* as well as *Acanthamoeba*. Though we do not have the genomic sequencing information on all cases, and are yet to confirm if all were cases of PAM were caused by *N. fowleri*, we just added 14 more persons to the list of survivors,” Dr. Aravind says.



Unusual cases and case clusters

Kerala also reported an unusual case cluster of amoebic meningoencephalitis from Athiyannoor grama panchayat in Neyyattinkara taluk in Thiruvananthapuram. A detailed outbreak investigation, however revealed that it was not mere exposure to a mossy, green algae-ridden pond in the neighbourhood, but risky behaviour on the part of a group of youth that landed them all in the medical college hospital with the life-threatening amoebic encephalitis infection. Two weeks after the death of a youth from the locality following encephalitis, with a history of exposure to a stagnant water body, when a second case turned up from the same area, the health department was alerted to the unusual possibility that there could be a clustering of PAM cases. Health officials reported that youngsters in the locality were meeting by the pond, mixing tobacco, snuff, and other addictive substances with the water from the pond and then inhaling it using handmade contraption — almost akin to vaping. This was a particularly risky behaviour as it provides a direct entry for amoeba into the brain. With the help of the local body members, health officials managed to track all the youth in the locality who were known to be using snuff in this way. They were all asked to get admitted to the MCH as soon as they developed symptoms. Seven youths were thus picked up early and their CSF samples tested positive for amoebic encephalitis.

Clinicians also got to deal with a lone case wherein the patient was an urban dweller, with no contact with ponds of water bodies. The patient's history revealed that in his house, water from the well was pumped into the overhead tank and then redirected to the pipe system. The overhead tank had not been cleaned in ages, and thus it was possible that the water harboured amoeba. The patient also had a past history of a head injury, which meant that the cribriform plate may not have been intact, aiding the quick entry of amoeba into the brain during nasal ablation.

Aggressive treatment

The State set up a special medical board, and the patients were treated as per the protocol with a cocktail of antibiotics. What turned the tide in favour of the patients was the introduction of the drug Miltefosin into the antibiotic cocktail. Miltefosine is an anti-parasitic agent, but its use is rare now, and supply is also limited. Amphotericin B has been the mainstay of PAM treatment, but Miltefosine was one of the cocktail of drugs that seemed to give good results, and all of the well-documented PAM survivors across the globe have received it as part of their treatment regimen.

It was pro-active case-finding by clinicians — checking for the presence of amoeba in CSF samples whenever acute encephalitis syndrome (AES) cases were encountered — which threw up more cases. This high degree of clinical suspicion on encountering unusual cases of AES is being maintained by all clinicians in the State since its first Nipah encounter in 2018.

New learnings and precautions

With more amoebic encephalitis cases reported from multiple locations, one should assume that amoeba is present in most water bodies except in chlorinated water and that the increased environmental heat and other aquatic factors may be aiding the increase in its concentration. The focus of the State health department is now on creating IEC campaigns for the public, to narrow down possible risks and incorporating the new learnings that emerged from this intense encounter with amoebic encephalitis.

The precautions now specify that no one should dive headlong into water bodies and that it is safer to use nasal plugs while swimming. Persons who have had head injuries or nasal surgery in the past should absolutely stay away from entering stagnant water bodies. Under no



circumstances should one snort water into the nose while washing one's face or when swimming in ponds. Those in the habit of sinus irrigatio should use sterilised water and not tap water.

The current directive to all clinicians is to take a close look at the CSF for the presence of amoeba in all cases of meningoencephalitis, irrespective of whether the patient has had direct or indirect contact with water bodies. This is because early diagnosis and treatment might be life-saving in an infection which is almost always fatal, a learning experience that has been unique to Kerala.

HIV DRUGS: INDIAN PATENT OFFICE TO HEAR PLEA AGAINST US FIRM

The Indian Patent Office is set to hear the objections of Sankalp Rehabilitation Trust against the patent claims filed by US-based pharmaceutical company Gilead Sciences on HIV drug lenacapavir.

— Sankalp, a civil society organisation working with people vulnerable to HIV, opposed the patent applications in 2021 on grounds that the drug consists of a previously known compound and should not be considered an invention under Indian Patents Act.

— Sankalp contends that two of Gilead's patent applications on the salt forms of lenacapavir are not innovative. Indian patent law prohibits "evergreening", a practice by which pharmaceutical corporations seek patents on routine modifications to extend their drug monopolies beyond the standard 20-year period.

For Your Information:

— The IPR ecosystem in this country has witnessed both structural and legislative changes. For instance, the Intellectual Property Appellate Board (IPAB) was dissolved in April 2021 as part of tribunal reforms, and its jurisdiction was re-transferred to high courts.

— This was followed by the establishment of dedicated IP benches ("the IP Division") by the Delhi High Court, arguably the country's leading court on the IPR front, for speedier disposal of IPR disputes.

— These steps have gone hand in hand with a conscious effort to improve the infrastructure and strength of the Indian Patent Office.

ANTIBIOTICS OVERUSE LED TO 33% OF SEPSIS DEATHS IN INDIA: STUDY

Overuse or wrongful use of antibiotics is exacting a toll on the health of Indians, with a latest Lancet study showing that 60 per cent of the 29.9 lakh sepsis deaths in the country in 2019 were caused by bacterial infection.

Key takeaways:

— Of this, nearly 10.4 lakh sepsis deaths (33.4 per cent) were linked to bacterial AMR that year, with 2.9 lakh sepsis deaths directly attributable to it. Sepsis deaths occur when one's immune system has a dangerous reaction to a bacterial infection and without treatment, can lead to organ failure.

— "AMR is the result of overuse of antibiotics earlier in the patient's lifetime or wrongful use. With rising rates of drug-resistant bacteria in India, treatment options are becoming increasingly limited, posing a public health challenge," said Dr Ghafur.



— AMR is anticipated to worsen in the coming decades with Lancet predicting that more than 39 million people around the world could die from antibiotic-resistant infections over the next 25 years. The report, based on a new study by the Global Research on Antimicrobial Resistance (GRAM) Project, is the first global analysis of antimicrobial resistance trends over time.

— The three most common resistant pathogens in India are e.coli, which can cause gut infections; Klebsiella pneumoniae, which can cause pneumonia and urinary tract infections; and Acinetobacter baumannii, which is mainly associated with hospital acquired infections.

— According to Dr Ghafur, AMR happens because of indiscriminate use of antibiotics over the counter. Many do not follow the prescribed dose as advised by the doctor, abandoning them midway, or use them for similar symptoms that may arise later, ignoring the doctor's advisory.

— The Lancet study shows that lower respiratory infections and related infections in the thorax accounted for most cases of sepsis deaths in India – about 27 per cent of the total.

— Of the five lakh deaths due to sepsis in children under five in 2019, 3.25 lakh children succumbed to bacterial infection. The deadliest bacterial infection among children under five was streptococcus pneumoniae.

— In India, the drug-bug combination with the highest fatal risk was the aminopenicillin-resistant E.coli. At least 6.8 lakh deaths were associated with six leading drug-resistant pathogens.

For Your Information:

— AMR — and consequently, the creation of “superbugs” — affects healthcare everywhere, but has especially poor outcomes in patients suffering from multiple diseases.

— A survey by the Indian Council of Medical Research (ICMR), the country's apex body for the formulation, coordination and promotion of biomedical research, shows that AMR continues to rise across the country.

EXPRESS VIEW ON WOMEN OUTNUMBERING MEN IN MEDICINE: WHOLE NUMBERS, DARK TRUTHS

One of the lacunae in the documentation of India's medical history has been the fact that it covers little of the lives and struggles of women doctors. The journeys of Anandi Bai Joshi, Kadambini Ganguly or Haimabati Sen — some of India's first female doctors — into popular consciousness might have been impeded by the fact that there were so few women who studied medicine in the late 19th-early 20th century that their stories got archived as exceptions. In the last decade though, this has shown a happy remedial tendency. Data from the All India Survey on Higher Education (AISHE) shows an upward graph in the enrollment of women in medicine. For every 100 men, there were 100 women enrolled in medical colleges in 2020-21. This was an increase from 88 in 2011-12 per 100 men to 110 in 2019-20, with a slight dip during the pandemic. There have been other significant — and welcome — departures. More women are opting for what have, for long, been male bastions — cardiology, oncology, neurology.

This upsurge is a welcome alignment of aspiration and opportunity and the work of generations of attitudinal shift. Women are no longer willing to be thwarted by societal expectations of marriage and motherhood or the premium placed on care work at home, notwithstanding their professional qualifications. The AISHE data bears this out. From just seven women against 312



men in 2012-13 in cardiology, the number rose to 78 against 220 men in 2020-21. In oncology, there were just 29 women against 95 men in 2012-13, but in 2020-21, the figures stood at 116 women against 123 men. In neurology in 2012-13, there were nine women against 118 men, but in 2020-21, this grew to 78 women against 173 men.

However, despite the projection that almost half of Indian surgeons in the coming decade will be female, and as the R G Kar rape and murder of a doctor in Kolkata has shown yet again, the system remains unprepared to receive women in its fold. Sexism in the classroom and the workplace, absence of basic facilities such as separate changing rooms and washrooms, inadequate security arrangements and little protection against violence large and small are all functions of a masculine imagination of the workplace. As more women enter medicine, this is an opportune moment to fix all that is broken. It could begin with more women in leadership roles who realise that it is not the late-night shifts that are the problem but the fact that women need to be worried about them in the first place.

WILL MISSION MAUSAM IMPROVE WEATHER FORECASTS?

The story so far:

On September 11, the Cabinet cleared a ₹2,000 crore programme called Mission Mausam to upgrade infrastructure used to make atmospheric observations. It will involve a major upgrade of instruments used by the India Meteorological Department (IMD), the National Centre for Medium Range Weather Forecasting, and the Indian Institute of Tropical Meteorology.

What are its objectives?

The mission's focus is to improve atmospheric observations to enable better quality monsoon forecasts, improve alerts warning of deteriorating air quality, and warn of extreme weather events and cyclones. Critical elements of the mission include deploying 'next-generation radars' and satellite systems with advanced sensors and high-performance supercomputers, developing improved earth-system models, and a GIS-based automated Decision Support System for real-time data dissemination. The nodal agency involved in executing the mission is the Ministry of Earth Sciences (MoES). In the first tranche of the mission until 2026, the MoES hopes to procure and install up to 60 weather radars, 15 wind profilers, and 15 radiosondes. These instruments give regular updates on the changing parameters of wind speeds, atmospheric pressure, humidity, and temperature at various elevations of the atmosphere.

Is this the first time that a mission of this sort has been conceived?

No. The predecessor is the 'Monsoon Mission,' launched in 2012. Historically, the IMD has relied on statistical methods to forecast monsoons. Different weather parameters were permuted and combined in myriad ways to prepare forecasts about the likely performance of the monsoon in a particular year. These were extremely broad estimates; they almost never warned of the likelihood of droughts and also could not capture the wide regional diversity of the monsoon.

Droughts and floods co-exist and these weather models were usually inadequate at capturing that. The Monsoon Mission proposed a radical approach. Since 2004, meteorologists and climate scientists have been working on a different approach to forecasting that relies on high performance computing machines, or supercomputers. They sought to simulate the weather on a particular day and, via physics equations, make a map of how each day's weather would pan out over the next few days, weeks, and even months. These weather models, called dynamical models,



are now the standard approach to weather forecasts and climate studies. This can give more accurate 'medium range' forecasts and often this is what consumers of weather information find useful. The Monsoon Mission eventually succeeded in developing a general-purpose dynamical model that can be tweaked to generate forecasts on multiple timescales — from daily forecasts to seasonal monsoon predictions.

Beyond the monsoon, such a model could be customised for heatwaves, cold waves, and local forecasts. It is also an expensive approach to forecasting and requires sophisticated computers, radars, wind profilers, and an array of data-gathering devices.

What is novel about this mission?

Improving dynamical models is an endless pursuit, limited only by money and intellectual curiosity. While the latest mission builds on its predecessor by getting more of such equipment, it has outlined a radical plan for "weather management." This means actively changing the weather using cloud seeding. The latter involves spraying clouds with appropriate chemicals to increase or decrease their water-carrying capacity. Plans are also afoot to control lightning. As statistics reveal, lightning strikes are the number one cause of nature-propelled deaths in India and were responsible for 2,821 or 35% of the 8,060 accidental deaths attributable to natural forces in 2022, according to the latest NCRB report.

Meteorologists say they hope one day to be able to tweak the electrical characteristics of the cloud so that there are less lightning strikes that lethally traverse from sky to ground. To this end, a large 'cloud chamber' – that simulates the interior of a cloud – will be set up at the IITM. To be sure, research into weather modification has a history stretching back to the 1950s and many experiments have been conducted in India, including spraying aerosols in certain regions of one cloud, and leaving out the others. However, the big challenge with weather modification is setting sharp boundaries. It is not unusual for seeded clouds to rain in places where they are not supposed to. Gleaning a better understanding of these processes is a major component of Mission Mausam.

INDIA HAD GOOD RAINS THIS YEAR. WHAT'S THE STATUS OF ITS RESERVOIRS?

Since the southwest monsoon covered the entire country on July 2, the majority of geographical regions have received steady or continuous rainfall. As on September 12, the country had received 836.7 mm of rain, an 8% surplus for this time of the season.

The latest weekly reservoir and river basin data from Central Water Commission (CWC) show the overall storage position is better than that of last year, as well as the normal storage position during the corresponding period.

— The storage situation is better than last year in Jharkhand, Odisha, West Bengal, Assam, Tripura, Bihar, Maharashtra, Uttar Pradesh, Chhattisgarh, Rajasthan, Nagaland, Gujarat, Madhya Pradesh, Andhra Pradesh and Telangana, Karnataka, Kerala, and Tamil Nadu.

— The situation is unchanged in Goa and Telangana; it is worse than in 2023 in Himachal Pradesh, Punjab, and Uttarakhand.

— Major river basins have normal or above storage. These include Barak and others (98.72%), Krishna (94.53%), Cauvery (93.54%), Narmada (92.19%), Godavari (91.85%), Tapi (85.96%), Ganga (83.29%), Mahanadi (83.48%), Mahi (83.91%) and Brahmaputra (66.93%).



For Your Information:

- Global rating firm Moody's has warned that India's growing water shortage and frequent climate change-driven natural disasters can negatively affect the country's sovereign credit strength.
- India's water shortage can disrupt farm and industry sectors, Moody's said, adding that it's detrimental to the credit health of the sovereign as rising food inflation and decline in income may spark social unrest.
- India's average annual water availability per capita is likely to drop to 1,367 cubic meters by 2031 from an already-low 1,486 cubic meters in 2021. A level below 1,700 cubic meters indicates water stress, with 1,000 cubic meters being the threshold for water scarcity, according to the ministry, Moody's said quoting Ministry of Water Resources data.

THE GOLDEN FIBRE

Jute, known as the golden fibre, is the second most important cash crop in India after cotton in terms of cultivation and usage. India is the largest producer of jute in the world. West Bengal, Assam and Bihar are the major jute-growing States in the country, and raw jute farming and trade make up the livelihood of about 14 million people.

Jute is mainly cultivated by marginal and small farmers of Assam. The State is the second largest producer of jute in India. The main jute-producing districts are Nagaon, Goalpara, Barpeta, and Darrang. Jute is a labour-intensive crop and provides huge employment opportunities and benefits to local farmers. The agro-based and export-oriented industry has played an important role in the economy of Assam.

The bast fibre crop can be harvested at any stage after a certain period of vegetative growth, usually between 100 and 150 days.

Harvesting of jute crop at pre-bud or bud stage gives the best quality fibre, however, the yields are low. Older crop yields more quantity but the fibre becomes coarse and the stem does not ret properly. Hence, as a compromise between quality and quantity, the early pod formation stage has been found best for harvesting.

Many countries are now trying to reduce the use of plastic commodities, especially plastic bags. Jute bags are biodegradable and environment-friendly alternatives to plastic bags. Here lies the economic prospects of jute.

Along with the traditional usage, jute can contribute in the production of value-added products such as paper, pulp, composites, textiles and other materials.

KEEPING KAJJU ALIVE: SHIMLA ZOO FACES TOUGH CALL ON SNOW LEOPARD WITH CANCER

At the Himalayan Nature Park in Himachal Pradesh's Kufri hill station, wildlife officials and veterinarians are working overtime to keep Kajju alive.

The only snow leopard in captivity in the state, Kajju got its name from the remote village of Kaza in Lahaul & Spiti, from where it was rescued in November 2023. But osteosarcoma, a malignant



form of bone cancer, has meant the animal has spent the majority of its time at the Nature Park under treatment.

According to officials, the animal is currently quarantined in the isolation ward of the veterinary hospital at the nature park, informally called Shimla's Kufri Zoo. The big cat is receiving palliative care after cancer was detected in its front left leg, which was wounded when it was rescued.

Besides the Kufri Zoo, the only other place where snow leopards, which are a Schedule-1 protected species, are kept is the Padmaja Naidu Himalayan Zoological Park (PNHZP) in Darjeeling.

Visitors had thronged the zoo when word spread that a rescued snow leopard was its newest occupant, hoping to catch a glimpse of the animal, dubbed the ghost of the mountains.

A veterinary officer treating the animal told The Indian Express: "The snow leopard was in conflict when it was rescued from a village situated at high altitude in Kaza. It had been stealing mountain goats from the villagers' sheds, creating panic. At the time of rescue, it was injured, with a deep wound on its left foreleg. We brought it here hoping to release it back into the wild after treatment. But the wound worsened, forcing us to send its samples to the premier Indian Veterinary Research Institute in Bareilly, Uttar Pradesh. We received an inconclusive report in March. We sent fresh samples to Guru Angad Dev Veterinary and Animal Sciences University in Ludhiana, which recently confirmed the osteosarcoma and its malignant nature."

In January this year, Wildlife Institute of India concluded that the number of snow leopards in India was 718. The most were estimated to be in Ladakh (477), followed by Uttarakhand (124), Himachal Pradesh (51), Arunachal Pradesh (36), Sikkim (21), and Jammu and Kashmir (9).

WHAT IS THE CURRENT STATUS OF THE INTRODUCTION OF AFRICAN CHEETAHS?

The Cheetah Action Plan (CAP) represents India's ambitious effort to introduce African cheetahs into its ecosystems, with a focus on both conserving the species and restoring the health of savanna habitats. However, the project has faced several challenges since its inception, including extended captivity of the cheetahs and fatalities, raising questions about its long-term prospects.

What is Project Cheetah?

The CAP states that the translocation of a large carnivore, African cheetahs in this case, is a strategy to conserve threatened species and restore ecosystem functions. It also states that India plans to assist the Government of Iran, and the international conservation community with conserving the Asiatic cheetah and increasing its distribution range to include protected landscapes in India.

The CAP also says cheetahs will be a flagship species for the degraded dry-open forest/savanna ecosystems in India and increase the value of restoring and conserving them, as well as improve the fortunes of local communities through eco-tourism. It has been estimated that the released population should reach the carrying capacity of Kuno National Park in about 15 years and that of the wider Kuno landscape in 30-40 years. According to the CAP, the introduction programme requires long-term (at least 25 years) financial, technical, and administrative commitments from the Ministry of Environment, Forests and Climate Change (MoEFCC), the National Tiger Conservation Authority (NTCA), the Madhya Pradesh Forest Department, and the Wildlife Institute of India.



Why are the African cheetahs in captivity?

Per the CAP, radio-collared male coalitions were to be released first from their holding enclosures (bomas) after a period of one to two months. The radio-collared females were to be released one to four weeks after the males, depending on how comfortable the males were in their new environment. India has missed these timelines. The quarantine period in Kuno for all the cheetahs was longer than specified. Once the cheetahs were released into the bomas, they endured a prolonged period of confinement. In fact, the 12 surviving adult cheetahs of the 20 brought from Africa have spent almost all of the last 12 months in captivity.

Such long-term captivity can only be interpreted as a misguided attempt by those managing the cheetahs to play it safe, possibly in the belief that the mortality of the cats can be mitigated in captivity and that they will also be easier to breed.

The problem? Captive cats quickly become unfit to be released to range free in the wild, which is Project Cheetah's objective. A Namibian policy categorically restricts the captivity period for wild large carnivores to three months. If the period exceeds this duration, the carnivore should either be euthanised or be held permanently in captivity.

As per this policy, the 12 adult cheetahs and the 12 cubs currently in Kuno are unfit to be released into the wild.

Why did so many cheetahs die after moving?

Deaths and births are part and parcel of the lives of all species. That said, in such international projects, utmost care should be taken to assess and choose individual animals before they are imported. Once the cats are in India, we are responsible for deploying the best available knowledge and management practices to ensure they thrive, not just survive.

There have been failures on both these fronts. One female cheetah imported from Namibia had a pre-existing and chronic renal ailment resulting in her death in captivity in March 2023. A male from South Africa died in captivity in April 2023 due to suspected hypokalaemia and the resulting acute heart failure. A female from South Africa died in captivity in May 2023 as she was mauled by a male coalition in an enclosure while the managers were trying to get her to mate. All three cats died before they were released at all.

In late May 2023, three of the four cubs born to Jwala were found dead due to heat stroke. Between July 11 and August 2, 2023, two males from South Africa (one free-ranging and the other in captivity) and one female from Namibia (free-ranging) died. The official reason was that these cats contracted dermatitis, followed by myiasis and septicaemia. The root cause was allegedly the growth of a winter coat during the Indian summer and monsoons. This is physiologically impossible since a shorter day length is required for the winter coat to grow.

In January 2024, a male from Namibia died in captivity due to septicaemia. In August 2024, another male from Namibia — the only free-ranging African cheetah in Kuno — died apparently due to drowning. A few cheetah researchers with decades of experience said none had heard of a single instance of a free-ranging cheetah drowning.

Two of the cubs born in a litter of six died in June and August 2024. One cub's spine was broken.

Why are the cheetahs located in Kuno?



The CAP states that 10 sites were surveyed in five central Indian States to determine their suitability for introducing African cheetahs. Of these, Kuno National Park in Madhya Pradesh was found to be the most suitable for introducing the cheetahs because of its habitat and adequate prey base.

But even in Kuno, the cheetahs have largely been held captive. About 80 sq. km has been fenced off in Gandhi Sagar Wildlife Sanctuary and cheetahs were initially supposed to be released there by December 2023 or January 2024. Now the plan seems to be to introduce the cats in late 2024 or early 2025.

A captive breeding facility for the African cheetahs is being built in the Banni grasslands of Kachchh, Gujarat. Some cheetahs are likely to be housed here. Nauradehi Wildlife Sanctuary in Madhya Pradesh has also been mentioned as a potential site for introducing African cheetahs.

Who is responsible for the cheetahs?

An expert committee appointed by the NTCA and chaired by Rajesh Gopal has the overall responsibility for guiding the project. The NTCA and the MoEFCC are the institutions responsible for all high-level decision-making, including negotiating with the African countries to procure the cheetahs.

The Wildlife Institute of India has been providing technical inputs and the Madhya Pradesh Forest Department has been responsible for the field implementation.

Will Project Cheetah have measurable outcomes?

The CAP outlines both short-term and long-term success criteria for introducing cheetahs in India. In the short term, the goals include a 50% survival rate for the first year, cheetahs establishing home ranges, successful reproduction in the wild, and generating revenue for local communities through eco-tourism. These goals are currently not being met due to prolonged captivity, which contradicts the plan's original prescriptions. Long-term success is measured by cheetahs becoming a stable part of the ecosystem with natural survival rates, establishing a viable metapopulation, improving habitat quality and prey diversity, and benefiting local economies through sustainable conservation efforts.

Does Project Cheetah have a sunset clause?

In some sense, the long-term criteria for success like the establishment of a viable metapopulation in India should be viewed as the sunset clause. Such projects will need almost constant management attention.

The timelines stretch across a minimum of 15 years but more realistically 30 to 40 years, as per the CAP.

But the big question still remains: does India have sufficient habitat (4,000 to 8,000 sq. km) of the required quality to establish a viable population of free-ranging cheetahs in the wild?

HARAPPAN CIVILISATION: ENIGMA REMAINS EVEN AFTER 100 YEARS OF EXPLORATION

Exactly 100 years ago, on September 20, 1924, The Illustrated London News published an article containing explosive news which has reverberated down the decades and continues to cast a long shadow in South Asia even a century later. Headlined "First Light on a Long-forgotten Civilisation:



New Discoveries of an Unknown Prehistoric Past”, the article authored by John Marshall, then Director-General of the Archaeological Survey of India (ASI), announced the discovery of what he called the “civilisation of the Indus Valley”.

A century later, this Bronze Age civilisation is called the Harappan civilisation, named after Harappa, now in Pakistan, which was the first site to be discovered in the area. For the past 100 years, the Harappan civilisation has mesmerised and baffled town planners, epigraphists, metallurgists, hydrologists, specialists in ceramics, mathematicians, astronomers, and others. Its enigmas have intrigued them.

At the apogee of its prosperity, it was a “technological powerhouse” that excelled in town planning, harvesting water, building reservoirs, stadia, warehouses, underground sullage systems, massive fortification walls and building seafaring boats, fabricating bronze and copper artefacts, and in making beads, exquisite painted pottery, and terracotta products. Its craftsman made seals of steatite and carved them with realistic human and animal motifs and a script within a cramped space of two cm by 1.5 cm.

Uncanny similarity

Two ASI archaeologists were instrumental in the discovery, and were credited by Marshall in his article. Daya Ram Sahni first excavated Harappa in 1921-22, finding seals, painted pottery, and beads. Known as an “industrious, accurate and modest” man, Sahni later became the ASI’s first Indian Director-General. The other key player was Rakhal Das Banerji. In 1922, he started excavating Mohenjo-daro, also located in modern-day Pakistan, and found seals, pottery, copper products, and crucibles at that site.

In June 1924, Marshall summoned Sahni and Banerji to meet him in his office in Shimla with their finds. He was struck by the uncanny similarity in the objects found at Harappa and Mohenjo-daro, though the two sites were 640 km apart. He interpreted the similarities and announced the discovery of the “civilisation of the Indus Valley” in the London newspaper.

The Harappan civilisation can be divided into an early phase (3200 BC to 2600 BC), the mature period (2600 BC to 1900 BC), and the late phase (1900 BC to 1500 BC), when it decayed and collapsed. Mohenjo-daro, Harappa, and Ganweriwala, all now in Pakistan, and Rakhigarhi and Dholavira, both in India, are the five of the biggest Harappan sites out of nearly 2,000 in the civilisational area, which is spread over 1.5 million sq.km in India, Pakistan, and Afghanistan. There are 1,500 sites in northwestern India, including in Gujarat, Haryana, Jammu and Kashmir, Maharashtra, Rajasthan, and Uttar Pradesh. The village of Daimabad on the banks of the Godavari river in Maharashtra is the southernmost outpost of the Harappan civilisation. There are about 500 sites in Pakistan, and a few in Afghanistan. The civilisation burgeoned on the banks of the Indus and Saraswati rivers, the latter of which is believed to have dried up around 1900 BC.

According to Indus civilisation scholar Asko Parpola, “its most characteristic features” were “the fully developed Indus script; finely carved stamp seals with writing and/or an animal or some other iconographic motif...; standardised measures, including cubic weights made of chert carefully cut and polished, employing a combination of binary and decimal systems...; the large-scale use of burnt brick, standardised in size, with the ratio 1:2:4, the most effective for bonding; exquisite lapidary art, featuring highly developed micro-drilling of very long beads made of hard carnelian, decorated with chemically stained motifs.” (From Parpola’s *The Roots of Hinduism, The Early Aryans and the Indus Civilization*, 2015, Oxford University Press).



Filling the gap

Vasant Shinde, who has excavated several Harappan sites in India, noted that the civilisation's discovery was significant on two counts. First, most historians were of the opinion, before it was discovered, that settled life in this part of the world first occurred around the sixth century BCE, leaving a gap in South Asian history. Historian Vincent Smith had said India jumped from the Stone Age to the [Buddhist] stupas. "The discovery of the Harappan civilisation filled the so-called gap and pushed back in one stroke the antiquity of the settled life in this part of the world by more than 3,000 years," Dr. Shinde said.

Second, the discovery added one more ancient civilisation in Asia, besides the Egyptian and the Mesopotamian, and unravelled the Harappan civilisation's maritime contacts with West Asia from 3000 BC.

Iravatham Mahadevan, who battled for 50 years to decipher the Indus script, had asserted that the civilisation was both pre-Aryan and non-Aryan. Mehrgarh, in Balochistan, is where it all began around 7000 BC. "The roots of the Harappan civilisation lie in Mehrgarh, around eight millennium BC," asserted R.S. Bisht, who excavated Dholavira in Gujarat from 1989-90 to 2004-05.

The book *The Wonder that was Harappan Civilisation*, brought out by *The Hindu*, has reproduced Marshall's story, first published in *The Illustrated London News*. On January 4, 1928, *The Hindu* had used a full page to publish a summary of his statement on the subject. Read the original report by John Marshall at bit.ly/harappastory.

SHORT NEWS

UN GENERAL ASSEMBLY

- India on Wednesday abstained in the UN General Assembly (UNGA) on a resolution that demanded Israel to bring an end to its unlawful presence in the Occupied Palestinian Territory within 12 months.
- The UNGA, the United Nation's chief policy-making and representative organ, was created in 1945. It meets in regular sessions from September to December each year, and thereafter as required.
- It consists of 193 member states who have equal right to vote.
- The President of the 79th session of the UNGA is **Philemon Yang** of Cameroon.

4TH GLOBAL RE-INVEST

- The 4th Global Renewable Energy- Investment (RE-INVEST) meet and Expo was organised from 16 - 18 September 2024 at Mahatma Mandir, **Gandhinagar, Gujarat**, India.
- Host state: Gujarat
- Partner states: Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Telangana, and Uttar Pradesh.
- **Country partners:** Australia, Denmark, Germany, and Norway.



- RE-Invest is a global platform bringing together key players in the renewable energy sector.
- The first RE-INVEST India was held in 2015, the second was held in 2018 and the third RE-INVEST India was held in 2020.

RED SEA CRISIS: SHIPPING CORP CALLED INTO ACTION AS EXPORTS TAKE A HIT

A day after official data showed that India's goods exports in August dropped sharply by 9 per cent, marking the second consecutive decline amid the Red Sea crisis, the union government announced on Thursday that the state-owned Shipping Corporation of India (SCI) will commence operating a large container ship and purchase five additional second-hand container vessels to alleviate the logistical challenges faced by traders.

CABINET CLEARS SETTING UP OF NATIONAL CENTRE OF EXCELLENCE

The Union Cabinet Wednesday cleared the proposal of establishing the National Centre of Excellence (NCoE) for Animation, Visual Effects, Gaming, Comics and Extended Reality (AVGC-XR) in Mumbai as a Section 8 Company under the Companies Act, 2013.

The Federation of Indian Chambers of Commerce & Industry and the Confederation of Indian Industry representing industry bodies will be partners with the Government of India for this project.

NPS VATSALYA SCHEME

- The National Pension System Vatsalya (NPS Vatsalya) scheme which was announced in the Union Budget 2024-25 was launched by the Finance Minister on 18th September.
- Vatsalya is a **new pension scheme for children** in the age group of **0 to 18 years**. A parent can deposit a minimum of 1000 per month and a maximum with no limit.
- This account will be operated by the parents until the child turns 18, after which the account will be in the name of the children. Once the child turns 18, the account can be seamlessly converted into a regular NPS account or a non-NPS scheme.
- It is regulated and administered by the Pension Fund Regulatory Authority of India (PFRDA).

PRACHIN VRIKSHA AYURVEDIC CHIKITSA

- Goa Raj Bhavan has launched a Prachin Vriksha Ayurvedic Chikitsa initiative to protect and preserve ancient trees across the state.
- This was launched to celebrate the birthday of Prime Minister Narendra Modi.
- Under this initiative, seven fruit-bearing trees which are over a hundred years old and steadily decaying due to infections, have been identified for Ayurvedic treatment to restore their health and extend their lifespan, Raj Bhavan said in a statement.



NATIONAL ENGINEER'S DAY

- **September 15** is celebrated as National Engineer's Day to honor the contributions of engineers and commemorate the birth anniversary of **Sir M. Visvesvaraya**.
- Sir Visvesvaraya was born on September 15, 1861, and made groundbreaking contributions to the field of civil engineering, including the design and implementation of significant infrastructure projects.
- It was in 1968 that the Government of India declared that Sir M Visvesvaraya's birth anniversary would be celebrated as Engineer's Day.

8TH INDIA WATER WEEK

- The 8th India Water Week 2024 was inaugurated by President Droupadi Murmu on 17th September 2024.
- It is a **biennial** event that will be held from September 17-20.
- This year's India Water Week theme is '*Partnerships and Cooperation for Inclusive Water Development and Management*'.

COP29 IN AZERBAIJAN

- Azerbaijan is hosting the COP29 in its capital, Baku, from **November 11 to 22**.
- Azerbaijan has decided to launch a new fund to finance climate action in the developing world.
- The **Climate Finance Action Fund (CFAF)** would seek "voluntary" contributions from fossil-fuel-producing countries and companies, with Azerbaijan, itself a petroleum economy, making the initial contribution.
- The CFAF is part of a large package of proposals that Azerbaijan has prepared for inclusion in the final outcome of COP29.

WORLD FOOD INDIA 2024

- The **third** edition of the World Food India 2024 was organized in **New Delhi** from 19th-22nd September.
- It is organized by the Ministry of Food Processing Industries, Government of India to bring together the policymakers & regulators, global investors, business leaders, and key executives of prominent global and domestic food companies.

AHEAD OF AMUR FALCON'S ARRIVAL, MANIPUR DISTRICT BANS THEIR HUNTING

- The district administrator of Manipur's Tamenglong district has imposed a ban on hunting, catching, killing and selling of the migratory bird **Amur falcon (Falco Amurensis)** which is locally known as **Kahuaipuina (Akhuiipuina)**.



— The bird arrives mainly in Manipur and Nagaland on its southbound migration from breeding grounds in North China, Eastern Mongolia and far-east Russia en-route to its wintering grounds in South Africa.

— IUCN Red List Status: **Least Concern.**

— It is covered under the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and are also fully protected by national legislation in India.

PUNGANUR BREED OF COW:

A calf was born at the PM residence which was named 'Deepjyoti'. The cow belonged to the Punganur breed of Andhra Pradesh. The Punganur is an indigenous breed native to the Punganur, Vayalpadu, Madanapalli, and Palamaneer talukas of the Chittoor district of southern Andhra Pradesh. They are a unique dwarf breed, considered the shortest-humped cattle in the world.

INTERNATIONAL DAY OF PEACE

— The International Day of Peace is observed on September 21. It was established in 1981 by the United Nations General Assembly.

— The theme for this year is **Cultivating a Culture of Peace.**

INTEGRATED OCEAN ENERGY ATLAS

— Last week, M Ravichandran, Secretary, Ministry of Earth Sciences (MoES) launched the Integrated Ocean Energy Atlas online.

— It has been developed by researchers at the Hyderabad-based Indian National Centre for Ocean Information Services (INCOIS).

— It provides estimated values of renewable energy that can be generated from either individual or integrated blue renewable sources at potential sites along the coast.

TYPHOON BEBINCA

— Typhoon Bebinca hit the Lingang area of Shanghai's Pudong district.

— It is the strongest typhoon to hit Shanghai in 75 years.

NIPAH VIRUS

— A 24-year-old from Kerala's Malappuram district, who died earlier this month, was confirmed to be positive for the Nipah virus. This was the second death due to the infection reported this year.

— The Indian Council of Medical Research (ICMR) had sent monoclonal antibodies to Kerala for the treatment.

— Nipah is a viral infection that mainly affects animals such as bats, pigs, dogs, and horses.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



— Humans get infected when they come in contact with the saliva, urine, or faecal matter of infected animals — by eating fruits that have been bitten into by the animals or scaling trees where the bats live.

— People with Nipah start showing symptoms around four to 14 days after getting infected. The infection causes fever, headache, cough, sore throat and difficulty breathing. In later stages, the infection can also lead to brain swelling or encephalitis, putting the person into coma within 24 to 48 hours.

ALOK RANJAN NEW NCRB CHIEF, AMIT GARG TO HEAD POLICE ACADEMY

The Appointments Committee of the Union Cabinet on Saturday approved appointment of senior IPS officers Alok Ranjan and Amit Garg as chiefs of the National Crime Records Bureau (NCRB) the and Hyderabad-based Sardar Vallabhbhai Patel National Police Academy (SVPNPA), respectively.

AIR MARSHAL AP SINGH TO BE THE NEXT CHIEF OF AIR STAFF

The government Saturday announced that it has appointed Air Marshal Amar Preet Singh as the next Chief of the Air Staff. Currently serving as Vice Chief of the Air Staff, he will take over the top appointment from the afternoon of September 30, when the present Chief of the Air Staff Air Chief Marshal Vivek Ram Chaudhari superannuates the same day.

LOW- & HIGH-SKILLED JOBS: GAP RISING AS MANUFACTURING STAGNATION CONTINUES

The stagnation in manufacturing, which continues to remain at around 14 per cent and well short of the targeted 25 per cent, has exacerbated the divide between high-skilled and low-skilled jobs. Economists have highlighted that a country with a population of 1.4 billion cannot rely solely on the services sector and will need all sectors of the economy to contribute to job creation.

SIX VANDE BHARAT TRAINS FLAGGED OFF, RLY PROJECTS WORTH RS 660 CR LAUNCHED

Prime Minister Narendra Modi Sunday flagged off six Vande Bharat trains and laid the foundation stone of Railway Projects worth Rs 660 crore through video conferencing in Jharkhand. The six new vande bharat trains, that will originate from different parts of Jharkhand, are Tatanagar – Patna, Bhagalpur – Dumka – Howrah, Brahmapur – Tatanagar, Gaya – Howrah, Deoghar – Varanasi and Rourkela – Howrah.

GST COUNCIL FORMS GOM TO REVIEW TAX RATE ON HEALTH, LIFE INSURANCE; REPORT BY OCT 30

The GST Council on Sunday constituted a 13-member Group of Ministers (GoM) to suggest GST rate on premiums of various health and life insurance products and submit its report by October 30. The 54th GST Council meeting on September 9 decided to set up a GoM to examine and review the present tax structure of GST on life and medical insurance.



BUSINESS & ECONOMICS

WHY HAS DONALD TRUMP CALLED INDIA 'A VERY BIG ABUSER' OF TARIFF?

Former US President Donald Trump on Tuesday (September 17) referred to India as a “very big abuser” in terms of import tariffs. The statement has come just days before Prime Minister Narendra Modi’s visit to the United States between September 21 and September 23.

This is not the first time that Trump has taken a potshot at India’s tariff structure. The former president has repeatedly claimed that India is a “tariff king” and imposes “tremendously high” tariffs on American products.

Here is a look at why Trump has been saying this.

Why does Trump have a problem with India’s tariff structure?

In April 2019, Trump alleged that India is one of the highest-taxing nations in the world. He also claimed that the country at the time was imposing “100 per cent” tariffs on American products, including the iconic Harley-Davidson motorcycles.

The remarks came while Trump spoke at the National Republican Congressional Committee Annual Spring Dinner. He said, “I got a call from Prime Minister Modi of India. They are one of the highest-taxing nations in the world. They taxed us 100 per cent... They charge us 100 per cent tariffs on goods. So they send a motorcycle—and they make a lot of them—Indian cycles. They send them to our country, we charge them nothing. We send a Harley Davidson to India and they charge us 100 per cent.”

To counter India’s “unfair” tariffs, Trump has proposed to introduce reciprocal taxes if he were to come to power in 2024. Last year, in an interview with Fox Business News, Trump said, “If India is charging us too, so what I want to have is a — call it retribution. You could call it whatever you want. If they are charging us, we charge them.”

Are India’s tariffs high compared to other countries?

India indeed has one of the highest tariff regimes globally. Currently, India’s average tariff rate stands at around 17%, which is significantly higher than that of Japan, the US, and the EU — all of them have rates somewhere between 3% and 5%.

However, when compared to emerging economies, India’s tariffs are not that high. For instance, Brazil’s average tariff rate is around 13% and South Korea’s is 13.4%

Speaking to the Press Trust of India (PTI), Ajay Srivastava, founder of the think tank Global Trade Research Initiative (GTRI), said, “While it is true that India imposes high duties on select products, Trump’s argument overlooks essential context, making his accusations unfair.” He also said many nations protect domestic industries by imposing significant tariffs on certain items, according to a report by PTI.

If the US is keen on zero tariff access into the Indian market, it should consider negotiating a free trade agreement with India, Srivastava added. “While India needs serious tariff reforms, the label of ‘Tariff King’ does not hold up when compared to the tariff practices of the USA and other major economies.”



FATF REPORT ON INDIA AND THE SIGNIFICANCE OF THE OBSERVATIONS

The global money laundering and terror financing watchdog Financial Action Task Force (FATF) came out with the Mutual Evaluation Report for India on Thursday. While India gained comfort from being placed in the regular follow-up category, the FATF flagged certain areas for improvement: the need to strengthen prosecution in money laundering (ML) and terror financing (TF) cases, protecting the non-profit sector from terrorist abuse, and supervision and implementation of preventive measures.

The FATF and India's membership

The FATF is the global money laundering and terrorist financing watchdog. The Paris-based intergovernmental organisation was formed in 1989 as a G7 initiative to examine and develop measures to combat money laundering. In 2001, the FATF expanded its mandate to also combat terrorist financing.

The FATF, a 40-member body, has outlined a framework of measures to help countries tackle illicit financial flows. These are listed as 40 Recommendations that are divided into seven distinct areas: (1) AML/CFT Policies and coordination, (2) Money laundering and confiscation, (3) Terrorist financing and financing of proliferation, (4) Preventive measures, (5) Transparency and beneficial ownership of legal persons and arrangements, (6) Powers and responsibilities of competent authorities and other institutional measures, (7) International cooperation.

India became a member of FATF in 2020. Prior to this report, the FATF had undertaken an evaluation for India in June 2010. India was then placed in the "regular follow-up" category, but was subsequently removed after a follow-up report in June 2013. Due to the pandemic and pause in the FATF's assessment process, the next round of mutual evaluation had been postponed to 2023. India's onsite assessment by FATF happened in November last year, while the assessment came up for discussion in the plenary discussion in June 2024.

Mutual evaluation reports

The FATF monitors countries to ensure they implement the FATF standards fully and effectively. FATF mutual evaluations are in-depth country reports that analyse the implementation and effectiveness of measures taken against money laundering, terrorist and proliferation financing.

The reports are peer reviews, where members from different countries assess another country. After an analysis of a country's anti-money laundering and counter-terrorist financing system, mutual evaluations give recommendations to further strengthen a country's system.

Significance of India's ranking

The "regular follow-up" ranking is being seen as a favourable outcome by New Delhi, as some developed countries had raised objections. "Some developed countries pointed out that the onus of disclosing details of beneficial ownership is with the companies. We responded by saying that there are systems to identify investments coming from tax havens," a government official said.

The "regular follow-up" rating is currently shared by only four other G20 countries — the UK, France, Italy and Russia (suspended from FATF in February 2023). Most of the developing countries are in the "enhanced follow-up" category, which requires submission of reports on an annual basis, as against once in three years in the "regular follow-up" category.



Improvement areas for India

The FATF in its report said that the main sources of money laundering in India originate from within, and the country faces a “disparate range” of terrorism threats from regional insurgencies in the Northeast and North, and Left-Wing Extremist groups. The “most significant” terror threats seem to be related to the Islamic State or al-Qaeda linked groups active in and around Jammu and Kashmir.

India’s largest money laundering risks are related to fraud including cyber-enabled fraud, corruption and drug trafficking.

The FATF enlisted several areas for improvement: limited number of prosecutions and convictions, risk-profiling of customers of financial institutions, monitoring of the Ministry of Corporate Affairs (MCA) registry for availability of accurate owner information, and the link between money laundering and human trafficking.

For the non-profit organisations (NPO) sector, the FATF said India should ensure that measures aimed at preventing the sector from being abused for terror financing are implemented.

It also called for major changes to address delays in prosecution of terror financing cases. Noting that there was a disruption to the progress of prosecution of cases under the Prevention of Money Laundering Act (PMLA) during 2014-2022 as the government faced several challenges to the constitutionality of the law, the report said although the number of money laundering investigations increased since the review period, the number of prosecution complaints and concluded trials did not show a proportionate increase.

It said between 2018 and the FATF team’s visit in 2023, the Enforcement Directorate (ED) was able to secure convictions in only 28 money laundering cases. “India should aim to reduce the number of pending trials in ML cases – both for new trials and for the backlog, addressing the low number of convictions associated ML cases and increasing conviction-based confiscation, by making major changes to increase the capacity of the court system, and potentially the capacity of the ED,” it said.

PIVOT TO WATCH

The U.S. Federal Reserve on Wednesday cut interest rates for the first time in more than four years, lowering its benchmark interest rate by half a percentage point, in a policy pivot that is bound to have far reaching implications. Elaborating on the rationale for the cut after having raised the federal funds rate to its highest level in about two decades and held it there for more than a year, Fed Chairman Jerome Powell said, “... with an appropriate recalibration of our policy stance, strength in the labour market can be maintained in a context of moderate growth and inflation moving sustainably down to 2%”. Policymakers of the Federal Open Market Committee (FOMC) also signalled by a 17 to 2 majority that they expect at least another quarter point reduction in 2024. The Fed, which has a dual mandate of ensuring maximum employment even as it seeks to keep inflation at 2% over the longer run, had been raising rates since early 2022 when a COVID-19 pandemic-driven surge in prices had forced it to focus largely on taming inflation. Given that the U.S. central bank’s unrelenting rate increases and subsequent decision to hold the rate at an elevated level had rippled through the global economy, particularly as it led to the dollar strengthening against most currencies of emerging market economies (EMEs), the latest pivot will



bring relief. As the Reserve Bank of India Governor Shaktikanta Das has noted, “a strong U.S. dollar increases debt service burdens and inflationary pressures for EMEs”.

India’s Chief Economic Adviser V. Anantha Nageswaran welcomed the rate move but stressed that the Fed’s rate reduction would ‘on the margins have a limited impact’ given that investor interest in the country’s economy had already been fairly significant over the last several years. However, like a recent blog post by two IMF economists posits, “The onset of a Fed easing cycle may support... a broader revival of capital flows to emerging market and developing economies.” India too is very likely to see an increase in foreign portfolio investor inflows, especially into its debt markets. The relief though is certain to be far more palpable for other emerging and developing economies in Africa and Latin America, where the high costs of servicing overseas borrowings had severely impaired those countries’ ability to invest in vital public infrastructure and services. And while Mr. Powell repeatedly emphasised that the world’s largest economy was overall “strong”, the uncertainties clouding the global economic outlook, including the volatile conflicts in Europe and West Asia mean that the Fed’s pivot also runs the risk of being read as a cautionary signal of troubled times ahead.

ON ADANI’S PROPOSAL TO LEASE KENYA’S NAIROBI AIRPORT

The story so far:

Kenyans are protesting a proposed takeover of Nairobi’s Jomo Kenyatta International Airport (JKIA) by India’s Adani Group on a 30-year lease. Last week, airport workers went on a day-long strike, leading to flight cancellations that left hundreds of passengers stranded. The workers called it off when the government agreed to give them veto power on the final agreement.

What is the background?

The refurbishment and expansion of the Nairobi international airport has been in the works since 2013. The plans included building a new passenger terminal, another runway, and expanding the capacity to 20 million passengers a year. But for various reasons, the contract was cancelled in 2016, and the project was dormant until 2022. In June 2023, the government announced it would publicly invite bids to revive the project. However, in July this year, a Kenyan whistle-blower posted on social media that the government had secretly signed a deal with the Adani group to manage the airport for 30 years. The news generated nationwide outrage, with local commentators criticising the move to “give away” control of a “strategic national asset” to a foreign company.

What are the terms of the deal?

According to media reports based on leaked documents, in March 2024, Adani Airport Holdings Ltd had submitted a Privately Initiated Proposal (PIP) to the Kenya Airport Authority (KAA) to refurbish the JKIA under a build-operate-transfer model with an investment of \$1.85 billion. Under the proposed deal, the Adanis would refurbish the airport, add a new runway, and possibly a terminal. They would fund this with their own investment and from revenues generated from the airport, which they will control for 30 years. At the end of this period, the Adanis would get 18% equity in the airport. To protect their commercial interests from unforeseen competition, the Adani proposal included a stipulation that no airport shall be built within a 100km radius of the JKIA. It also projected a sharp hike in annual fees that would be transferred to airport users.

What are the Kenyans objecting to?

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It has emerged that in February 2024, a consultancy firm hired by the KAA to advise on expanding the JKIA had recommended an open tender process for securing a public-private partnership (PPP). This is also the preferred method under Kenya's PPP Act. Kenyans are asking why the KAA and the government ignored the experts' recommendation as well as the country's PPP law to go ahead with the Adanis' PIP. Senator Richard Onyonka, an opposition politician, in an interview to The Hindu, pointed out that Kenyans are concerned that the deal would give the Adanis a tax break for 10 years. He also claimed that the deal would allow the Adanis to fire all the employees currently on the rolls of the KAA — around 5,000— and rehire them on terms that could violate their rights. "Why didn't the Adani team want to follow due diligence as laid out under the PPP Act, whereby there would have been three-four competitive bids, and Kenyans would have had a chance to interrogate the various offers and pick the best value-for-money option?" he asked. "It indicates that this is a corrupt deal and we believe money has exchanged hands" he alleged, echoing a growing sentiment among the Kenyan public.

What next?

The Law Society of Kenya and the Kenya Human Rights Commission have filed a joint application against the deal in the high court. The court has issued an order suspending further movement on the Adani proposal pending a judicial review. The Adanis hold that it is in Kenya's best interest to go for a PIP rather than open tendering, noting, "PIP allows the government to secure terms beyond purely financial considerations, ensuring the welfare of citizens," and that "competitive bidding" besides being time-consuming, "risks making the deal purely transactional, without room for mutual considerations."

HOW THE SOUTH OUTPACED NORTH INDIA

Over the decades, there has been a remarkable change in the states driving India's growth story. Once dominant states have seen a decline, while others have emerged as economic powerhouses. A new working paper from the Economic Advisory Council to the Prime Minister has examined these trends over the past six-odd decades. On the one hand are states like Uttar Pradesh, West Bengal and Punjab. As per the paper, in 1960-61, UP contributed 14.4 per cent to India's GDP. By 1990-91, it had fallen to 12.6 per cent, and in the years after its bifurcation it has declined even further. Similarly, West Bengal has seen its share fall from 10.5 per cent to 5.6 per cent over the period. The state's per capita income, once higher than the national average, is now lower than it. Punjab's economy, which had benefited from the Green Revolution — its relative per capita income rose from 119.6 per cent of the national average in 1960-61 to 169 per cent in 1970-71 — has slumped thereafter. Its share in the GDP has fallen from 4.4 per cent in 1970-71 to 2.4 per cent in 2023-24.

In sharp contrast is the growth trajectory of the southern region. After the 1991 reforms, the southern states have seized the opportunities that opened up and emerged as "leading performers". In fact, in 2023-24, these five states accounted for roughly 30 per cent of India's GDP. Alongside, the western states of Gujarat and Maharashtra have also fared well during the period. These regions have a significant presence in the manufacturing and services sectors. For instance, the IT sector is largely concentrated in the southern region. These states also account for a fairly large share of factories in India as per the Annual Survey of Industries. And most of the major exporting districts are located in the southern and western states. However, even as the southern states have powered ahead, they have seen their share in the divisible tax pool fall — from 21.1 per cent during the award period of the 11th Finance Commission (2000 to 2005) to 15.8 per cent during the period of the 15th Finance Commission (2021-26). In lower income states like UP,



Bihar and West Bengal, transfers from the Centre — which includes their share in central taxes and grants in aid — account for a significant share of revenue receipts. While fiscal transfers are meant to ensure uniformity of public services across regions, the dwindling share of the southern states in tax revenue has emerged as a major faultline in Centre-state relations in recent years.

The concerns of the southern states are not limited to the distribution of fiscal resources. These states are also fearful of structural changes in the Lok Sabha following the delimitation exercise which could see them ending up with a relatively narrower share of seats. These challenges are set to deepen, if they are not addressed with a wise and far-sighted politics. At stake is the poise and healthy functioning of the federal system.

A FAIR SHARE

At a meeting in Thiruvananthapuram last week, the Finance Ministers of five-Opposition-ruled States demanded a raise in the divisible pool of taxes from 41% — the Fifteenth Finance Commission's recommendation — to a 50% apportionment, and a cap on the amount the Centre can collect as cesses and surcharges that usually appear as top-ups on invoices meant to fund specific central government projects and beyond the ambit of the devolution mechanism. The Karnataka Chief Minister Siddaramaiah has also reignited the debate by announcing his interest in convening a meeting of Chief Ministers of Opposition and BJP-ruled States to discuss the growing infringement on States' autonomy to collect taxes since the introduction of the GST framework and the penalising of States with better economic indices. The meeting assumes significance in the backdrop of the paltry sums allocated in the 2024-25 Union Budget for marquee plans such as Bengaluru's Suburban Rail Project, or the non-allocation of central funds for Kerala's Vizhinjam Port and the second phase of the Chennai Metro Rail project. The meeting must also be viewed in the backdrop of natural disasters striking various States across India such as the flooding in Tamil Nadu's southern delta regions last December, the recent heavy rains in western Gujarat, and the devastating landslide at Wayanad, Kerala. The Sixteenth Finance Commission's recommendations on tax devolution are expected by October 2025.

While the difference in the State Gross Domestic Product between States is rightly given the highest weightage of 45% by the Fifteenth Finance Commission in determining tax devolution as a measure to provide for the development of India's poorer regions, this has led to considerably reduced devolutions to top tax revenue contributing States such as Gujarat, Karnataka, Maharashtra and Tamil Nadu. As industrial and economic powerhouses, these States require tailor-made capital and social expenditures that could address particular developmental, climate and industrial needs of their varied regions. Apart from the restrictions on States by the GST framework on tax collections, low devolution has also meant that the governments of high-performing States are finding their hands tied at a crucial juncture in their economic and social trajectories. Moreover, neither the GST nor the Finance Commission have addressed contingency expenses, which are now relevant more than ever, to mitigate extreme weather events. In a large and complex country such as India, with vastly divergent social and economic indicators and an equally diverse spread of natural resources and vulnerabilities, it is time for an urgent intervention to amend the tax devolution frameworks that will lead to greater autonomy to the States. This would allow for a truly federal and a participatory governance model.

STREAMLINING GST STRUCTURE: THE COMPLICATIONS AND THE WAY AHEAD



As the Goods and Services Tax (GST) authorities set out to chart the future roadmap of the indirect tax regime, seven years after its implementation in July 2017, the biggest question in the minds of stakeholders is — can it be simplified further?

— A less-complex GST structure essentially would imply a reduction in the number of tax slabs, minimal carve outs and exemptions, easier compliance mechanism and rates at a level at which both states and the Centre are able to safeguard their revenue streams.

— It's not the first time that the multiplicity of rates under GST has been flagged as an issue. Multiple rates, especially for different parts of the same item, often result in classification disputes. At multiple times over the course of the last six years, the GST Council has worked towards clarifying discrepancies in the rate structure.

— At a time when the average monthly gross GST collections have stabilised around Rs 1.8 lakh crore with a year-on-year growth rate of 10 per cent, most stakeholders are reluctant to undertake any major change in the rate structure.

— The ideal solution could have been to have a flat rate with no exemptions or carve outs as is the case in many countries such as Singapore and New Zealand. This was raised during the initial discussions at the time of the rate setting exercise before the GST rollout in India but it was viewed to be complicated for a country with a variety of products like India.

— There could be other possibilities also to bring in uniformity in the GST rates. Former Central Board of Indirect Taxes and Customs (CBIC) Chairman Najib Shah said that merging of rates would be challenging but if there is consensus that it has to be done, then options are many — either it could be merged chapter wise or the rates could be converged.

— Experts are also of the view that formation of industry-specific committees of officers, as was done during the initial rollout phase of GST, may now help the GST authorities to understand the finer details of the issues being faced by businesses across sectors.

— Proposals to merge 12 and 18 per cent slabs or 5 and 12 per cent slabs have featured in internal discussions of the GST authorities. However, concerns about a potential loss of revenue through any major change in tax slabs looms large.

For Your Information:

— GST is a consumption tax and is levied at the final consumption point. The principle used in GST taxation is the Destination Principle. It is levied on the value addition and provides set-offs. As a result, it avoids the cascading effect or tax on tax which increases the tax burden on the end consumer.

— It is collected on goods and services at each point of sale in the supply line. The GST that a merchant pays to procure goods or services can be set off later against the tax applicable on supply of goods and services.

DISBANDING OF COMMITTEE ON STATISTICS: UNDERMINING CREDIBILITY, EVADING QUESTIONS

Last week, the Centre abruptly disbanded the 14-member Standing Committee on Statistics (SCoS). The committee, which was first formed in December 2019 and later expanded in July 2023, was tasked with overseeing all statistical surveys by the Ministry of Statistics and Programme

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Implementation (MoSPI). A letter by the ministry to the panel members reasoned that the work done by the committee is similar to that of the recently-formed Steering Committee for National Sample Surveys. Yet, the committee members, led by former Chief Statistician Pronab Sen, seem clueless about the government's exact motive. Moreover, as this newspaper reported, the dissolution has happened amid apparent concerns raised by some members over the delay in conducting Census 2021. Two aspects to this development are noteworthy. One is to understand why the delay in the decennial Census is serious. Two, how this dissolution undermines the already worsening credibility of India's statistical framework.

The decennial census provides the foundation for the entire statistical system of the country. For instance, in the absence of the Census, there is no clarity the extent of urbanisation in the country — unofficial estimates vary. Similarly, sample surveys, whether done by the MoSPI or individual departments or private agencies, are judged for how close to mirror they are to the actual reality provided by the Census. In the absence of a new Census, the original picture gets distorted and that distortion then gets amplified through sample surveys. For instance, until the end of 2023, the last sample survey to map the consumption patterns of Indians dated back to 2011-12. The survey results, in turn, provided the base for other critical policy metrics such as inflation rates and poverty levels. Not surprisingly, Sen told this newspaper that while there was no recent discussion, it is true that "all the members had earlier expressed concerns that in the absence of censuses, both economic census and census, household surveys are unreliable".

Over the past decade, almost every statistic that matters has been questioned, sometimes even by the government itself. For instance, in 2019, the government ran down the results of the first Periodic Labour Force Survey (PLFS) as it showed unemployment had hit a 45-year high in 2017-18. Several commentators, led by one of the government's former Chief Economic Advisors, have argued that India's GDP data is misleading. Last year, a member of the PM's Economic Advisory Council argued that major surveys used by policymakers are based on unsound data collection frameworks. The larger concern that this episode raises is about the credibility of India's statistical framework especially at a time when the eyes of the world are trained towards the Indian economy.

WHAT ARE THE ISSUES FACED BY EPFO PENSIONERS?

The story so far:

Nearly 78 lakh Provident Fund (PF) pensioners across the country under the Employees' Pension Scheme, 1995 (EPS-95) of the Employees' Provident Fund Organisation (EPFO) will receive their pension through any bank, any branch from January 1, 2025. The Union Labour Ministry cleared the proposal earlier this month for a Centralised Pension Payment System (CPPS) as part of the EPFO's ongoing IT modernisation project, the Centralised IT Enabled System.

What contributed to the formulation of this new arrangement?

At present, if a pensioner decides to migrate, they have to seek the transfer of Pension Payment Orders (PPO) from one office to another. This has invariably resulted in complaints from pensioners about the delay in transfers, and subsequent payments. Moreover, pensioners can draw their monthly pension only through a group of three or four banks empanelled with the EPFO at every zone or region.



The new facility has been made possible in the wake of the implementation of the CPPS, which has been approved by the Union Ministry of Labour and Employment, according to the Minister and Chairperson of the EPFO's Central Board of Trustees, Mansukh Mandaviya, in a statement issued on September 4. In the next phase, CPPS will enable a smooth transition to an Aadhaar-based payment system. The pensioners will no longer need to visit the branch for any verification at the time of commencement of pension and the pension shall be immediately credited upon release, the government said. The EPFO expects a significant cost reduction in pension disbursement after moving to the new system.

Will the proposed arrangement make things easier for pensioners?

“On the face of it, we welcome the development even though we are waiting for the full details of the announcement. Everything depends upon implementation, during which we will come to know whether there are practical difficulties or not,” said K.P. Babu, general secretary of the Chennai EPF Pensioners' Welfare Association and Organising secretary of the All India Co-ordination Committee of EPF Pensioners' Associations. However, he added that for all practical purposes, many pensioners, like any other group of bank customers, draw money through ATM cards, thanks to the core banking system.

Has the announcement satisfied pensioners?

To many pensioners, the Union Ministry's decision has been a disappointment, as they expected the government to provide them with a pleasant surprise, just as it has done for its government staff — a unified pension scheme which seeks to combine many features of the Old Pension Scheme (OPS) and the New Pension Scheme (NPS).

Trade unions and even Members of Parliament, cutting across party affiliations, have been urging the government to hike the minimum pension amount of ₹1,000. Late last month, a BJP MP from Gujarat, Shobhanaben M. Baraiya, wrote to the Minister saying, that approximately seven years ago, the request for hiking the minimum pension to ₹7,500 along with dearness allowance (DA) and medical allowance was “assured consideration.” The Chennai EPF Pensioners' Welfare Association, the EPS- 95 Retired Employees' Welfare Association, Mysuru, and the Provident Fund Pensioners' Association, Kochi, have been seeking ₹9,000 plus DA. The same demand was raised by trade unions during their pre-Budget consultation with Union Finance Minister.

What is the status of applications by PF pensioners and members for pension on higher wages?

PF members and pensioners are increasingly anxious over how their applications for pension on higher wages are being processed. Many of them had nursed the hope that they would get higher pension immediately after the Supreme Court's judgment in November 2022 which approved, as a matter of principle, the payment of pension on wages that exceeded the PF ceiling. However, a recent reply from the EPFO under the Right to Information Act showed that as of August 7, 2024, the number of applicants who were issued PPOs was 8,401, which included two from those who retired before September 1, 2014. Besides, demand notices were sent to 89,235 other applicants, requiring them to transfer their share of arrears. Nearly 17.5 lakh applications had been submitted online, of which about 1.5 lakh were rejected.

What is the Union government's position?

As regards the hike in minimum pension, the Centre has been citing financial constraints, though it has been increasing its allocation annually for the EPS-95.



The government's contribution to the Pension Scheme is at the rate of 1.16% of the basic wages of employees, apart from providing budgetary support to ensure the minimum pension payment. The Pension Scheme is also getting funds through the transfer of 8.33% of the Provident Fund contributions by employers. An official document reveals that during 2022-23, the government's contribution was approximately ₹8,785 crore and it was ₹ 9,760 crore for 2023-24. For 2024-25, the bill would be ₹10,950 crore. Under these circumstances, it remains to be seen to what extent the Union government will increase the minimum pension amount.

On the issue of pension on higher wages, the EPFO was originally against it, as the body had contended that the EPS-95 was meant for economically weak workers, who had, proportionately, contributed more than the high wage earners. The "reverse subsidy" was an "anomaly," which was corrected by the modifications in 2014. Even now, its stand has been that it cannot be liberal in granting pension on higher wages as this would affect the sustainability of the Pension Fund. However, till now, the fund has not witnessed any cash flow problems, despite there being a projected actuarial deficit in the valuation. There has been a widespread complaint that the PF body has been "unrealistic" in seeking very old documents from pensioners, members, and employers.

What is the way forward?

Apart from increasing its contributions substantially to the EPS-95 and revising upwards the ceiling for PF contributions from ₹15,000 which was fixed 10 years ago, the Union government should implement the idea floated by former Union Finance Minister Arun Jaitley, during his Budget speech in February 2015, that an option be given to employees to invest in the EPF or the NPS, a move which will take care of the issue of returns on investment. This is not to overlook the fact that since 2015, the EPFO has been investing in exchange-traded funds (ETF), as notified by the Union Labour Ministry. The exclusion of the applicability of EPS-95 to those who joined after September 1, 2014, and earned more than the ceiling has to be removed, making pension eligible to all employees, regardless of the pay.

OIL COMPANIES TO WAIT MORE BEFORE PETROL, DIESEL PRICE CUT, REVERTING TO ROUTINE FUEL PRICE REVISIONS

Despite the recent slump in international prices of crude oil, public sector oil marketing companies (OMCs) are likely to wait a little longer before passing on the benefit to consumers and returning to the practice of daily revision in prices of petrol and diesel, a top petroleum ministry official said, adding that the international prices continue to be highly volatile.

Softening of oil prices in recent weeks had led to speculation that the OMCs—Indian Oil Corporation (IOC), Bharat Petroleum Corporation (BPCL), and Hindustan Petroleum Corporation (HPCL)—could reduce pump prices of petrol and diesel and revert to daily price revisions, which they had suspended over two years ago when international oil and fuel prices had touched multi-year highs amid extreme volatility due to multiple reasons, including the outbreak of the Russia-Ukraine war.

Since then, retail prices of petrol and diesel have been revised rarely—on a couple of occasions due to excise duty reductions and once just before this year's Lok Sabha polls. Currently in Delhi, petrol is priced at Rs 94.72 per litre, while diesel is being retailed at Rs 87.62. Fuel prices vary from one state to the other due to differences in state levies.



“We are still seeing a lot of volatility in prices. Yesterday, the US Federal Reserve announced a rate cut. Similarly, there are a lot of decisions globally (which can affect oil prices) that are going through the system. People are looking at various new data points. For example, how much is the drawdown of crude? What is China’s PMI looking like? What kind of numbers are coming out of China in terms of purchase and storage of crude, refinery margins, refinery bankruptcies, etc. All kinds of new information are coming out every day,” said the official, who did not wish to be identified.

India is the world’s third-largest consumer of crude oil and depends on imports to meet over 85 per cent of its requirement. This makes fuel prices in India extremely sensitive to prices in the international market.

“We also need to understand that the impact of these factors operates with a lag effect,” the official said, adding that the OMCs and the government want the international prices to stabilise before taking any call. The official said that multiple factors that make up the pricing equation need to be carefully analysed before a call is taken. These factors include international oil prices, fuel spreads or margins, dollar-rupee exchange rate, outlook on prices, and market volatility assessments, among others.

Global benchmark Brent crude had slipped to under \$70 per barrel on September 10—the first such instance since December 2021—but has climbed to over \$74 per barrel over the past nine days. In early July, Brent was trading at over \$85 per barrel. In the first week of April, Brent had breached the \$90 mark after over five months.

Although these prices are significantly lower than the levels seen in 2022, industry officials say that they are prone to volatility given the unpredictable geopolitical situation in some regions and production regulation by major global oil producers. The recent slump in oil prices has mainly been on account of concerns of oil demand in China, a top importer of crude oil.

As per industry insiders, OMCs would be comfortable in reverting to daily fuel price revisions once international crude oil prices stabilise under \$80 per barrel. Given the current pump prices and margins on the two automobile fuels in the international market, an oil price level of under \$80 would ensure that the OMCs would not have to bear any under-recovery on petrol and diesel sales.

WHAT ARE THE COMMONS AND WHY IS COMMUNITY LEADERSHIP NEEDED TO GOVERN THEM?

Delhi, last month, hosted a first-of-its-kind dialogue on the conservation, restoration and governance of common resources such as forests, community lands, and water bodies like lakes or rivers, all usually referred to just as Commons. More than 500 people, most of them representing grassroots organisations in different parts of India, attended the three-day event. It was organised to raise awareness about the need to evolve more inclusive and community-led frameworks for the governance of the Commons.

Commons and their governance

Commons is a term used to refer to resources that are not owned by any individual or group or the government, but belong to, and are shared by, the community as a whole. Forests, local ponds, grazing lands, rivers, and sacred sites are all Commons. In the urban setting, parks and lakes are Commons.



Commons could be intangible too. Language, folk art or dance, local customs, and traditional knowledge are all shared resources, and thus are Commons. At the international level, the polar regions, the Arctic and Antarctica, are considered global Commons. No country is allowed to take ownership of these areas, even though everyone can use them for certain kinds of activities. Outer space, the Moon, and other planetary bodies are also global Commons.

In the digital age, most Internet and open-source software are Commons. Digital resources with creative commons licences are meant to be used freely by everyone.

Commons are critical for several reasons. They provide a variety of ecological and other services that are beneficial for the entire community. But they need to be maintained, preserved, and used sustainably. As these resources are accessible to all, they face a greater threat of over-exploitation and damage. Since no one owns Commons, the responsibility of maintenance and upkeep often becomes a problem. Commons have also come under increased stress due to climate change.

Different kinds of governance mechanisms have evolved to manage Commons depending on the context. There are international agreements, for instance, for the use and management of polar regions, outer space, and high seas. The Paris Agreement on climate change, which seeks to maintain a liveable planet for everyone, is an example. In urban areas, municipalities or other structures of local governance take care of the Commons.

At rural levels, however, the governance of Commons is often not very well-defined or is non-existent. Local communities do get involved but in most cases, lack the resources or the legal sanction to manage these common spaces. The NGOs gathered in Delhi last month raised their voice mainly over issues related to the governance of these kinds of Commons.

The need for community leadership

In the past, it was believed that Commons such as grazing lands or water bodies at the local level could not escape over-exploitation or destruction as everyone using it would tend to extract the maximum for oneself. This used to be referred to as the Tragedy of the Commons, a term popularised by ecological economist Garrett Hardin in the 1960s. The only viable solution was to either get the government or the market involved in managing and regulating the use of these common resources.

This view was later turned on its head by the landmark research of Elinor Ostrom. Her field studies with several local communities across the globe provided plenty of evidence to show that community-led governance structures resulted in more sustainable management of common spaces. She also found that interventions of the government or the markets were not the only way to deal with the Commons. Ostrom's work, which fetched her a Nobel Prize in Economics in 2009, the first for a woman, culminated in a book titled *Governing the Commons: The Evolution of Institutions for Collective Action*.

Ostrom's ideas now form the backbone of the governance structures of Commons in many parts of the world. These involve the participation of local communities in different ways, depending on local contexts and requirements.

Forest Rights Act and its significance

In India, the 2006 Forest Rights Act (FRA) is considered a good template for managing common forest resources. The Act gives individual and community ownership rights to forest-dwellers to live in and carry out their livelihood in the forest areas. Till then, the forest department used to be



the sole custodian of forest areas, though practices such as setting up joint forest management committees, with representation from the local villages, had begun acknowledging the role of indigenous peoples in the conservation and restoration of natural resources. The FRA is considered a turning point as it recognised the legal rights of the forest dwellers over the land.

Jagdeesh Rao, director of Common Ground, one of the organisers of the Delhi event, says FRA is a good model for forest land but similar frameworks need to be developed for other common resources, particularly areas that are officially classified as wasteland.

Nearly one-fourth of India's landmass, about 205 million acres, is estimated to be Commons, comprising community forests, pastures or water bodies. Almost 350 million rural people depend on these Commons for their livelihoods. These Commons are estimated to generate economic value worth about Rs 6.6 lakh crore annually, through the provision of goods and ecological services.

Rao said schemes like NREGA, compensatory afforestation, and the green credits would become much more effective at governing Commons once the rights of the locals are acknowledged. He said the NGOs working in this area also wanted the Centre to legislate a model Commons Bill which can be replicated or adopted by the state governments for more effective governance of the Commons.

EXPRESS VIEW ON REMOVAL OF EXPORT CURBS ON ONION AND BASMATI: RESTORING BALANCE

On Friday, the Narendra Modi government lifted curbs on onion and basmati rice exports in the form of minimum floor price, of \$550 and \$950 per tonne respectively, below which they cannot be shipped out of the country. The export duty on onions remains, but has been halved to 20 per cent now. Friday also saw the Centre hike the effective import duty, inclusive of special agriculture and social welfare cesses, on crude palm, soyabean and sunflower oil from 5.5 to 27.5 per cent. The duty on refined palm, soyabean and sunflower oils was raised from 13.75 to 35.75 per cent. The political timing of these moves cannot be missed. Haryana, a key basmati paddy growing state, votes on October 5 when the new crop's market arrivals would have also taken off. Onion and soyabean are, likewise, major crops in Maharashtra's Nashik-Ahmednagar-Pune and Marathwada-Vidarbha regions respectively. That state, too, is scheduled to go to the polls later this year.

Electoral compulsions apart — the predominantly Maratha and Jat peasantry of Maharashtra and Haryana wields numerical as well as socio-political influence in their respective states — the Modi government's latest actions seem to have been equally guided by economic factors. Soyabean is trading below its official minimum support price in the wholesale mandis of Maharashtra and Madhya Pradesh even as harvesting and marketing of the crop will start only from next month. Global vegetable oil prices are also roughly 50 per cent down from their March 2022 peaks scaled immediately after Russia's invasion of Ukraine. While onion prices in Maharashtra's Lasalgaon are ruling more than twice their year-ago levels, farmers have planted almost 50 per cent more area under the tuber in the current kharif season. That crop will be ready for harvesting in a month's time. A good monsoon — cumulative rainfall during the season (June-September) has been 7.7 per cent above the normal average so far, while both spatially and temporally well distributed — should translate into bountiful harvests of most kharif crops this time.

The Modi government's farm trade policy in the last two years and more has been excessively pro-consumer, with export and private stockholding restrictions being imposed alongside liberal



imports. Ideally, policy should be neutral between consumers and producers, with any deviations being temporary and rules-based as opposed to arbitrary and knee-jerk. The easing of food inflation pressures provides room to dispense with the remaining export curbs on non-basmati rice, sugar, onion and even wheat. There is no justification for stocking limits on pulses and wheat either. Inflation in these can be better addressed by allowing duty-free imports. The government must also build a buffer stock of all essential food items by procuring when prices are low and offloading when they go through the roof.

GOVT PLANS ₹6,000-CR SCHEME TO BOOST PRECISION FARMING

The Centre is contemplating to earmark Rs 6,000 crore to promote precision farming, a modern approach that uses smart technology such as Internet of Things, Artificial Intelligence, drones and data analytics to boost production through maximal use of resources while minimising environmental impact.

— The Union Ministry of Agriculture is planning a Smart Precision Horticulture Programme under the existing Mission for Integrated Development of Horticulture (MIDH) scheme, it is learnt.

— It will cover 15,000 acres of land in five years from 2024-25 to 2028-29 and is expected to benefit about 60,000 farmers, sources said. At present, the Agriculture Infrastructure Fund (AIF), launched during [Covid-19](#), has provisions for financing infrastructure projects for smart and precision agriculture.

— Apart from offering financial support, the Centre is also considering collaborating with the Netherlands and Israel, where tech-based modern farming solutions are being used, through Centres of Excellences (CoEs), the sources said.

— The Centre has also set up 22 Precision Farming Development Centres (PFDCs) across the country to test new technologies and modify them according to local needs.

For Your Information:

— Under AIF, individual farmers as well as farmers' communities such as Farmer Producer Organization, Primary Agricultural Credit Societies and SHGs are eligible for loans with interest subvention of 3% for using technological solutions in farm practices.

— These practices include farm/ harvest automation; purchase of drones, putting up specialised sensors on field; use of blockchain and AI in agriculture; remote sensing and Internet of Things (IoT).

— Smart and precision agriculture maximises use of resources like water, fertilisers and pesticides to increase production quality and quantity, all while insulating farmers from vagaries of climate change and other uncertainties, besides ensuring sustainable farming.

— Ashok Gulati writes: It is this science of precision farming that can give us “more from less”. The innovations and developments in GIS, AIML, which can use enormous data to bring about precision in farming, use of sensors, drones, doves, and LEOs (low earth orbits), space technologies, cloud computing, are all bursting out to provide the basis for a revolutionary epoch.



HOW A FERTILISER CAP CAN HELP FUEL INDIA

Chemical fertilisers are made from fossil fuels and minerals having alternative industrial uses. Ammonia, the key input of nitrogenous fertilisers such as urea, is derived from natural gas that is also a transportation fuel and feedstock for petrochemicals and power generation. There is similar user competition now happening with rock phosphate ore. This raw material for manufacturing di-ammonium phosphate (DAP) and other phosphorous-containing fertilisers is being increasingly used as the cathode (positive electrode) source in electric vehicle batteries, replacing more costly nickel, manganese, cobalt and aluminium oxides. As more of phosphoric acid produced from the ore deposits in Morocco, China, Egypt or Tunisia goes towards making lithium iron phosphate batteries, there will be that much less available for manufacturing phosphatic fertilisers. The resultant “food versus cars” dilemma may have echoes of the more familiar “food versus fuel” debate arising from the diversion of sugarcane, foodgrain and vegetable oils for ethanol and bio-diesel production.

India imports nearly half of its natural gas consumption and hardly has any mineable phosphate, potash or elemental sulphur reserves. Its agriculture is, hence, particularly vulnerable to global price spikes and supply disruptions. All the more reason why a country that is substantially dependent on imports, of both finished fertilisers and inputs used for their domestic manufacture, needs to focus on efficient nutrient application. There was a time when farmers had to be incentivised to use chemical fertilisers for boosting crop yields. Today, they need to be restrained from over-application. Unfortunately, the government policy of under-pricing urea and, more recently, DAP, does just the opposite.

The government must take measures to cap, if not cut, the consumption of high-analysis fertilisers like urea (having 46 per cent nitrogen content), DAP (46 per cent phosphorous) and muriate of potash (60 per cent potassium). Farmers should be weaned away from these to apply complexes and water-soluble fertilisers containing less of these nutrients that can be delivered directly to the plant’s root zone or sprayed to the leaves. Improved nutrient use efficiency will allow reduction in the consumption of bulk fertilisers and also imports of their intermediates and raw materials. The sustainability of Indian agriculture lies not only in more crop per drop (of water), but also more crop per kg (of nutrients).

PM-AASHA SCHEMES TO CONTINUE WITH ADDITIONS: CENTRE

- The Union Cabinet has approved the continuation of schemes of PM-AASHA to provide remunerative prices to farmers and control price volatility of essential commodities for consumers.
- The **Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA)** is an umbrella scheme launched in 2018 to ensure remunerative prices to farmers for their produce.
- The components of PM-AASHA will be the Price Support Scheme (PSS), Price Stabilization Fund (PSF), Price Deficit Payment Scheme (POPS), and Market Intervention Scheme (MIS).

Subsidy for fertilizers

On the fertilizer subsidy, the Centre said it will ensure availability of fertilizers to farmers at subsidised, affordable and reasonable prices. It added that the rationalisation of subsidy on P and K fertilisers is taken in view of the recent trends in the international prices of fertilizers and inputs.



A NEW WHITE REVOLUTION IN DAIRY SECTOR: WHERE INDIA STANDS, WHERE IT AIMS TO BE

Operation Flood, launched in 1970, ushered in the White Revolution and transformed the dairy sector in India. On Thursday (September 19), Union Home and Cooperation Minister Amit Shah announced plans for “White Revolution 2.0”. What is the big picture currently in India’s dairy sector, and what is the objective of the government’s new initiative?

White Revolution 2.0

The idea of White Revolution 2.0 revolves around cooperative societies, which were also the bedrock of Operation Flood five decades ago.

Dairy cooperatives procured 660 lakh kg of milk per day in 2023-24; the government wants to increase this to 1,007 lakh kg/ day by 2028-29. For this, it has formulated a strategy of expanding coverage and deepening the reach of cooperatives.

This will also generate employment and contribute to the empowerment of women in the process, the ministry said.

Scope for expansion

Since it was created in 2021, the Ministry of Cooperation has focused on expanding the network of cooperatives, in particular dairy cooperatives.

According to officials of the National Dairy Development Board (NDDB), the regulator of the dairy industry in India, dairy cooperatives operate in around 70% of the country’s districts. There are about 1.7 lakh dairy cooperative societies (DCSs), which cover around 2 lakh villages (30% of the total number of villages in the country), and 22% of producer households. These cooperative societies procure about 10% of the country’s milk production and 16% of the marketable surplus.

In the states of Gujarat, Kerala, and Sikkim, and the Union Territory of Puducherry, more than 70% of villages are covered by dairy cooperatives. In the states of Uttar Pradesh, Uttarakhand, and Madhya Pradesh, and the UT of Jammu & Kashmir, however, coverage is only 10-20%. And in West Bengal, Assam, Odisha, Jharkhand, Chhattisgarh, Himachal Pradesh, and the smaller states of the Northeast, less than 10% of villages are covered.

Where India stands on milk production

India is the world’s top milk producer, with production having reached 230.58 million tonnes during 2022-23. In 1951-52, the country produced just 17 million tonnes of milk.

The average yield is, however, only 8.55 kg per animal per day for exotic/ crossbred animals, and 3.44 kg/ animal/ day for indigenous/ nondescript animals. The yield in Punjab is 13.49 kg/ animal/ day (exotic/ crossbreed), but only 6.30 kg/ animal/ day in West Bengal.

The national per capita availability of milk is 459 grams/ day, which is higher than the global average of 323 g/ day; this number, however, varies from 329 g in Maharashtra to 1,283 g in Punjab.



As per the Basic Animal Husbandry Statistics (BAHS) 2023, the top five milk producing states are UP (15.72%), Rajasthan (14.44%), Madhya Pradesh (8.73%), Gujarat (7.49%), and Andhra Pradesh (6.70%), which together contribute 53.08% of the country's total milk production.

Almost 31.94% of the total milk production comes from indigenous buffaloes, followed by 29.81% from crossbred cattle. Nondescript buffaloes contribute 12.87%, indigenous cattle 10.73%, and nondescript cattle 9.51%, according to BAHS figures. The share of goat milk is 3.30%, and that of exotic cows, 1.86%.

The milk group, comprising milk consumed or sold in liquid form, ghee, butter, and lassi produced by producer households contributed almost 40% (Rs 11.16 lakh crore) of the value of output from the agriculture, livestock, forestry, and fishing sector in 2022-23 — much higher than cereals. The dairy sector provides livelihoods to more than 8.5 crore people directly or indirectly, of whom the majority are women.

About 63% of the total milk production comes to the market; the remaining is kept by producers for their own consumption. About two-thirds of the marketable milk is in the unorganised sector. In the organised sector, cooperatives account for the major share.

BLOCKCHAIN, SMART MATERIALS, AMONG INNOVATIVE PROJECTS MOOTED IN PM SOLAR SCHEME

As part of the ₹75,000-crore PM Surya Ghar: Muft Bijli Yojana, the Ministry of New and Renewable Energy (MNRE) has announced a ₹500-crore sub-component for “Innovative Projects”, according to a draft notification from the Ministry.

Under this programme, companies and individuals can submit proposals, which will be perused by a committee, to execute novel ideas connected to rooftop solar installations.

Some examples of innovative projects envisioned include “...blockchain-based peer-to-peer RTS [Rooftop Solar], digital solutions for RTS, smart building materials, RTS with EV (electric vehicles), grid responsive RTS with battery storage solutions, DISCOM (Distribution Company) systems for RTS management”.

Every project is expected to be for a “maximum duration” of 18 months and the financial assistance for innovative projects would be capped at 60% of the total project cost, or a maximum of ₹30 crore. The National Institute for Solar Energy (NISE), a subsidiary of the Ministry, would implement the scheme.

The PM Surya Ghar scheme was established on February 29, 2024 to increase the share of solar rooftop capacity and have residential households to generate their own electricity. The scheme has an outlay of ₹75,021 crore and is to be implemented till FY 2026-27.

Prime Minister Narendra Modi earlier this week said that 1.3 crore families had registered for the scheme since its launch, with 3.75 lakh homes having installed these connections since March.

The scheme provides subsidised RTS installation with a maximum of ₹78,000 per household. In a departure from previous schemes, those interested can apply to vendors of their choice online as well as avail of subsidised loans from banks for installation.



LIFE & SCIENCE

WHY EARTH WILL TEMPORARILY GET A 'MINI-MOON' IN SEPTEMBER

According to a new study, the Earth's gravitational field will temporarily capture a small asteroid, called 2024 PT5, in late September. The asteroid will stay for two months before flying off into space. While gaining a "mini-moon" is not new for Earth, the phenomenon is rare — in most cases, asteroids either miss the planet or burn upon entering the Earth's atmosphere.

A team of scientists discovered 2024 PT5 on August 7 and published their findings in the journal Research Notes of the American Astronomical Society earlier this month.

What is a 'mini-moon'?

Mini-moons are asteroids that fail to escape Earth's gravity and end up orbiting the planet for some time. They are usually very small and hard to detect — only four mini-moons of Earth have ever been discovered, and none are still orbiting Earth, according to a report by The Planetary Society.

"Some may actually have been space debris. The Gaia spacecraft was once mistaken for a minimoon, and so were rocket stages from the Chang'e 2 and Lunar Prospector missions," the report said.

What do we know about 2024 PT5?

The asteroid was discovered with the help of the NASA-funded Asteroid Terrestrial-impact Last Alert System (ATLAS). It is estimated to be just 33 feet long and is too small to be visible to the naked eye or through typical amateur telescopes. However, the asteroid is within the brightness range of telescopes used by professional astronomers.

Carlos de la Fuente Marcos, professor at the Complutense University of Madrid and lead author of the study, told Space.com that 2024 PT5 has come to visit from "the Arjuna asteroid belt, a secondary asteroid belt made of space rocks that follow orbits very similar to that of Earth" at an average distance to the Sun of about 150 million kilometres.

The asteroid could possibly be a "piece of ejecta from an impact on the moon", Paul Chodas, the director of the Center for Near Earth Object Studies at NASA's Jet Propulsion Laboratory (JPL), told The New York Times. This means that 2024 PT5 could be a small fragment of the actual moon.

Some researchers suggest that chances are 2024 PT5 does not qualify as a mini-moon. An asteroid has to orbit the Earth fully at least once — 2024 PT5 will perform a horseshoe-shaped orbit. Lance Benner, the principal investigator of the asteroid radar research program at the JPL, told The NYT: "It certainly won't complete one full revolution in the Earth-moon system this fall, so I'm not sure I would classify it as a mini-moon."

Why is this significant?

The observations of 2024 PT5 will help scientists expand the knowledge of asteroids that pass close to the Earth and those that sometimes collide with it.

Many asteroids contain valuable minerals and water, which companies hope to extract one day and use for purposes such as rocket fuel.



HOW STARLINK SATELLITES ARE 'BLINDING' ASTRONOMERS

Elon Musk's Starlink satellites are impeding the work of astronomers, a study published on Wednesday in the journal *Astronomy & Astrophysics* found.

Currently, the Starlink "constellation" comprises more than 6,300 working satellites orbiting Earth at an altitude of around 550 km. These satellites deliver high-speed internet to places which otherwise would not have access to it.

At the same time, they also create "radio noise", or unintended electromagnetic radiation (UEMR). This is what impedes the work of radio astronomers observing the sky from Earth.

Why radio astronomy matters

Radio astronomy is a branch of astronomy that studies celestial objects at radio frequencies. Unlike optical telescopes that detect visible light, radio telescopes are designed to detect radio waves (which have higher wavelengths and lower frequencies) emitted by objects in space. But just like bright visible light can blind the observer — like the bright headlights of an approaching car — the same can also happen at radio frequencies. This is essentially why radio noise is a problem.

For radio astronomers, observing while a satellite is in its field of view is like trying to see the faintest star visible to the naked eye next to a full Moon, Cees Bassa of the Netherlands Institute for Radio Astronomy (ASTRON) and the lead author of the recent study, told Science Adviser.

What Starlink does to space communications

Things might get worse. The recent study found that Starlink's second-generation satellites — which currently account for less than a third of the network — emit UEMR at levels 32 times brighter than its first-generation satellites. This is despite Starlink already running into trouble about the UEMR of its first-gen satellites.

"While the generation 1 satellites indeed got dimmer in the last year — so Starlink actually did something to them [to reduce radio leaks] — the new generation unfortunately seem to be brighter again," said Winkel.

Moreover, as launching satellites becomes cheaper, some estimate that as many as 100,000 satellites could be orbiting Earth by 2030. The number was pegged at 11,330 in June 2023 by the United Nations Office for Outer Space Affairs (UNOOSA).

Experts say that these developments signal the need for regulations for satellite operators, just like there exist regulations for radio pollution from ground-based electronic sources like cellphone towers. "There is no way to make any electrical or electronic apparatus without this kind of leakage... the question always asked is: how much is leaked?" Winkel said. This is what regulations can help minimise.

HOW QUANTUM COMPUTING CAN MAKE LARGE LANGUAGE MODELS EVEN BETTER

In recent years, the landscape of artificial intelligence (AI), particularly within the realm of natural language processing (NLP), has undergone a remarkable transformation. We have witnessed the rise of powerful large language models (LLMs) made by OpenAI, Google, and Microsoft, among



others, and generative AI (Gen-AI), characterised by its unparalleled ability to generate data based on user inputs.

These sophisticated models have revolutionised human-computer interactions, bestowing upon users experiences akin to human understanding. The advent of these cutting-edge technologies and their wide availability has compelled people at large, industry stakeholders, and governmental bodies to pay attention to their implications.

Problems with current LLMs

LLMs are a cornerstone in AI and mirror the complexities of human language processing. They can classify text, answer questions, and translate between languages. But they also consume a lot of energy to be trained and when put in use.

For example, as models go, LLMs are much larger than other AI applications such as computer vision. The energy consumption of a large language model (LLM) is determined mostly by the number of parameters it has. Larger models demand more computational power for both training and inference. For example, GPT-3 has 175 billion parameters and required around 1,287 MWh of electricity to train. This is around what an average American household consumes in 120 years. LLMs also surpass non-AI applications in this regard. Training an LLM with 1.75 billion parameters can emit up to 284 tonnes of carbon dioxide, which represents more energy than that required to run a data centre with 5,000 servers for a year.

It's important that we lower LLMs' carbon footprint to ensure they are sustainable and cost-effective. Achieving these goals will give LLMs more room to become more sophisticated as well.

Another shortcoming of LLMs pertains to their pre-trained nature, which restricts the level of control users have over their functioning. These models are trained on large datasets, with which they develop awareness of word-use patterns in diverse linguistic contexts. But such training often also results in "hallucinations." Essentially, LLMs may generate text that is contextually coherent but factually incorrect or semantically nonsensical. This arises from limitations inherent to the training, when the model's understanding may diverge from reality.

A third limitation revolves around the abilities of current LLMs to understand syntactics. Syntax refers to the structural arrangement of words and phrases in a sentence. LLMs excel at processing the semantic (meaning-related) aspects of natural language but struggle with syntax. For example, they may overlook or misinterpret syntactic cues and impede their ability to generate contextually appropriate text. In sum, we need to develop sustainable, energy-efficient approaches that yield more accurate language models.

Syntactics and semantics

Quantum computing is a highly promising way to address these challenges. It harnesses the remarkable properties of quantum physics like superposition and entanglement for computational needs. In particular, quantum natural language processing (QNLP) has emerged as an active and burgeoning field of research with potentially profound implications for language modelling.

QNLP incurs lower energy costs than conventional LLMs by leveraging quantum phenomena. QNLP models also require far fewer parameters than their classical counterparts in order to achieve the same outcomes (on paper), thus promising to enhance efficiency without compromising performance.



This processing paradigm takes advantage of quantum correlations, an approach in which the system focusses on grammar (syntax) and meaning (semantics) together rather than separately as conventional systems do. QNLP achieves this using a better “mapping” between the rules of grammar and quantum physical phenomena like entanglement and superposition. The result is a deeper, more complete understanding of language.

The approach is also expected to mitigate the “hallucinations” that plague many existing LLMs, as the resulting QNLP models are better equipped to distinguish the contexts of various pieces of information and produce more accurate outputs.

With the help of QNLP, researchers also hope to uncover the mental processes that allow us to understand and create sentences, yielding new insights into how language works in the mind.

GPT-4 CAN HELP BREAK THE HOLD OF CONSPIRACY THEORIES

Conspiracy theories are important in the context of the upcoming U.S. presidential elections. After all, rumours that the 2020 election was “stolen” from former President Donald Trump led to an attempted insurrection at Capitol Hill in Washington, D.C., in January 2021. In new research published in the journal *Science* on September 13, researchers have explored whether conversations with chatbots that use artificial intelligence can convince people to give up on the conspiracy theories they believe in.

For the study, the researchers got 2,190 individuals in the U.S. to disclose a conspiracy theory they believed in. Then the researchers had artificially intelligent chatbots converse with these individuals in an effort to get them to update or renounce beliefs. The researchers designed the bots to do this principally by presenting arguments with evidence.

The researchers worked from the idea that just confronting theorists with facts may not suffice to dispel their beliefs. This is because arguments built around facts alone, by virtue of lacking depth and personalisation, may fail to change their minds.

Large language models (LLMs) are a popular new form of artificial intelligence. They are distinguished by their ability to generate meaningful sentences in response to prompts posed by users. LLMs, which are hardware-software combines, train to acquire this ability by ingesting a large corpus of labelled information and then recognising statistical relationships between words, phrases, etc. in semi- or unsupervised conditions. Different LLMs can have different conversations with users based on the contents of their training corpora and the relationships they have been designed to prioritise.

The researchers set up real-time, personalised interactions between research subjects and chatbots — based on Open AI’s GPT-4 Turbo LLM — to have three rounds of conversations. At the end, the researchers recorded a 20% drop in the scores assigned to the strength of the participants’ belief in their chosen beliefs. The researchers said these scores persisted for at least two months after the conversations. (Also, professional fact-checkers found one of the chatbots’ 128 claims to be false.) The researchers also observed that debunking a conspiracy led to an overall decrease in participants’ belief in other rumours, too.

In sum, they reported that presenting strong as well as grounded evidence can alter the minds of those who “strongly believe in seemingly fact-resistant conspiratorial beliefs.” The findings also reaffirm a notion important to psychology but also public dialogue. To quote from the paper, “From a theoretical perspective, this paints a surprisingly optimistic picture of human reasoning:

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



conspiratorial rabbit holes may indeed have an exit.” Conspiracy theorists aren’t naturally incapable of admitting evidence contrary to their views. It’s possible they haven’t been engaged with the right evidence in the right form.

Finally, the study also demonstrates the persuasive power of LLMs and the potential for other generative artificial intelligence like them to be a force for good.

POST-GLACIAL ECOSYSTEMS COULD HELP TO SLOW DOWN CLIMATE CHANGE, SAYS DECADE-LONG STUDY

The retreat of glaciers may be one of the most evident signs of climate change, but it will leave behind new ecosystems that can help mitigate climate change, says a global study titled “The development of terrestrial ecosystems emerging after glacier retreat”.

The study, published in the multidisciplinary science journal *Nature*, suggests that deglaciation may accelerate climate change by reducing surface reflectivity and releasing stored carbon, but the post-glacial ecosystems could help slow it down. The study, led by professor Gentile Francesco Ficetola from the University of Milan and Silvio Marta from Italy’s Institute of Geosciences and Earth Resources, is the result of a decade-long investigation into how ecosystems develop in glacial retreat areas. Their findings show how ecosystems develop in these areas and suggest that proper management could boost biogeochemical processes, aiding in climate change mitigation.

1,200 samples analysed

The study involved collecting more than 1,200 soil samples from nearly fifty glaciers worldwide. Dr. Pritam Chand of Central University, Punjab, along with Professor Milap Chand Sharma of Jawaharlal Nehru University, Delhi, contributed to this study by analysing samples from the Gangotri and Bara Shigri glaciers in the Indian Himalayas.

Pointing out that immediately after glacier retreat, microorganisms such as bacteria, protists and algae are the first to colonise the barren landscape, making minerals available for other species, Mr. Pritam Chand said that within a decade, hardy plants such as lichens, mosses and grass begin to establish, enriching the soil and paving the way for more complex plant life and larger animals. “With proper management, these areas can develop rapidly, providing temporary habitats for species threatened by climate change,” he told *The Hindu*.

WHAT ARE AM, FM, AND SIGNAL MODULATION?

When you tune in to the radio, the announcer says, “Welcome to 100.1 FM Gold” or “You are listening to Akashvani at 783 AM”. The terms ‘AM’ and ‘FM’ refer to forms of signal modulation — a method at the heart of modern long-distance communications. Signal modulation simplifies the technologies required to send and receive good-quality signals carrying information, like the news and songs on the radio.

How do we ‘measure’ waves?

Imagine a vast, quiet lake. The water is as still as a statue. At the centre of the lake is a small island of pebbles. You pick up and drop a pebble into the water. A single wave ripples across the lake, forming a circle that expands in all directions. That is: a single, short disruption triggered the release of a single wave. After the wave passed, the lake became quiet again.



If you dropped a small gravel, the resulting wave would have had a short height. If the stone had been heavier, the impact would have been more energetic and the wave would have been taller. This height is called the wave's amplitude. A high amplitude sound wave will be louder; a high amplitude light wave will be brighter.

Dropping a stone every second will create a series of waves, traversing the surface one after another in concentric circles. If I'm sitting in a boat at some distance from the tower, and the wave strikes the boat, it will heave up and down. By measuring how much the boat is lifted, I can calculate the amplitude and from that the weight of the rock you dropped. I can also determine how frequently you drop new stones by counting how often my boat seesaws.

The number of successive crests arriving at a spot per second is the wave's frequency, measured in hertz (Hz). One Hz equals one cycle per second. This means the Chennai Akashvani radio station produces radio waves with 783,000 crests in one second. The interval between two successive crests (or troughs) is called the wavelength, measured in metres.

What are FM and AM?

Suppose we agree to use the Morse code: two stones dropped in quick succession equals a dot (•) and a longer gap between two stones is a dash (-).

When two stones are dropped one after the other, the waves are closely spaced, resulting in a higher frequency. If we drop the pebbles with a big time gap, the frequency drops.

By monitoring the frequency of the incoming waves far from the shore, I can distinguish between • and -. And based on the series of • and -, I can decipher the message.

This technique of information communication is called frequency modulation (FM). Here, we modulate, or adjust, the frequency to transmit a message.

We can also agree to another code: a heavy stone indicates a • and a light stone indicates a -. To convey • - • • • - • (Morse for 'air'), you drop heavy, light, heavy, heavy, heavy, light, heavy in that order, at regular intervals. The resulting waves will have varying amplitudes: tall, short, tall, tall, tall, short, tall. I can figure out the pattern by observing how much my boat sways and decipher your message.

This is amplitude modulation (AM). You fix the frequency by dropping the stones at fixed intervals. Instead, you change the pebbles' weight, resulting in waves of different amplitudes.

What is phase modulation?

We can have two waves with the same frequencies but different phases, meaning one wave starts slightly later than the previous one. It is like in march-past in which one set of people are out of step. So the corresponding crests (or troughs) of the waves will be slightly out of phase.

When a crest meets another crest, they combine and become more prominent. When a crest hits a trough, they cancel out. This way, out-of-phase waves can be made to stack up uniquely to produce a bigger wave.

People use the phase difference between two waves of the same frequency to encode a message.

The advantage of Phase modulation (PM) is that slight changes in the signal amplitude won't degrade the information it carries. This is because the modulating signal is not transmitted by the



amplitude of the pulses, so pulse modulation is nearly impervious to amplitude fluctuations produced by interference and noise.

This is why operators choose PM over AM or FM for crystal-clear digital transmission, such as in Wi-Fi.

What are digital and analog?

PM is unsuitable for analog radio or TV broadcasts because it's digital. When we use AM, FM, or PM modes to transmit • and – (or 0s and 1s), we have digital transmission. When we use AM or FM to propagate composite waves, it is analog transmission. Analog signals are continuous while digital signals are discrete.

In one critical respect, water waves and electromagnetic waves — such as radio signals — differ. Water waves travel on a medium.

Electromagnetic waves consist of electrical and magnetic fields oscillating in the three spatial dimensions.

This said, an electromagnetic wave's phase, frequency, and amplitude can communicate messages the same way waves on the surface of an ideal lake can.

How is signal modulation used?

An important advantage of modulation is that multiple signals modulated differently can travel in the same channel — like the airwaves in a city or a fibre-optic cable — without interrupting each other.

In the same vein, lightning produces radio waves that interfere with signals, resulting in static and noise. They have little influence on digital transmission thanks to modulation. This is why we have advanced communications technologies like the internet.

Operators prefer television and signals to be analog instead because analog receivers are cheaper. This is why TV and radio broadcast signals are AM or FM.

The International Telecommunication Union allocates frequency bands to different services to minimise interference and increase transmission efficiency.

AM's frequency range, from 535 to 1,705 kHz, makes room for high wavelength signals that can pass over mountains and buildings, providing more coverage.

FM provides superior quality since it is unaffected by static. However, because its frequency range is 88-108 MHz, the waves have lower wavelengths and the transmission distance is limited to line of sight. The receiver is also more expensive. Nonetheless, as the prices of electronic components continue to decline, the world at large is moving from analogue to digital broadcasting.

ACTIVE NOISE CONTROL: DESTROYING THE DIN

WHAT IS IT?

Deepavali is the festival of lights, but it has become synonymous with loud firecrackers — and it's a month and a half away. If you'd like to protect yourself from loud noises, your best (if also expensive) option is earphones or headphones with active noise control (ANC).

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ANC works by “destroying” unwanted noise from reaching your ears. The idea is simple, based on a century-old concept called destructive interference. When two sound waves meet each other, one of three things can happen. Constructive interference: if the waves’ respective crests line up, the two waves add up to produce a bigger wave, i.e., a louder sound. Destructive interference: if the crests of one wave are in line with the troughs of the other wave, they will cancel each other out, i.e., no sound. The third possibility is a mix of the first two, with partial interference. ANC refers to technologies designed to achieve destructive interference alone.

A microphone picks up the unwanted sound, based on which the device generates an “antiphase” wave that destructively interferes with the sound. The technology was first invented in the 1930s; about five decades and the postwar revolution in electronics later, it had become a common feature of commercial headphones.

The ANC built into headphones and earphones for individuals is cheaper than that required for larger spaces, where microphones and computers need to reconstruct the unwanted noise in three dimensions and the antiphase waves need to be produced with more power.

EXPLAINED: EMERGING GENDER-AGE DIVIDE IN US POLITICS, WITH YOUNG WOMEN FAR MORE LIBERAL THAN MEN

American women between the ages of 18 and 29 years are taking more liberal political positions on issues like climate change and abortion rights compared to men in the same age group, according to a recent report from the analytics firm Gallup.

Reviewing more than 50 earlier trends on Americans’ policy views, Gallup grouped its results into three periods: 2001-2007, 2008-2016 and 2017-2024. While some differences in the political views of men and women are not novel, the sheer proportion of women now identifying with liberal politics is unusual. “As a result, the associated gender gaps between young women and men have widened substantially,” the report said.

On political labels

The Gallup report noted that young men have resisted the liberal label despite becoming more liberal on some issues. More women than men described themselves as liberal or very liberal (40%) in the 2017-24 period than men (25%). Therefore, there may be differences in how men and women want to define their political viewpoints.

Stance on key issues

Gun control, environmental issues and abortion laws were the top three areas where young women expressed dissatisfaction with the status quo, and where the shifts in their opinions were the greatest in recent years.

These shifts were also consistent across varying education levels and races, meaning gender could be the defining factor shaping their views.

However, there is not enough data to explain why issues like climate crisis or gun control see younger women in particular take a more liberal stance. Further, other data, including from the Financial Times earlier this year, argued that widening gender divides are also being witnessed in countries like Germany, South Korea and Tunisia.



The FT report added that the proliferation of smartphones and social media further means that young men and women now “increasingly inhabit separate spaces and experience separate cultures” that could inform their political ideologies.

MEET MOO DENG, THE VIRAL BABY HIPPO RULING THE INTERNET

Moo Deng, the pygmy hippo from Khao Kheow Open Zoo in Thailand, is now a new internet sensation. Moo Deng, which roughly translates to “bouncy pig” or “pork patty”, as mentioned by TIME Magazine, was open to the public on July 25 this year.

Born on July 10, Deng’s tiny size and expressive personality have captivated thousands of people, leading to fan pages, fan art, and even Sephora Thailand hopping onto the trend to promote a campaign that inspires its customers with a tagline, “Wear your blush like a baby hippo.”

It all began when Attapon Nundee, a zookeeper, started sharing videos of all the animals he was appointed to look after during the coronavirus pandemic. “The moment I saw Moo-Deng born, I set a goal to make her famous, but I never expected it would spread abroad. I thought she could be famous in Thailand but not internationally,” The Guardian quoted Nundee.

Besides the love Moo Deng has been receiving from visitors and online fans, there were reports of food being thrown at her by the zoo visitors. Narongwit Chodchoi, the director of Khao Khew Open Zoo, informed visitors that the zoo had installed CCTV cameras in the area and warned them of legal action. “These behaviours are not only cruel but also dangerous. We must protect these animals and ensure that they have a safe and comfortable environment,” Chochoi told TIME Magazine.

About pygmy hippos

According to the San Diego Zoo Wildlife Alliance Animals and Plants, pygmy hippos are found only in the interior forests in parts of West Africa. The endangered species feed on roots, leaves, ferns, and fruits and can stand on their hind legs to reach for food higher up in trees. There are 3,000 pygmy hippos remaining in the wild.

ENVIRONMENT TAKES CENTRE STAGE AS GLOBAL SUMMITS LOOM

Global warming, biodiversity loss, desertification, and plastic pollution — these urgent environmental challenges will be in the spotlight over the next few months as the United Nations hosts four major sessions to address key threats to the planet.

First up is a Conference of the Parties (COP) dedicated to biodiversity being held in Cali, Colombia, from October 21 to November 1.

These are called every two years to debate how the world can cooperate to better protect the rich variety of plant and animal life in the natural world.

The COP16 isn’t expected to break new ground but is more a stocktake of progress since the last summit secured historic assurances for biodiversity.

In 2022 in Montreal, nations agreed to place 30% of the planet under environmental protection by 2030 in a landmark pact aimed at arresting biodiversity loss and restoring ecosystems to health.



In Cali, countries will put forward national strategies to meet this global objective.

Second, the world's most important conference on climate change is being hosted this year by Azerbaijan, a country dependent heavily on oil and gas exports, from November 11 to 22.

While the last summit in Dubai in 2023 delivered a historic commitment to transition the world away from fossil fuels, supporting poorer countries with climate change will top this year's agenda.

The summit, known as COP29, is expected to land a new agreement on climate finance: money from rich nations most responsible for global warming to developing countries vulnerable to climate change.

There isn't an agreed figure yet, or even consensus on where the money should come from, who should receive it, and what form it could take.

Developing countries are pushing for much more than the \$100 billion pledged in 2009.

The result of the US election, just six days before COP29 begins, could also twist final negotiations.

Third is the least high profile of the three COPs on desertification. This critical session in Saudi Arabia will address the loss of fertile land to desert.

Climate variation like droughts and human activities like overgrazing can result in desertification, a process where land degrades and becomes unproductive.

Experts hope the COP16 on desertification, scheduled to take place in Riyadh from December 2 to 13, can act as a turning point in addressing this problem.

Finally: plastics. In 2022, some 175 nations agreed to fast-track negotiations towards a treaty on plastic pollution, and the final session gets underway on November 25 in South Korea.

The treaty aims to marshal an international response to the plastic trash choking the environment, from oceans and rivers to mountains and sea ice.

Some nations want the treaty to restrict how much plastic can be made, while others, particularly oil and gas producing countries that provide the raw materials to make plastic, want a focus on recycling.

COP29 IN AZERBAIJAN: FOCUS TO BE ON CLIMATE FINANCE AGREEMENT

While countries are still struggling to come to an agreement over the quantum of finance that developed nations must mobilise in the coming years to fight climate change, Azerbaijan, the host of this year's climate conference, has decided to launch a new fund to finance climate action in the developing world.

— The Climate Finance Action Fund (CFAF) would seek “voluntary” contributions from fossil-fuel producing countries and companies, with Azerbaijan, itself a petroleum economy, making the initial contribution. It is not clear how much money this new fund is hoping to raise.

— The CFAF is part of a large package of proposals that Azerbaijan has prepared for inclusion in the final outcome of COP29 (29th edition of the Conference of Parties to the UN Framework



Convention on Climate Change), which is to be held in the country's capital, Baku, from November 11 to 22.

— The main agenda of COP29 is to finalise an agreement on climate finance, including the amount of money that developed countries must raise in the post-2025 period to help the developing world fight climate change.

— The CFAF would be the latest addition to the long list of existing climate funds, almost all of which are short on money. Azerbaijan has proposed that fossil-fuel producing countries and companies can choose to make annual contributions that can be a fixed sum or based on volumes of production.

BEHIND TYPHOON YAGI BECOMING THE MOST POWERFUL STORM IN ASIA THIS YEAR

Millions of people in Southeast Asia continue to struggle with torrential rains, floods, and landslides triggered by Typhoon Yagi — the strongest tropical cyclone Asia has seen this year and the second most powerful storm in the world so far this year after Hurricane Beryl.

While Typhoon Yagi has severely impacted multiple countries, including the Philippines, China, Laos, Myanmar, and Thailand, it has hit Vietnam the hardest, where the death toll stands at around 233. The overall toll across these countries has crossed 300 as of last week. As many people are still missing, it is expected to rise further.

How are tropical cyclones formed?

Tropical cyclones form over warm ocean waters near the equator. When the warm, moist air from the ocean surface rises upward, a lower air pressure area is formed below. Air from surrounding areas with higher air pressure rushes into this low pressure area, eventually rising, after it also becomes warm and moist.

As warm, moist air rises, it cools down, and the water in the air forms clouds and thunderstorms. This whole system of clouds and winds gains strength and momentum using the ocean's heat, and the water that evaporates from its surface.

“The weakest tropical cyclones are called tropical depressions. If a depression intensifies such that its maximum sustained winds reach 39 miles per hour [63 kmph], the tropical cyclone becomes a tropical storm,” according to the National Oceanic and Atmospheric Administration (NOAA). Storm systems with wind speeds of 119 kmph and above are classified as hurricanes, typhoons, or tropical cyclones.

The category of a tropical cyclone is determined by its sustained wind speed, as measured by the Saffir-Simpson Hurricane Wind Scale. It is classified into five categories — Category 1 to Category 5. While Category 1 tropical cyclones bring winds of 119 to 153 kmph, Category 5 tropical cyclones, which are the strongest, have winds of 252 kmph or higher. Storms that reach Category 3 and higher are considered major tropical cyclones due to their potential to inflict significant damage.

How did Typhoon Yagi become the strongest storm in Asia?

Typhoon Yagi started as a tropical storm in the western Philippine Sea on September 1. It made landfall in the Philippines the next day and started to weaken. However, due to unusually warm



waters in the South China Sea, the storm intensified again. By September 4, it strengthened into a strong typhoon with Category 3 winds.

The next day, it became a Category 5 typhoon with peak maximum sustained winds of 260 kmph — Typhoon Yagi is one of four Category 5 storms recorded in the South China Sea, after Pamela in 1954, Rammasun in 2014, and Rai in 2021.

On September 6, it made a landfall in China's Hainan province with winds of 223 kmph. The following day, Typhoon Yagi hit near Haiphong, Quang Ninh province, in northern Vietnam, as one of the strongest storms the country has seen in more than a decade.

The storm was subsequently downgraded to a tropical depression but still brought heavy rains last week in countries such as Myanmar, where it triggered severe floods around the remote capital, Naypyidaw.

Is climate change making tropical cyclones worse?

Scientists are yet to reach an agreement over how exactly climate change is impacting tropical cyclones. That is because there are a lot of factors that determine whether a storm forms, how it develops, its strength, duration and overall characteristics.

However, there is a consensus that with rising global temperatures, tropical cyclones are becoming more intense. For instance, a study published in the journal *Climate and Atmospheric Science* in July this year showed that tropical cyclones in Southeast Asia are now forming closer to coastlines, intensifying more rapidly, and lingering longer over land.

This could be happening primarily because of warmer surface temperatures of the ocean — global mean sea surface temperature has gone up by close to 0.9 degree Celsius since 1850 and around 0.6 degree Celsius over the last four decades.

Higher sea surface temperatures cause marine heat waves, an extreme weather event, which can also make storms like hurricanes and tropical cyclones more intense. Warmer temperatures escalate the rate of evaporation along with the transfer of heat from the oceans to the air. When storms travel across hot oceans, they gather more water vapour and heat. This results in stronger winds, heavier rainfall and more flooding when storms reach the land.

RAPA NUI

The volcanic island of Rapa Nui has long been shrouded in mystery. European sailors first arrived on its shores on Easter Sunday in 1722, giving it its colloquial name: Easter Island. It covers just 160 sq. km and is one of the most remote islands on the planet. Today, Rapa Nui is part of Polynesia and is officially a territory of Chile.

Early Polynesian explorers are believed to have traversed thousands of kilometres of open ocean to reach and settle the island, likely arriving centuries before the Europeans. The island's geography is harsh and challenging for humans. Its lava-covered terrain is rocky with limited freshwater sources, poor soil quality, and a low diversity of flora and fauna.

Rapa Nui is famous for its large statues called moai. They are shaped like large human heads and erected on stone pedestals. Some moai stand 40 feet tall and weigh 75 tonnes. They were carved in volcanic stone at quarries and then moved to their current locations across the island. Scholars



believe the Rapa Nui built the moai between the 13th and the 16th centuries and represented their revered ancestors.

The statues all face inland, towards the people. Over 900 moai have been found on the island to date; more than half of them were transported across considerable distances from the quarries.

NEW RESEARCH RESCUES THE DODO'S REPUTATION FROM CONFUSION AND MYTH

The dodo has become the poster child of animals that went extinct because they weren't "smart enough" to withstand contact with humans. Its significance has transcended the boundaries of natural history and entered popular culture. Lewis Carroll's *Alice in Wonderland* immortalised it as a large, clumsy, whimsical creature that inspired the epithet "dumb as a dodo."

'We just didn't care'

But were dodos really slow-witted? To set the record straight, researchers from the University of Southampton, the Oxford University Museum of Natural History, and the Natural History Museum combed through 400 years of research papers on the dodo and its sister species, the solitaire, and examined the only existing soft tissue from the bird. Citing written records from their extensive review, the researchers now challenge the common view that the dodo was a slow, bloated animal doomed to extinction. Instead, they have said, they may have been swift birds that thrived in the forest.

"The dodo and the solitaire went extinct because of our hubris. We just didn't care, and in the 17th century, we didn't believe we could affect 'god's creation' and destroy species through our actions," Neil Gostling, the supervising author of the team's paper, said.

The study was published in the August issue of the *Zoological Journal* of the Linnean Society.

What doomed the dodo?

Thanks to the work of Victorian-era scientists, we know dodos and solitaires were flightless birds endemic to the forests of Mauritius. But how they got to the island wasn't clear for a while. In a 2002 study, researchers examined dodo DNA and found they belonged to the family of doves and pigeons. The dodo's closest relative was the Nicobar pigeon.

Dodos and solitaires weren't always flightless. Over hundreds of thousands of years, they became larger and lived closer to the ground. They also had little competition for their food sources. So when Dutch settlers got to Mauritius in 1598, they found a tall, big, flightless bird.

That was also the beginning of the end. Dodo numbers began to dwindle. In less than a century, it and its relatives went extinct. The lack of natural predators had rendered the birds less wary of humans than they should have been. This said, contrary to common belief, the dodo didn't go extinct because it was prized as food. Since the birds nested in the ground, pigs from the Dutch vessels ate their eggs, rats and cats preyed on their chicks, and goats trampled the nests, Gostling said.

The bird is the word

Because dodos and solitaires were wiped out so fast, natural history collections have little material evidence of the birds' lives. Most early scientific deliberations banked instead on artist's impressions and sailors' reports — and were often confused.



Separately, the ever-changing naming schemes for animals in the 19th and 20th centuries and the lack of a single, well-preserved reference specimen led to a long history of misidentification. Linnaean taxonomy, the current universally accepted method to name and categorise life-forms, took effect more than a hundred years after the birds went extinct. In their study, Gostling and his team confirmed the dodo belonged to the Columbidae family of pigeons and doves. This matters: “In order to understand their biology, we first have to ensure that their taxonomy is correct, as this is the framework that explains relationships in the tree of life,” Gostling said.

Not so slow, dodo

While going through centuries of academic records and sailors’ drawings and notes, the researchers came across an eyewitness account by a Dutch mariner named Volkert Evertsz, who ended up on Mauritius in 1662. Evertsz described a bird he called “dodderse” to a scholar in 1668, adding it was “larger than geese,” couldn’t fly because it lacked wings, and ran fast.

This ability to run is reflected in the dodo’s anatomy. Birds close their toes with the help of tendons that run through a groove found in a large bone in their leg called the tibiotarsus. Evidence from existing dodo bones suggests the groove housed a tendon as big as the tibiotarsus bone, an anatomical feature seen in contemporary birds that are good runners. Gostling said sailors’ journals from visits to Mauritius greatly contributed to shaping the perception of dodos as dull. This was in great part because the sailors recalled being able to capture dozens of dodos in a single day as the birds didn’t try to evade capture. Today we know the problem with this thesis.

A dodo-led future

The story of the dodo’s extinction has long served as a cautionary tale about the consequences of human exploitation and neglect and could hold lessons for our future.

“Using cutting-edge computer technology, we are piecing together how the dodo lived and moved. This isn’t just about satisfying our curiosity. By understanding how birds evolved in the past, we are learning valuable lessons that could help protect bird species today,” Markus Heller, a professor of biomechanics at the University of Southampton and the coauthor of the paper, said in a statement. Gostling added that a deeper knowledge of the dodo’s habitat is crucial, as it could hold secrets to preventing further biodiversity loss.

The team is planning a major new project with scientists from around the world, including Mauritius. They hope to investigate whether the dodo was really ‘doomed’ to extinction. After all, it had got by just fine for millennia. “The message that we still need to heed is that humans need to tread lightl,” Gostling said. “You can excuse the ignorance of 17th century sailors, they had no idea what they were doing. We do. We still affect the environment, we still see plants and animals going extinct.”

RISK FACTOR

Can light pollution be a new risk factor for Alzheimer’s?

Outdoor light at night could be a significant risk factor in Alzheimer’s disease, according to a new study. Light pollution has already been associated with an increased risk of some disorders and diseases. Based on light intensity, researchers divided people into different groups. While the cause is unknown, higher nighttime light intensity was associated with a greater Alzheimer’s disease prevalence than any other risk factor examined in the study for those under the age of 65,



suggesting that younger people may be more sensitive to the effects of light exposure at night. Exposure to light influences the body's natural sleep-wake pattern, called a circadian rhythm. Exposure to light at night can disrupt a person's circadian rhythm, which can make a person less resilient and more prone to disease. The research results are limited to a subset of the population and further testing is needed to better understand the connection between evening outdoor light and Alzheimer's disease.

THE TRUE COST OF HOSPITAL-ACQUIRED INFECTIONS

A high-profile medicolegal case has emerged in Mumbai. An orthopaedic surgeon and a well-known hospital are facing litigation due to a post-operative infection following a knee replacement. The plaintiff, a professional with significant income, has claimed substantial losses due to months of inability to work, compounded by extensive treatment expenses.

Simultaneously, in Bangalore, a contrasting yet equally compelling situation unfolded. I was consulted by family of a patient who had been in the ICU for over two weeks on a ventilator. Unfortunately, the patient developed ventilator-associated *Acinetobacter pneumonia* — a serious Hospital-Acquired Infection (HAI). Despite the hospital's reputation for high standards of care, the family questioned why they should bear the burden for an infection acquired under hospital care. Their concerns were twofold: the ethical dilemma of the hospital allegedly benefiting from the extended treatment required for the HAI and the principle of the hospital's responsibility in preventing such infections. This case represents a scenario where the family sought a waiver of bills for treating the HAI, contrasting with seeking compensation. They argued that if the infection was hospital-acquired, the hospital should absorb the costs.

Both the Mumbai and Bangalore cases illustrate common but critical challenges faced in healthcare systems, particularly in accredited hospitals. They reflect the broader issues of HAI management, financial implications for patients, and the ethical considerations of healthcare delivery. HAIs are infections that patients acquire while receiving treatment for medical or surgical conditions. Globally, HAIs are among the most common complications within healthcare settings, significantly increasing morbidity, mortality, and financial costs.

Country perspectives

In the US, the Medicare and Medicaid insurance system do not reimburse costs associated with certain HAIs, a policy that incentivises hospitals to prevent infections. U.S. private insurers are also following the same system. Hospitals do not charge patients for the cost of managing HAIs, enhancing accountability. This is supported by platforms like the Hospital Compare website, which publicly displays HAI rates among other quality indicators, allowing patients to make informed healthcare decisions.

India faces unique challenges due to its diverse healthcare standards and high levels of AMR. Despite many hospitals in India obtaining Joint Commission International (JCI) accreditation, there is no obligation for these institutions to publicly disclose their HAI rates. Though all NABH (National Accreditation Board for Hospitals) accredited hospitals generate the HAI quality indicator data on a monthly basis, they are not obliged to disclose data.

Proposed Solutions

All NABH and JCI-accredited hospitals should be required to disclose their HAI rates on a common platform, possibly under the oversight of institutions like the NABH, Indian Council of Medical



Research (ICMR), or the National Centre for Disease Control (NCDC). JCI accredited hospitals should follow JCI benchmarks while NABH accredited hospitals can follow a benchmark that can be set using the ICMR-NCDC surveillance network data. Indian benchmark values will be significantly higher than the US CDC benchmark, due to inherent challenges that Indian hospitals face, especially resource limitations.

While direct non-reimbursement for HAI-associated treatments might lead hospitals to offload costs onto patients, insurance companies could instead mandate that a portion of the payouts be directed towards improving infection control standards. For out-of-pocket expenses, hospitals, especially those with JCI accreditation, should align with international practices by not charging patients for the treatment of HAIs. For NABH accredited hospitals, a no loss-no profit model for HAI treatment could be considered. Based on the claims of quality and the benchmark followed by the individual hospital, a reimbursement model can be followed.

Public education plays a crucial role. Patients and families need to understand that not all infections occurring during a hospital stay are due to negligence—some, like a fungal pneumonia in a cancer patient, are unrelated to hospital procedures. Patients should refrain from unnecessarily litigating, and understand that hospitals can only try their best to reduce HAI and not eliminate them.

HOW A LOW-COST DIABETES DRUG METFORMIN CAN SLOW AGEING IN MALE MONKEYS

Metformin, an inexpensive diabetes drug, slows ageing in male monkeys, particularly in their brain, according to a new study. The finding raises the possibility that the medication could one day be used to delay ageing in humans.

The study, 'Metformin decelerates aging clock in male monkeys', was published in the journal Cell on September 12. It was carried out by a team of 43 researchers based at the University of Chinese Academy of Sciences in Beijing, and other universities.

The monkeys, which received metformin daily, exhibited neuronal activity — the incessant flicker of electrical currents and transmissions in the brain — which resembled that of monkeys six years younger, the study found.

What is metformin?

Metformin is one of the most widely used drugs for treating type 2 diabetes. It was first used for the purpose in France in the 1950s. It is a derivative of guanidine, a compound found in Goat's Rue, which is an herbal medicine long used in Europe.

Researchers for a long time have known that metformin has effects beyond treating diabetes. For instance, they have found that it reduces the risk of cancer.

Over the years, several studies have shown that metformin slows ageing in worms, rodents, and flies. However, the drug's effectiveness against ageing had not been tested directly in primates. That is why Guanghui Liu, a biologist at the Chinese Academy of Sciences and the lead author of the new study, decided to test the drug on monkeys.



How was the study carried out?

Liu and his colleagues gave metformin to 12 elderly male cynomolgus macaques (*Macaca fascicularis*). Another 16 elderly monkeys and 18 young or middle-aged animals served as a control group.

Treated monkeys received the standard dose of metformin that is used to treat diabetes in humans every day. The animals took the drug for 40 months.

Throughout the study, the researchers took samples from 79 types of the monkeys' tissues and organs, imaged the animals' brains, and performed routine physical examinations, according to a report in the journal *Nature*.

They analysed the cellular activity in the samples, and then created a computational model to determine the tissues' 'biological age', which can lag behind or exceed the animals' age in years since birth, the report said.

What are the findings?

The researchers found that metformin slowed the biological ageing of many tissues from organs such as the lungs, kidneys, liver, skin and the brain's frontal lobe. The drug also restrained chronic inflammation — a key symbol of ageing.

The study revealed that metformin protects the brain by activating a protein called NRF2, which thwarts cellular damage caused by injury and inflammation.

Alex Soukas, a molecular geneticist at Massachusetts General Hospital in Boston, told *Nature* that the new study was the "most quantitative, thorough examination of metformin action that I've seen beyond mice".

What happens next?

The scientists have said much more research would be required before metformin can be approved as an anti-ageing compound in humans.

Soukas told *Nature* that he would prefer to see a study which involves more animals. For now, Liu and his team have started a 120-person trial in collaboration with the biopharmaceutical company Merck in Germany, which developed and manufactures metformin, to test whether the drug slows ageing in humans.

DO SMOKING AND DRINKING IMPACT YOUR HEALTH INSURANCE?

Fifty-six-year-old Ravi Sinha* was taken aback when his insurance provider denied coverage for complications related to his liver cirrhosis, despite his long history of paying premiums and disclosing his drinking habits. He found himself paying out-of-pocket for his treatment, unaware that any condition directly related to his drinking would disqualify him from benefits. "Yet I had paid premiums for over five years," he says.

Insurers often reject claims linked to conditions arising from smoking or drinking — like liver diseases and lung cancers — viewing them as deliberate risks. They fear there would be too many claims if the patient continues to smoke and drink frequently while dealing with habit-related pre-



existing ailments. This would then seem like under-writing a patient's self-indulgence. This is what dissuades health insurance companies from accepting such proposals.

"People with conditions such as liver cirrhosis are denied insurance coverage because it is mostly the result of alcohol abuse. Many patients worry about their insurance money and request us not to mention drinking as the cause of liver damage," says Dr SK Sarin, vice-chancellor of the Institute of Liver and Biliary Sciences (ILBS).

If you are a heavy smoker or drinker, you are likely to be denied insurance coverage altogether. The disclosure may work against you for certain diseases such as liver cirrhosis or heart attacks, say insurance advisors. For those who get the policy without declaring their smoking or drinking status, their claims for unrelated diseases could be denied on investigation of medical reports. Explains Dr Suranjit Chatterjee, senior consultant of internal medicine at Indraprastha Apollo Hospital, New Delhi, "For instance, a person is admitted to the hospital for dengue. If the insurance company realises that they did not disclose their smoking or drinking habit while vetting their claims, it may refuse to process it altogether. This can happen even though dengue is in no way related to smoking or drinking habits."

WHAT ARE GREY AREAS?

While most insurance providers say that smokers and drinkers are covered, in reality they might find it extremely difficult to get coverage. "While insurance premiums go up for term plans — insurance plans that provide benefits to the nominee if the policy-holder dies — most companies do not have a separate pricing for health coverage. If a person smokes more than six cigarettes a day or drinks more than 50 ml alcohol every day, they will not be able to get an insurance policy," says insurance advisor Aditya Shah.

Most companies do not check for smoking or drinking status prior to selling a policy but a user must declare it or risk denial of coverage. "The condition of the lungs or liver can very easily be detected on liver function tests, X-rays and scans that are routinely done when a person is admitted to hospitals. If the company finds evidence of smoking or drinking in these tests, they are likely to refuse coverage," adds Shah. Even for those who make proper declarations, the insurer can refuse coverage for certain conditions.

However, this doesn't mean that smokers and drinkers cannot get any coverage at all. "This is where the role of the treating doctor comes in. Coverage will be refused if they say that a certain condition is caused specifically due to smoking or drinking," says Shah.

THE DOCTORS' DILEMMA

This assessment poses a challenge for Dr Chatterjee in arriving at the right diagnosis. "Insurance providers always insist on a diagnosis. Sometimes we may treat persistent fever symptomatically without diagnosing what led to the fever. Insurance providers, however, always insist on a diagnosis," he says. This leads to a lot of back and forth between his team and the insurance providers. "We have to answer questions just to ensure that our patients actually get covered even after they have paid their premiums."

A SYMPATHETIC VIEW

Dr Sarin says that while consumption of alcohol or tobacco may be a harmful pursuit, there has to be a sympathetic approach for those who have these habits. "It is an addiction at the end of the day and they should be entitled to receive treatment," he adds. He suggests a middle-of-the-road

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



approach where insurance companies could charge higher premiums for people who smoke or drink — because they are at a higher risk of several diseases. “This will not only ensure that they receive timely, appropriate treatment but also honesty in reporting their smoking or drinking habits. Right now, people are worried that they will not be covered and hence do not want to give a proper history to their treating doctors,” he says.

THE COST OF TOBACCO CONSUMPTION

A 2020 study from India shows that for every Rs 100 that is received as excise duty from tobacco products, a sum of Rs 816 is imposed on society for its consumption. This can be in the form of direct costs such as the money spent on the treatment, transportation and living expenses incurred during treatment, among others. And indirect costs such as loss in productivity when a person misses work for treatment. “The highest impact of tobacco consumption is felt in poorer families that are more likely to pay out-of-pocket for treatments or at least the allied costs,” says Rijo M John, adjunct professor of economics at Rajagiri College of Social Sciences.

He argues that patients who have paid for coverage should not be denied claims. “The insurance products are designed by companies, so they can choose to have higher premiums for those who consume tobacco. Having paid that, there should be no grounds for rejecting claims. Increasing coverage for services such as de-addiction therapies, however, will not be effective,” says John. “For a person who is already paying a higher premium because they are smokers, offering de-addiction services will not help much. Once you purchase the policy, what is the motivation for going for these services? People can kick their habits only if they want to. And, that intention will come only when these services are a part of the routine check-ups or consultations,” he adds.

WHICH OIL HELPS IN BLOOD SUGAR CONTROL? KNOW WHAT TO USE FOR SAUTÉING AND SALADS

Do you know that one gram of fat has nine calories while one gram of carbohydrate has only four calories? However, fats induce satiety for longer periods and lower overall calorie consumption. Fats are a major source of energy for our bodies, help us absorb vitamins A and D and are essential for hormone synthesis and building nerve sheaths. So what should the cooking medium be for diabetics as they catch calories?

Oils and fats are made up of chains of smaller fatty acids. When these chains are held together by single bonds, they are known as “saturated” fats; when double bonds are in place, they are referred to as “unsaturated”. In general, unsaturated fats are good and saturated fats somewhere in-between. Trans-fats are the worst as they are by-products of hydrogenation that turns healthy oils into solids and prevents them from becoming rancid.

Understanding specific oils

Saturated fats are generally considered unhealthy. Among unsaturated oils and fats, monounsaturated ones offer health benefits. The Mediterranean diet, which is considered the healthiest, uses monounsaturated fat-rich olive oil. These are also found in mustard oil and peanut oil, canola oil, avocados and most nuts.

Polyunsaturated fats are abundant in liquid oils used for frying, corn oil, sunflower oil and safflower oil being common examples. There are two main types of polyunsaturated fats: omega-3 and omega-6 fatty acids. Good sources of omega-3 include fatty fish (such as salmon, mackerel and sardines), flaxseeds, walnuts and canola oil. Omega-3 fatty acids help prevent heart attacks



and stroke. Omega-6 fatty acids have also been linked to protection against heart disease. Foods rich in omega-6 include vegetable oils such as safflower, soyabean, sunflower, walnut and corn.

What about desi ghee (clarified butter)?

Although it contains more than 60 per cent saturated fats, desi ghee also has a favourable ratio of omega-6/omega-3 (1.5:1). Consumption of one teaspoonful 5 ml of desi ghee daily is fine. Recent evidence suggests that using small amounts of whole fat dairy and ghee may not be harmful for diabetes or the heart.

Confused? Watch your intake?

Basically, fats should not provide more than 30 per cent of total energy; saturated fats, less than 10 per cent; and trans fats, less than 1 per cent. The optimum ratio of omega-6/omega-3 is less than 4 and definitely not over 10.

No single oil possesses all the properties

Each oil has a unique chemical makeup, so some will be more suited for sautéing, some for searing, and others for no-heat preparations, like salad dressings. An oil's 'smoke point' is the temperature at which it starts to burn, break down and form harmful compounds such as aldehydes. The more tightly packed the fatty acids in an oil, the more stable the oil is for cooking. Saturated fats and MUFAs are less likely to change on heating. Oils with high levels of polyunsaturated fats, such as soybean, sunflower, and corn oils, are more prone to degradation when heated repeatedly.

Cold-pressed oils are preferable as they retain more antioxidants that can counteract some of the harmful effects of heating.

The solution is to use a variety of oils. For frying, oils with high smoke point and neutral flavour like canola, rice bran, sunflower and groundnut are preferable. Mustard oil too, though strongly flavoured, works well for Indian cooking. For sautéing, flavour-rich but low-smoke-point oils like sesame or olive are healthy. And there's nothing better than olive oil for salad dressing. Examples of combinations shown to be healthy include groundnut/sesame/rice bran/with mustard or canola; sunflower/safflower with olive/groundnut/rice bran.

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