



CURRENT AFFAIRS for UPSC

11th to 17th June 2023

DreamIAS



INTERNATIONAL

CULTURE SHIFT

The United States said earlier this week that it was rejoining the United Nations Educational, Scientific and Cultural Organization (UNESCO). In 2017, the Trump administration withdrew from the organisation after the Obama administration ceased funding, in 2011. The reason for the U.S.'s return is ostensibly 'China', with senior U.S. administration officials stating that the U.S.'s absence had helped China gain "more influence" in setting the rules around artificial intelligence and the ensuing technological shifts. For a change, this is the first time that 'China' has been proffered as a reason for the U.S.'s re-entry into, rather than its exit of, a multi-lateral treaty. During the pandemic, in 2020, President Trump announced the U.S.'s withdrawal from funding the World Health Organization — the year too when he moved to withdraw the U.S. from the Paris Agreement. This followed from the Trumpist world view that the U.S. was being shortchanged by major polluters such as China and India. In the case of WHO, the case was over its 'inadequate' response time to the gravity of the pandemic originating in China. Following political change, President Joseph Biden has now brought the U.S. back into the fold of funding WHO as well as rejoining the climate treaty.

Unlike the 'America First' policies that propelled the Trump administration's exits, the U.S.'s UNESCO re-entry has little to do with why it exited it in the first place, which was, as it was believed, "an anti-Israel bias". The U.S., then and now, remains Israel's staunchest ally and does not recognise Palestine. It is not unreasonable to infer that the re-entry is a sign of America's growing paranoia about China. It is also appropriate to recall that the Reagan administration withdrew from UNESCO in 1984 for, among other things, "advancing Soviet interests". Developments in AI are slightly different from historical technological developments. Here, product patents and their enforcement have helped countries such as the U.S. maintain their edge, but with AI, China, along with a rising repertoire of patents and research publications, has the advantages of a much larger population and a more powerful surveillance state. This feeds into a cycle of generating greater troves of data that in turn feed and improve machine learning systems that make its AI far more formidable. Unlike other technologies, no country can have a sustained, natural edge in AI indefinitely. America might bring in at least \$600 million in outstanding dues to the UNESCO but it is high time — and countries such as India would do well to point this out — that the organisation gets stricter on countries exiting and entering on frivolous grounds, alongside framing policies and research that accommodate the tussles of a hyper-connected world.

EXPRESS VIEW ON NATO AND THE RUSSIA-UKRAINE CONFLICT: NO END IN SIGHT

As the conflict in Ukraine reaches the 500-day mark, a series of developments highlight that the geopolitical churn unleashed by Russia's invasion of its neighbour is far from finding an equilibrium. The conflict has neither erased the differences within NATO nor completely isolated Russia. At the same time, Russia is certainly less secure than it was before the war. On Wednesday, Turkey reiterated its opposition to Sweden joining NATO — Recep Erdogan's narrow election win has done nothing to soften Ankara's position. On the same day, Belarus President Aleksandr Lukashenko confirmed that his country had received several nuclear weapons from Russia, including "bombs three times more powerful than those [dropped on] Hiroshima and Nagasaki". Belarus, and Lukashenko in particular, have stood steadfastly with Putin during the invasion and the country has served as a launchpad for Moscow's military.

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



Turkey, the proverbial bad boy of NATO, opposes Sweden's entry because the latter, in Ankara's view, has allowed "terrorist" groups, especially Kurdish organisations, to operate from and in its territory. But the fact remains that NATO expansion is unlikely to push Russia to end the conflict – it will likely do the opposite. Thus far, NATO has done well to avoid becoming directly involved in the war. Despite the support in terms of money and weapons, there are certain red lines which the US-led alliance has not crossed: Since the beginning of this year, Ukraine President Volodymyr Zelenskyy has been demanding that the EU and/or NATO countries provide fighter aircraft to Ukraine — they haven't. Yet, it is important to keep in mind that the dangers of the conflict becoming larger and more devastating are greater as the war continues.

Russia's stated reason for invading Ukraine was that its security is compromised by having a NATO country at its border. Now, with Finland having joined the alliance and Sweden perhaps next in line, it is clear that its action was counterproductive. It has also pushed Moscow into playing second-fiddle to Beijing. At the same time, a further expansion of the alliance could plunge the world deeper into a new Cold War. Earlier this month, NATO Secretary General Jens Stoltenberg told The Indian Express that, "... it's important to have partners also outside their territory... I think there is a potential in developing more contacts and close relationships with India". Recently, there have been reports of a NATO office in Tokyo. New Delhi, for its part, has been clear about not joining any military alliance: "NATO template doesn't apply to India," External Affairs Minister S Jaishankar said earlier this month. The aim for all global actors must now be to bring Russia and Ukraine to the negotiating table.

WATER AS A WEAPON

The Dnipro River (also called Dnieper), which originates from the Valdai Hills near Smolensk, Russia, flows through Belarus to enter northern Ukraine and joins the Black Sea in the south, is one of the major transborder rivers in Europe. During the Soviet time, a number of reservoirs were built along the river, what came to be known as the Dnipro reservoir cascade, which tamed its currents in the river, prevented flooding in its adjoining settlements, and generated electricity. Nova Kakhovka, Dnipro's southernmost dam and power plant located in Kherson, was the largest in this chain.

The Russians took over the dam in the initial stage of the invasion, which began on February 24, 2022. Russian troops had crossed Dnipro and took control of Kherson city, the administrative capital of the Kherson Oblast. But in November, Russian troops were forced to leave Kherson and withdraw to the eastern bank of Dnipro in the oblast by a Ukrainian offensive. They continued to keep Nova Kakhovka under their control.

On June 6, the dam was destroyed, probably by explosives or shelling, causing flooding downstream (in about 600 sq km areas). Both Russia and Ukraine had to evacuate thousands of people, including troops, from the settlements in areas they control.

The dam, whose construction began under Soviet leader Joseph Stalin and completed under Nikita Khrushchev, is 30 metres tall and 2.3 km long. The 2,155 sq. Km Kakhovka reservoir holds about 18 cubic km of water, roughly the volume of the Great Salt Lake in Utah, the U.S. Canals from the reservoir supply water to the Crimean Peninsula, which Russia annexed from Ukraine in 2014, and to the Zaporizhzhia Nuclear Plant, which is also now in Russia's control. The dam was in the news last year when its sluice gates were damaged during Ukraine's offensive in Kherson. Ukraine's President Volodymyr Zelensky then said Russian forces were trying to destroy the dam. The Russians blamed Ukraine.



In October, Russia's Permanent Representative at the UN sent a letter to the Secretary General and the President of the Security Council, saying the "Kiev regime was planning to destroy" the dam.

In a December report in the Washington Post, Maj. Gen. Andriy Kovalchuk, who was leading Ukraine's Kherson offensive, was quoted as saying that his troops had considered flooding Dnipro. The Ukrainians, he said, "even conducted a test strike with a [U.S.-supplied] HIMARS launcher on one of the floodgates at the Nova Kakhovka dam."

Different claims

After Kakhovka was destroyed last week, Mr. Zelensky immediately held Russia responsible for the "terrorist act". The Kremlin has said Ukrainian shelling has caused the dam's collapse. Like the bombing of the Nord Stream pipeline, which was built to take Russian gas to Europe through the Baltic Sea, the attack of Kakhovka is also shrouded in mystery. In the case of Nord Stream, which was blown up in September, Russia was initially blamed by both Ukraine and the West. But later, different theories emerged, which put the blame on Kyiv, pro-Ukraine saboteurs or even on Washington. In the case of Kakhovka, the Ukrainian argument is that the dam was destroyed to derail Kyiv's much-anticipated counteroffensive, which is currently under way. But the focus of the counteroffensive is on Zaporizhzhia where Ukrainians seek to cut into Russian defence lines and destroy Russia's land bridge to Crimea, not on Kherson. Pro-Russian military analysts point out that if Russia's goal was to prevent the crossing of Dnipro by Ukrainian forces, Russia could have done that by opening the shutters as they control the dam. Now that the dam is destroyed, Russian fortifications along the western bank were swept away and they had to evacuate their troops, along with civilians. Water supplies to Crimea will also take a hit.

Whoever has done it, the destruction of Nova Kakhovka and the power plant has redrawn and the frontline in southern Ukraine, widened the no-go areas between the two sides and displaced thousands of people, mostly in Russia-controlled parts of Kherson. Like in the case of Nord Stream, it may never be established beyond doubt who is the destroyer. But it can be seen in the near future which side benefits more from this act of terror.

FALL FROM GRACE

Four years ago, Boris Johnson won an election for the Tories with an 80-seat majority, their biggest victory since 1987. But his fall from grace has been so steep that he is not even an MP today. The Conservative leader, who quit as British Prime Minister in July last year amid an inner-party revolt, announced his resignation as a lawmaker last week after a House committee probing the 'Partygate' scandal found that he had misled Parliament. Mr. Johnson, when Prime Minister, had attended a host of parties during the COVID-19 lockdown, breaking the rules imposed on the public by his own government; he then told the House of Commons that "all guidance was followed completely in No 10 (Downing Street)". Last year, a report by Sue Gray, a senior civil servant, had offered details of the social events he had attended during the lockdown. The MPs panel apparently recommended his lengthy suspension from the House, and he announced his resignation before the report was made public. Mr. Johnson, a former journalist-turned-politician whose hyperbole conservatism and hardline nationalism helped him rise to the top of the Conservative Party during the chaotic Brexit years, did not go quietly. He accused the committee, which has Labour, Liberal and Conservative MPs as its members, of a "witch hunt" and slammed the report as "revenge for Brexit".



One of the biggest highlights of Mr. Johnson's political career, as Prime Minister or a back bencher, was his abject disregard for accountability. He neither took responsibility for violating lockdown rules nor repented lying to Parliament. Even while exiting the House, Mr. Johnson attacked an imagined racket of Remainers rather than coming to terms with the mess he left behind in the Conservative Party. His continued attack on Prime Minister Rishi Sunak, whose rebellion against Mr. Johnson as a member of his Cabinet quickened the Tory leader's fall as Prime Minister, sounds more political than a constructive assessment of the government's performance. Mr. Johnson's resignation leaves Mr. Sunak facing a tougher situation. Three Tory MPs, including Mr. Johnson, have quit recently, and Labour expects to win all three seats in by-elections. Faced with back-to-back setbacks in by-elections and local votes, the Tories, whose public support is around 30% against Labour's 40% in opinion polls, are already under pressure. Mr. Johnson has dropped hints of a comeback. There are talks in political circles about forming a right-wing party. It is not clear what he will do next. But he has already done enough damage to the Tories. Any attempt at a political comeback will further destabilise the party and rupture Britain's conservative political landscape that is caught between Brexit isolationism, a battered economy at home and an unrealistic quest to "make Britain great again".

EXPRESS VIEW ON SILVIO BERLUSCONI: IL CAVALIERE

Two decades before Donald Trump leapfrogged his way into the White House, another political outsider, using a similar formula of glamour, money and showmanship, became the Prime Minister of Italy. When he first won office in 1994, Silvio Berlusconi was a media magnate with no political experience. He had formed his party, Forza Italia, only the previous year. The advertising campaign he ran on his TV channels played its part in persuading Italian voters to give this maverick a chance to lead the country. They would do so three more times, until the 2011 Italian financial crisis finally eroded confidence in his leadership.

Few figures have played as central a role in post-war Italy's making as Berlusconi, who died at the age of 86 this week. He was instrumental in transforming not only the political culture of the Mediterranean nation — marking the populist shift that, his critics argue, set the stage for the rise of the right-wing, including the party of current PM Giorgia Meloni — but also changing how Italy looked at itself. Filtered through Berlusconi's flamboyant persona, Italy seemed more confident of its place. So what if there were the gaffes, such as pranking Angela Merkel at a summit in Trieste, or telling survivors of the 2009 earthquake in central Italy to look at living in emergency tents as "a weekend of camping".

But years of playing fast-and-loose with not just convention but also the law, caught up with Berlusconi. His handling of Italy's debt crisis may have forced him out of office, but years of allegations of misconduct — bribing judges, tax fraud, paying underage girls for sex — played a part in taking the shine off. Towards the end of his life, he was no longer the dominating figure in a country whose politics had outpaced even the nimble Il Cavaliere.

THE SIGNIFICANCE OF THAILAND ELECTIONS

What is Thailand's political history?

The Siamese revolution marked the end of absolute monarchy in 1932. Since then, Thailand's military has staged 13 coups. The confrontation between military generals and civilian politicians and activists has been at the root of continuing instability in the country.



In 2001, Thailand got its first elected government which completed a four-year term, under policeman-turned-telecom giant Mr. Thaksin, who rode a populist wave to victory with his Thai Rak Thai (Thais Love Thais) party. However, the ensuing two decades were one of the most turbulent times in Thai politics. Mr. Thaksin's controversial 'war on drugs' killed more than 2,500 people. Additionally, scores of lives were lost through security force crackdowns in the Muslim-dominated south region of the country, igniting a new round of insurgency. While Mr. Thaksin did sweep the 2005 polls, his premiership was soon engulfed by a financial scandal and with subsequent protests, he was forced to call for fresh elections. However, the leader got booted out months later in a bloodless coup.

The period post 2006 is often described as Thailand's "lost decade". Bangkok descended into a cycle of rallies and riots in 2008. With Mr. Thaksin in self-exile and his successors deposed by the courts, the government of leader Abhisit Vejjajiva struggled for legitimacy after being installed without a public mandate. In 2010, Thailand saw its most brutal crackdown on protestors, with more than 90 people—supporters of Mr. Thaksin, called the Red Shirts—killed by army firing in Bangkok. Notably, the crackdown was led by the current incumbent Premier and the then-general Prayut Chan-O-Cha. The protest years brought to the fore the deep social cleavage between the rural poor and the wealthier middle and upper classes mostly in Bangkok.

In 2011, Mr. Thaksin's younger sister Yingluck became the country's first female Prime Minister but her administration too faced protests as she sought amnesty for her brother, still in self-exile. This led to the army carrying out a coup and declaring martial law in 2014 under the guise of bringing stability to a country in paralysis. The coup brought Mr. Prayuth to power. In 2017, the military introduced a new Constitution, allowing it to appoint a 250-member Senate which would play a role in selecting the Prime Minister. The military delayed a Parliamentary election, which was then held in 2019 and initially seen as an exercise to transfer power from the military junta to an elected government. However, Mr. Prayuth retained power after the election, resulting in renewed resentment.

What is the role of the monarchy?

Even after the end of absolute monarchy, the Thai King retained god-like status in society and enormous influence in the government. Criticising or even talking about the state of the monarchy has long been a taboo in the Southeast Asian country.

The institution has historically been shielded from public criticism by strict lèse-majesté laws. It has wielded strong political influence, putting its seal of approval on every military coup since the 1990s. The current monarch, Maha Vajiralongkorn, assumed the throne in 2016 after the death of his father, the revered King Bhumibol Adulyadej, who was the world's longest-reigning monarch at the time of his death. The junta gave the new King full control of the Crown Property Bureau, which manages the palace's roughly \$30 billion worth of assets (Thailand is the richest existing monarchy). Last year, the King assumed direct control of two Army units.

In 2020, in an unprecedented expression of discontent with the monarchy, widespread protests, led mainly by students spread through the country, asked for a separation of the King's assets and the Crown Property Bureau. They also wanted to cut the Palace's share in the national budget and ban the King from expressing his political views. The protestors also rejected the military's outsized influence in Mr. Prayuth's government.

These protests were a long-simmering reaction against Thailand's economic and political system, seen for decades as serving mainly three privileged groups — the one per cent of the population



owning two-thirds of all Thai assets, the financially-privileged military which is intertwined with state enterprises, and the world's richest monarchy.

What does the recent victory signify?

The current election is the first election since the major pro-democracy protests of 2020 and the second since the 2014 coup. The fact that Thai people came out in record numbers (a 75% voter turnout) to vote for a young party promising historic reforms, rejecting influential military-backed parties is being considered as a tectonic shift in the country's politics. The overwhelming support for the MFP, the only party pledging to change lèse-majesté laws, also showed how the anti-monarchy sentiment of 2020 translated into an electoral mandate. The support for the populist Pheu Thai party also indicated conservative working-class fatigue, and a population seeking an end to corruption and army influence.

Will the election winners get to form the government?

The winner of the May 14 vote is not assured the right to form the new government. A joint session of the 500-seat House of Representatives and the 250-member Senate will be held in July to select the new prime minister. This process is widely seen as undemocratic because the senators, appointed by the military rather than elected, vote along with Sunday's winning lawmakers.

While Mr. Limjaoenrat now claims that his alliance led by the MFP comprises 313 seats, he will need the backing of 376 legislators in the House to be voted in. Besides, the alliance will need to win over some of the 250 members of the conservative-leaning Senate, which is usually inclined to support military-backed parties. However, such an alliance, even if it forms a government, might face the threat of military intervention due to MFP's radical pledge to change the monarchy laws.

There is also another alliance scenario, interestingly, without the largest vote-getting party. While the populist Pheu Thai party is making strong calls for a government led by MFP, analysts say it could also tie up with Bhumjaithai as well as the current ruling party, Palang Pracharat. In yet another potentially contentious scenario, the military-backed parties could form a minority government with the Senate's support, going against the will of the electorate.

Meanwhile, if no compromise is reached, Thailand could also witness months of deadlock without a working government, since there is no constitutional deadline to form one.



NATION

KARNATAKA HC ACQUITS MURDER CONVICT OF RAPE CHARGES, RECOMMENDS CENTRE AMEND LAW TO INCLUDE NECROPHILIA

The Karnataka High Court Tuesday ruled that raping the dead body of a woman will not come under the ambit of rape or unnatural offences under the Indian Penal Code and acquitted a man accused of committing the crime against a 21-year-old woman.

However, the court upheld a lower court's order convicting the accused on charges of murder.

The bench of Justices B Veerappa and Venkatesh Naik also recommended that the central government amend the law to ensure that necrophilia would be considered an offence.

The high court was hearing an appeal filed by a man, who had been convicted by a trial court of murdering and raping a 21-year-old in Karnataka's Tumakuru district in 2015.

Based on the evidence presented by the prosecution, including evidence at the scene of the crime and the injuries inflicted upon the deceased woman, the high court concluded that the murder conviction would stand.

Further, the court pointed out, the accused had not offered any explanation as to why a towel recovered from his house had the victim's blood on it.

The court then examined the question of whether the act of necrophilia committed upon the dead body would attract a penalty under the IPC.

"Whether it amounts to an offence under Section 375 (rape) or Section 377 (unnatural offence) of the Indian Penal Code.... a careful reading makes it clear that the dead body cannot be called as human or person.

Thereby the provisions would not attract," the bench noted. Neither would provisions relating to indignity upon a human corpse apply as those were specifically related to trespass into an area set aside for funeral rites, the court further observed.

Noting the importance of the dignity of the dead and their rights, the bench said, "It is high time that the central government, in order to maintain right to dignity of the dead person, to amend the provision of Section 377 of IPC to include dead body....or to introduce a separate provision as offence against dead woman as necrophilia or sadism...."

The bench also noted that several countries, namely the UK, Canada, South Africa and New Zealand, had such provisions to deal with necrophilia.

The court also ordered the installation of CCTVs in Karnataka morgues within six months and directed the government to maintain hygiene and privacy, ensure the security of clinical records and information, and sensitise mortuary staff.

THE NEXT STEP

In the aftermath of a conflict, a return to normalcy must be a necessary basis to address the grievances of the affected parties that led to the conflict in the first place. There cannot be any



redress when groups engage in wanton and targeted violence against each other, use blockades to prevent the transport of supplies, and continue to prevent displaced people from getting back to their homes. Return to normalcy is the first step before grievances are heard to prevent another conflict from emerging. And in order to effect the first step, peace talks between eminent representatives — from civil society and political parties — in the conflict and tamping down any embers of violence that might continue following the conflagration are a must. The presence of paramilitary forces and the appeal for peace by Union Home Minister Amit Shah after a visit to the tribal and the Imphal valley areas have helped stem the violence to an extent even if sporadic incidents of ethnic violence and arson have continued a month after the conflagration in Churachandpur, Imphal and other areas. But in terms of setting the conditions of peace which would entail the return of looted arms and the slow and sure return of those displaced to their battered homes, there has been little progress.

The Union government's constitution of a peace committee comprising eminent public figures in the State has hit a snag with many of them refusing to join it or suggesting that they have been added to the committee without prior consultation. The success of a peace initiative requires that all groups in a conflict are represented and includes representatives with public standing or a record that transcends their identities. The withdrawal of quite a few public figures from this initiative unfortunately reveals the ethnicisation of civil society in Manipur and complicates peace building. More worryingly, Kuki-Zo representatives have expressly withdrawn their names as the committee included the Manipur Chief Minister, N. Biren Singh, while a Meitei civil society group has raked up an unwarranted generalisation of the issue as one related to "narco-terrorism" to withdraw from the committee. The government should still not give up on persuading prominent political and civil society representatives to talk with one another. The fact that it requires the aegis of the Union government to push the envelope on any further step on this issue also reveals the failure of the Biren Singh administration in retaining the confidence of all parties. It seems that it is time for the Union government and the ruling Bharatiya Janata Party to think of an alternative leadership that could ease the process of peace building as Mr Singh's actions, both in the run-up to the violence and in its aftermath, have either been ineffectual or shown up an inability to govern effectively.

TELLTALE SIGNS

The clashes in Kolhapur over the last few days are part of a disturbing trend in Maharashtra. Several incidents across the State in recent months reveal signs of a premeditated plan for communal polarisation and to keep the pot boiling. Most of these incidents have seemingly silly origins but have derailed normal life for several days. The latest eruption was over random social media messages that apparently glorified Mughal emperor Aurangzeb and 18th century Mysore king Tipu Sultan. Forty people have been arrested and prohibitory orders are in place till June 19. Similar protests had taken place in Kolhapur on March 17. In Beed, on June 9, comparable events unfolded. The renaming of Aurangabad to Chhatrapati Sambhaji Nagar by the State government in February was the trigger for the latest incidents; clashes in the town led to one death on March 30. But there is never a dearth of reasons for a clash. On March 30, during a Ramnavami procession in Malad in Mumbai, there were clashes between Hindu and Muslim communities over the playing of loud music. On April 4, in Jalgaon, loud music being played before a mosque was cited as the reason.

In Akola on May 13, violence erupted over a provocative post on social media about the Prophet, leading to the death of one person. The confrontation escalated as both groups engaged in



extensive vandalism, including arson, even setting vehicles ablaze. Many, including two policemen, were injured. Over 300 people were booked. On the same day, in Trimbakeshwar in Nashik, a syncretic practice of Muslims paying obeisance at a temple turned into a flashpoint. On May 14, Shevgaon in Ahmednagar district witnessed communal violence during a procession organised to commemorate Chhatrapati Sambhaji. Several people were injured and also arrested, and normal life was disrupted following the imposition of prohibitory orders and a ban on Internet services. The familiar pattern of sustained polarisation often escapes the attention that comes with massive violence. In the run-up to the 2014 Lok Sabha and the 2017 Assembly elections, a similar pattern of low intensity violence was visible in Uttar Pradesh. In Maharashtra, the ruling alliance of the Bharatiya Janata Party and the Shiv Sena Shinde faction is facing a strong challenge from the Congress-Nationalist Congress Party-Sena Uddhav faction alliance. Polarisation is easy to create but extremely difficult to mitigate. The ruling alliance in Maharashtra must act decisively and impartially against troublemakers.

MOUNTING TENSIONS

Festering communal tensions in Purola in Uttarakhand, nearly 400 kilometres north of Delhi, have resulted in the fleeing of most of the town's handful of Muslims. A clutch of self-styled protectors of Hindu interests had called for a congregation on June 15, which was cancelled at the eleventh hour, even as the Uttarakhand High Court asked the State government to ensure that law and order was maintained. Tensions arose from an alleged attempt by a Muslim man to kidnap a minor Hindu girl from the town, on May 26. The man and his Hindu friend were arrested, and the incident soon became the new war cry for outfits that have been peddling the notion of love jihad, an alleged Islamic scheme to entrap Hindu girls in liaisons. Muslims in Purola became the target of a social boycott, and Hindu landlords were reportedly forced to evict their Muslim tenants. Several such incidents of targeting interfaith relationships have been reported in Uttarakhand in recent months. In a rather bizarre case, an interfaith couple had to call off their marriage even after their families had agreed to their match. Individual rights and choices are being trampled upon by hooligans who claim to protect community interests, a trend that is a serious threat to the rule of law and social harmony.

The Chief Minister of Uttarakhand, Pushkar Singh Dhami, has amplified the hate rhetoric of love jihad in recent months even as these disturbances continue. He also ordered the demolition of over 600 tomb shrines associated largely with Muslims, on grounds of encroachment of public or forest land. He has promised strict action against the so-called love jihad and a vaguely framed 'verification drive' of people to keep the State free of disturbances. Meanwhile, random organisations that seek the cleansing of 'devbhoomi' — a reference to Hindu shrines in the Himalayan State — of other faiths, are finding the ruling party's tacit or direct endorsement. A demand for excluding Muslims from the businesses associated with the Chardham pilgrimage circuit is also being given a sympathetic hearing by the administration. Since 2017, Uttarakhand has been in the news for campaigns and hate speeches against people from the minority community, which has been noted by both the Supreme Court of India and the High Court. The State should remain impartial in enforcing the law. The criminal case of attempted kidnapping in Purola should be investigated quickly, and nobody should be allowed to make use of it to propagate communal politics. The leaders should be fair and impartial, and be seen so.



KARNATAKA: WHY THE CONGRESS PLAN TO REVERSE BJP'S COW SLAUGHTER BAN IS CONTROVERSIAL

The Karnataka Prevention of Slaughter and Preservation of Cattle Act, 2020, which was brought into force by the previous BJP government, to impose a near total ban on cow slaughter in the state, is at the centre of a controversy again, now that the newly formed Congress government is making a move to withdraw the law.

The Congress party indicated ahead of the 2023 state assembly polls, and during the poll campaign, that it intends to withdraw cow slaughter ban on account of difficulties faced by farmers due to restrictions imposed on the trade of sick and unproductive cattle by the 2020 law.

The situation came to a head recently, after the new minister for animal husbandry in the Congress government, K Venkatesh, indicated the party's intent by saying "If bulls and buffaloes can be slaughtered, why not cows?"

These remarks invited protests from the opposition BJP, which emphasised upon the sacrality of the cow in Hindu culture, and forced Karnataka Chief Minister Siddaramaiah to indicate that any amendments to the 2020 law would only be done after due discussion. Randeep Singh Surjewala, Congress leader and Rajya Sabha MP, also rebuked the animal husbandry minister for his remarks on Thursday.

What is the Karnataka Prevention of Slaughter and Preservation of Cattle Act, 2020?

The law came into force in 2021 after being passed in the state legislative assembly and council by the ruling BJP government – amid objections by the opposition Congress and Janata Dal Secular parties. It is a stringent law to restrict the slaughter of all forms of cattle in the state.

The 2020 law repealed and replaced the less stringent Karnataka Prevention of Cow Slaughter and Cattle Preservation Act, 1964 which has been in the state since then. While the 1964 law banned the killing of "any cow or calf of she-buffalo" it allowed the slaughter of bullocks, and male or female buffalos if certified by a competent authority to be above the age of 12 years, incapacitated for breeding, or if deemed sick.

Under the Karnataka Prevention of Slaughter and Preservation of Cattle Act, 2020, cattle have been designated as "cow, calf of a cow and bull, bullock and he or she buffalo" and their slaughter is banned. The only exemptions are buffaloes above the age of 13 years and certified by a competent authority, cattle used in medical research, cattle certified for slaughter by a veterinarian to prevent spread of a disease, and very sick cattle.

The new law has also increased punishment for breaking the law, to the range of three to seven years of jail, or fines ranging from Rs 50,000 to Rs 5 lakh or both. As per the 1964 law, the maximum punishment was for a period up to six months of imprisonment and a fine of up to Rs 1000. The new law also prescribes punishments for illegal transport of cattle, sale of meat and purchase or disposal of cattle for slaughter – namely, a prison term of three to five years, and a fine of Rs 50,000 to Rs 5 lakh.

What have been the repercussions of the 2020 law?

The agrarian economy has been majorly impacted by the 2020 law, especially in southern Karnataka, where cattle is an integral part of livelihood in terms of dairy farming and agriculture.



Farmers have been up in arms over the ban on cattle slaughter, and there has been widespread complaints in the farming communities that the BJP's ban on cattle slaughter has deprived farmers of alternatives when cattle fall sick or turn unmanageable.

The latent anger in the farming community against the cow slaughter ban, coupled with other aspects of the tenure of BJP government – including the high cost of fertilizers and fodder – is believed to have played a central role in the defeat of the BJP in the 2023 polls.

Traditional cattle markets have been slowly shutting down and there were few merchants to buy cattle. Moreover, there have been also been incidents of right-wing cow vigilantes – who are granted immunity under the new law – taking law into their own hands to prevent the transportation of cattle for slaughter to states such as Kerala and Tamil Nadu.

“The government claims that the ban on cattle slaughter has benefitted the ecosystem but it has done nothing. Farmers would sell cattle earlier if they were unproductive but that cannot be done now. The cattle cannot be sold in the markets because a case will be filed against the farmer,” current Congress CM Siddaramaiah said in February 2023 as opposition leader.

“Remove the cattle slaughter law, it is a hidden agenda and communal agenda. There are no buyers for sick and aged cattle. It is a loss for the farmers,” he said.

What is the newly elected Congress government likely to do?

One of the promises made by the Congress party in its manifesto for the 2023 Karnataka polls was “to repeal anti farmer laws enacted by the BJP government and to withdraw all politically motivated cases against farmers.”

Karnataka Chief Minister Siddaramaiah, who has been a vocal supporter for the repeal of “anti farmer” laws like the cattle slaughter ban, the Karnataka Agricultural Produce Marketing (Regulation and Development) (Amendment) Act 2020, and the Karnataka Land Reforms (Amendment) Act, 2020, told a delegation of farmers recently that he will review calls for amendments to the Cattle Slaughter Act, the APMC Act and the Land Reforms Act.

The Congress is likely to seek a return to the 1964 law, which imposed a ban on the slaughter of cows but allowed the restricted slaughter of cattle of other forms on the condition of old age, sickness and lack of productivity. The party is expected to project the move as being critical to the livelihood and economic survival of farmers, rather than a religious issue.

“They (BJP) amended it once. We reverted it to the earlier provisions. They have amended it again. We will discuss it in the Cabinet meeting,” Karnataka CM Siddaramaiah said recently.

However, the Congress party is likely to face strong opposition from the BJP on the matter and is expected to tread cautiously despite its numerical advantage in the legislative assembly. There are some concerns that a move to repeal the 2020 law ahead of the 2024 parliament polls may be detrimental to Congress interests in northern India, where the move could acquire a religious connotation that is unconnected to the realities of the agrarian economy.

The word of caution given to the new Congress minister for animal husbandry by the Congress central leadership “to stay within his limits” on the cattle slaughter ban issue is seen as an indication of the Congress adopting a calibrated approach to fulfilling its poll promise to repeal “anti-farmer” laws enacted by the BJP.



EXPRESS VIEW ON WEST BENGAL VIOLENCE: CALLING DIDI

The alleged intimidation of Opposition candidates and party workers in West Bengal in the run-up to the panchayat elections mirrors an entrenched and disturbing aspect of the state's political culture. Both Congress and BJP have moved the High Court demanding that the small window for filing nominations announced by the State Election Commission (SEC) be extended, in light of bomb attacks and the threat of violence against their workers. The Court has ordered central forces to be deployed in areas where the state police presence is inadequate and also asked the SEC to consider extending the June 15 deadline. Most explanations for electoral violence in Bengal hark back to the use of party cadres and government machinery during the long Left rule. But for Chief Minister Mamata Banerjee, in her third term in power, what has gone before is no longer an alibi or excuse.

In election after election — whether to local bodies or the state legislature — violence continues to mar the nomination process and the campaign. This month alone, there have been reports of clashes and crude bombs being hurled from Murshidabad, Birbhum, East Midnapore, East Burdwan, Coochbehar, North and South 24 Parganas. That bitter political rivals, BJP and Congress, are speaking in one voice underlines the gravity of the situation: "... the previous Panchayat elections conducted in the State of West Bengal in the year 2018 were also marred by the vices of violence, due to which fair and transparent elections could not be conducted," says BJP Leader of Opposition Suwendu Adhikari's petition. "During the previous elections of Panchayats and Municipalities held in the year 2018 and 2022 respectively, the State of West Bengal had witnessed unprecedented violence and barbaric attacks on the democratic rights of citizens..." says State Congress Chief Adhir Ranjan Chowdhury's affidavit.

Violence by party cadres in West Bengal does indeed date back to the days of Left rule. The CPM, in turn, could cite the Naxal movement or, going further back, the revolutionaries from Anushilan and Jugantar and their actions against British rule to justify as "structural" the violence that taints Bengal's politics. The TMC must answer why, instead of delivering on its promise of change, it has only deepened political criminality. Even intra-party conflicts result in bloodshed — as happened with the killing of TMC member Bhadu Sheikh and others in an alleged retaliatory attack in 2022. Banerjee is no stranger to what Opposition leaders go through when faced with a violent state. And she has the political clout to draw the red lines for her party. Her continuing failure to do so is a stain on her government.

CODE RED

The Law Commission's decision to solicit views from the public on the idea of a uniform civil code appears to be a political initiative aimed at bringing the potentially divisive issue under focus in the run-up to next year's general election. The Commission, the 22nd such panel, has claimed that years have elapsed since similar views were sought by the previous panel, and that a fresh effort was needed to garner varied opinions. The 21st Commission had released a consultation paper in 2018 that categorically said a uniform civil code was "neither necessary nor desirable" at that stage. In a well-reasoned document, it had then argued that the focus of initiatives to reform the various personal laws should be the elimination of all forms of discrimination rather than an attempt to bring about uniformity in the laws governing various religions. The document was progressive in nature, inasmuch as it emphasised non-discrimination over uniformity, and recognised that there could be diverse means of governing aspects of personal law such as marriage, divorce, inheritance and adoption instead of imposing a single set of rules on society.



This would entail the removal of discriminatory provisions, especially those that affect women, and adoption of some overarching norms rooted in equality. Nothing significant has happened since to warrant a fresh look, except perhaps a political need for the current dispensation to bring the issue to the electoral arena.

A uniform civil code for the entire country is indeed a lofty goal, but the question whether introducing one for all aspects of personal law would impinge on the freedom of religion has been part of the debate. B.R. Ambedkar viewed it as desirable, but favoured its being voluntary. It is possible that a uniform code may be adopted without offending any religion, but the concept evokes fear among sections of the minorities that their religious beliefs, seen as the source of their personal laws, may be undermined. In fraught times such as the present, a common code will inevitably be seen as an imposition by the majority. Basic reforms can be given priority — such as having 18 as the marriageable age for all across communities and genders. Introducing a ‘no-fault’ divorce procedure and allowing dissolution of marriage on the ground of irretrievable breakdown, and having common norms for post-divorce division of assets were other matters the previous Commission threw up for a debate. Within each community’s laws, it will be desirable to first incorporate universal principles of equality and non-discrimination and eliminate practices based on taboos and stereotypes.

NEHRU’S NAME DROPPED, IT’S PRIME MINISTERS MUSEUM AND LIBRARY SOCIETY

Almost a year after the Prime Ministers’ Museum was inaugurated at the Teen Murti complex which served as the official residence of India’s first Prime Minister Jawaharlal Nehru, the Congress leader’s name has been dropped from the complex.

The Nehru Memorial Museum and Library (NMML) will now be called Prime Ministers Museum and Society.

The decision was taken at a special meeting of the NMML Society on Thursday, presided over by Defence Minister Rajnath Singh, who is the vice-president of the society. The NMML Society has Prime Minister Narendra Modi as its chairman, and Union Ministers Amit Shah, Nirmala Sitharaman, Dharmendra Pradhan, G Kishan Reddy, Anurag Thakur, among its 29 members.

Built in 1929-30 as part of Edwin Lutyens’ imperial capital, Teen Murti House was the official residence of the Commander-in-Chief in India. In August 1948, it became the official residence of independent India’s first Prime Minister, Jawaharlal Nehru, who lived there for 16 years until his death on May 27, 1964. Soon after, the government decided that the Teen Murti House should be dedicated to him and house a museum and a library.

On Nehru’s 75th birth anniversary on November 14, 1964, President S Radhakrishnan dedicated the Teen Murti House to the nation and inaugurated the Nehru Memorial Museum. Two years later, the NMML Society was set up to manage the institution, and has remained so since then.

However, in 2016, PM Modi had mooted the idea of setting up a museum dedicated to all Prime Ministers of India on the premises. Despite opposition from the Congress, the Pradhanmantri Sangrahalaya was built on the campus, and inaugurated by PM Modi on April 21, 2022. Former PM Manmohan Singh even shot off a letter to PM Modi, raising concerns over an “agenda” to “change the nature and character” of the NMML and the Teen Murti complex.

In his address at the meeting on Thursday, Rajnath Singh welcomed the proposal for change in name, since in its new form, the institution exhibits the contributions of all PMs, from Jawaharlal



Nehru to Narendra Modi, and their responses to various challenges faced by them, said a statement from the NMML. Describing the Prime Minister as an institution, Singh emphasised that all the colours of a rainbow should be proportionately represented in order to make it beautiful.

EXPRESS VIEW ON CHARGESHEET AGAINST BRIJ BHUSHAN SINGH: WHEELS OF JUSTICE

Take a moment to salute the women who took their courage in both hands, put their storied careers at stake, and spoke up — and kept speaking till they were heard. In January, some of India's most decorated women wrestlers first went public with allegations of sexual harassment against a powerful man, Brij Bhushan Sharan Singh, Wrestling Federation of India chief, and six-term BJP MP.

Now, mid-June, a 1,500-page chargesheet has been filed, with statements of at least 22 witnesses, across four states, who have corroborated the allegations by the six complainants – the seventh, a minor, withdrew her allegations.

The charges involve sections 354, 354(A), 354(D) – assault or use of criminal force with intent to outrage a woman's modesty, sexual harassment, stalking. Between January and June, an arduous distance had to be covered by these women just to get the system to take note, and for due process to get off the ground. It involved sleeping in the open at Jantar Mantar, and staying with their demand for justice in the face of stony indifference from the government and tepid support, at best, from Opposition parties, civil society, other sportspersons.

It took having their hopes dashed by the government-appointed oversight committee and a knock on the Supreme Court's doors just for registration of the FIR. It included manhandling by Delhi Police when they wanted to march to the new Parliament and an agonising huddle on the banks of the Ganga as they debated whether or not to immerse their medals in the river – they didn't.

Through it all, these women who have done India proud in arenas within the country and abroad kept their spirit unbowed and unbent, no matter the odds stacked against them. The onus is now on the government and the police and the court.

Now that the needle has finally moved on the case, the lawful process must be insulated from pressure, fear or favour. At stake is the trust of these women wrestlers in the justice system, and also of all those ordinary citizens who may not be speaking, but are nevertheless listening and watching.

The concern articulated by Sakshi Malik, who has questioned the manner in which police have dealt with the POCSO complaint, must be addressed. If action had been taken when the minor's statement was first recorded before a magistrate, she would not have withdrawn her complaint under pressure perhaps, and others may also have come forward, she has said. Malik is right – these struggles, long and painful, often take an unbearable toll, most of all, on the victim.

This is an important case that will be keenly watched. The women wrestlers have shown that they will not give up or stand down.

The Delhi Police chargesheet should not be a box the authorities have checked, it should be the start of due process that has been denied to the women wrestlers, that will, hopefully soon, lead to justice. Now it is the system's turn to do right by them.



T.N. WITHDRAWS GENERAL CONSENT GRANTED TO CBI

The DMK-led government in Tamil Nadu on Wednesday announced that it has withdrawn the general consent given to the Central Bureau of Investigation (CBI), under Section 6 of the Delhi Special Police Establishment (DSPE) Act, allowing the agency to investigate cases without its permission in the State. The move came on the day when Tamil Nadu Electricity Minister V. Senthilbalaji was arrested by another central agency, the Enforcement Directorate (ED).

“The CBI should henceforth seek prior permission from the Tamil Nadu government for undertaking investigation,” said an official release from the State government.

In March this year, Union Minister Jitendra Singh told the Parliament that several States including Mizoram, West Bengal, Chhattisgarh, Rajasthan, Kerala, Jharkhand, Punjab and Meghalaya — had withdrawn their general consent given to CBI.

As per Section 6 of the DSPE Act, 1946, the CBI needs consent from the respective State governments for conducting investigation in their jurisdiction. A general consent to CBI granted by State governments enables the central agency to carry out investigations without such hindrances.

Many offices of the CBI, including that of the Joint Director and Head of Chennai Zone, Anti-Corruption Bureau, Special Crime Branch, Economic Offences Branch, Special Unit, and Scientific Aid Unit are located in Chennai and Madurai of Tamil Nadu. While Mizoram withdrew its general consent in July 2015, West Bengal did it in November 2018 and Chhattisgarh in January 2019.

HOW DOES THE RAIL INTERLOCKING SYSTEM WORK?

The story so far:

An electronic track management system used by the Railways has become the focus of investigation after the multi-train crash in Balasore district of Odisha on June 2, left nearly 300 people dead and more than 1,000 injured. Earlier this week, the Minister for Railways Ashwini Vaishnaw told the media that a “change made in the electronic interlocking and point machine” had led to the accident. The Railway Board, the apex body of Indian Railways, also singled out “signalling interference” in its preliminary probe, with senior officials indicating that possible sabotage and tampering with the interlocking system could have caused the mishap.

What is an interlocking system?

Railway traffic is controlled and managed by railway signalling. Interlocking, an integral part of it, involves a set of apparatus placed on a track to manage the safe movement of trains and track configuration at stations and junctions. It prevents conflicting movements as a train gets a signal to proceed ahead only when its route is set, locked, and detected as safe.

The signal apparatus in an interlocking system may be interconnected mechanically or electrically with the tracks or both. Electronic interlocking (EI) is an advanced version of signalling that uses computer-based systems and electronic equipment to control signals, points and level-crossing gates. The Indian Railways defines it as a “microprocessor-based interlocking equipment to read the yard and panel inputs; process them in a ‘fail-safe’ manner and generate required output.” Unlike the conventional relay interlocking system, the “interlocking logic” in an EI system is



managed via software and electronic components. It ensures all elements work together in proper sequence so that trains can move without coming in the way of one another.

The three components that form the basis of an electronic interlocking signal system are:

Signal: Based on the status of the track ahead, light signals direct a train to stop (red light), proceed (green), or exercise caution (yellow).

Point: These are moveable sections of a track which allow a train to change track by guiding the wheels towards a straight or diverging line. For instance, if a train has to change lines, the point is activated ahead of time and locked. Electric point machines lock and unlock point switches in the desired position.

Track circuit: Electrical circuits are installed on tracks to detect the presence of a train between two points. These verify whether it is safe for a train to proceed over it.

Electronic systems, communication devices that control signalling equipment and other components are kept in relay rooms with dual-lock access control. All system activities are recorded in a 'data logger', which is similar to the black box of an aircraft.

How does the system work?

The system receives a command, following which information is collected from the yard and processed to set a safe route. The determined route is aligned, and signalling devices are interlocked at a particular position. A signal to pass is given based on which direction the track is set and whether the divergent track is free of obstruction. If a train is required to switch lines, then the system will direct it to the empty track at the point where two lines meet. Track circuits, meanwhile, prevent multiple trains from running on that block to avoid a collision. All points remain locked until the train has crossed a particular section of the track in use or the signal to proceed has been withdrawn. In case there is a failure in the system, the red light will be flashed, indicating that the route ahead is not clear or safe.

What caused the Odisha train crash?

A preliminary probe by Railways officials has found that a problem with the signal system could be the cause of the accident at Bahanaga Bazar railway station on the evening of June 2. Mr. Vaishnav said that a "change that was done" to the electronic interlocking led the Coromandel Express off the main line and onto the loop line where it crashed into a stationary goods train. In a briefing on the accident, senior Railways officials explained how the accident might have occurred. The Bahanaga Bazar station has four lines — two main lines which are primarily used by trains that don't have a scheduled stop, and two loop lines for those trains that have to stop or halt at the station.

At the time of the accident, two goods trains were stopped on the two loop lines, while the route was set for two mail express trains that were to pass the station via main lines, as per Railway Board official Jaya Varma Sinha. The route, direction and signal were set.

The Coromandel Express heading south (to Chennai) was given the green signal to enter the Up Main Line. The Yesvantpur-Howrah Express heading north (to Kolkata) was to move on the Down Main Line. At the time of the accident, the Yesvantpur-Howrah was running at a speed of 126 kmph and the Coromandel Express was travelling at 128 kmph — both within the permissible limit of 130 kmph for the section.



As the Coromandel Express was approaching the station, there was a signalling issue, the official said, and the train moved out of the main track and veered onto the adjacent track, the loop line, where it crashed into a parked freight train carrying iron ore, triggering the multi-train collision. The impact of the collision was such that the engine of Coromandel Express and a few coaches jumped the tracks, toppled, and hit the last two coaches of the Yesvantpur-Howrah Express headed in the opposite direction.

Did the system malfunction?

Railways officials suspect that there was outside intervention or tampering because the affected stretch was equipped with the “error-proof” EI system which ideally shouldn’t have taken the Coromandel Express to the loop line. Another official told PTI that the kind of tinkering done with the “logic” of the system can only be “intentional”.

In fact, a senior Railways official had flagged flaws in the signalling system a few months before the Balasore accident. In a letter to his seniors in February regarding a “serious unsafe incident”, the officer raised the issue of trains getting into adjacent lines despite getting the green signal for another track. The official warned that if the signal maintenance system was not monitored and corrected immediately, it would result in serious accidents.

ARMY AIR DEFENCE WIDENS WINGS

The Indian Army’s reorientation from the western borders to the northern borders in the aftermath of the 2020 stand-off with China, along with lessons from the ongoing war in Ukraine, has an effect on the present transformation of the Army Air Defence (AAD).

A range of new systems, mostly indigenous, are being inducted, with new technologies factoring in the new realities. Bringing it all together is a new automation initiative under Project Akashteer, which will build a comprehensive air defence picture for the monitoring, tracking and shooting down of air defence assets.

The nearly ₹2,000-crore contract for Akashteer, a networking and automation project on the same lines as the Indian Air Force’s Integrated Air Command and Control System network, was signed in March 2023. “It is a major initiative and the entire implementation should be done by March 2024,” a defence source said, noting that this was probably the fastest project in the Army, given that the approval of qualitative requirements only came through in December 2019.

“This will link all the radars and control centres of AAD and consolidate the air defence picture, removing duplications or overlaps and also integrate all the weapons. The need today is for a comprehensive air defence solution,” the source explained.

Akashteer will also be able to communicate with the IAF’s network.

Before the 2020 stand-off with China, the Army’s focus was predominantly on India’s western border with Pakistan. However, air defence requirements on the northern borders are different from the western front; the need is for light-weight radars and weapon systems with mobility for deployment in the mountains while catering to the infantry’s requirements, said a source, detailing the kind of systems under procurement.



The war in Ukraine has also changed the requirements, forcing the Army to factor in new threats to air defence such as unmanned aerial vehicles or UAVs, loitering munitions, swarm drones and cruise missiles.

New technology

The Ukraine conflict has shown that Man Portable Air Defence Systems (MANPADS) are highly effective when in range with night vision enabled. The Indian Army is focussing on laser beam-riding MANPADS and has already initiated the procurement process. Another focus area is gallium nitride-based modules for radars which can significantly reduce weight, a critical factor in the mountains.

Another emerging threat to air defences is loitering munitions, for which the best counter is high-rate gun systems, better optic sights, fragmented ammunition and active electronically scanned array radars.

Inducting new SAMs

In March 2023, the Defence Ministry signed a contract worth more than ₹8,160 crore with Bharat Dynamics Limited for two regiments of improved Akash surface-to-air missile (SAM) systems. These Akash regiments are tailor-made for the mountains, with modifications having been made after a year of trials, two sources stated. The deliveries and induction should happen in the next couple of years as the system is already under production and domestic capability has come up well, sources said.

However, officials acknowledged that the shortage of components and hardware for air defence systems worldwide, since the beginning of the war in Ukraine, could potentially slow the pace of inductions. For instance, there is a shortage of chips for radars that could slow down manufacturing and deliveries as these are mostly imported, one official noted.

NAVY SHOWCASES TWIN-CARRIER OPERATIONS IN A MAJOR UPGRADE TO MARITIME SECURITY

As the indigenous aircraft carrier INS Vikrant gears up to become fully operational later this year, the Indian Navy has put on display its multi-carrier operations, with the coordinated deployment of it, INS Vikramaditya and more than 35 aircraft in the Arabian Sea. This marks a significant milestone in the Indian Navy's pursuit of enhancing maritime security and the projection of its power in the Indian Ocean and beyond, the Navy spokesperson said.

"The exercise involved seamless integration of two aircraft carriers — INS Vikramaditya and the indigenously built INS Vikrant — along with a diverse fleet of ships, submarines and aircraft, showcasing India's technological expertise in the maritime domain," the spokesperson said in a statement. "This demonstration of naval prowess underscores India's commitment to safeguarding its national interests, maintaining regional stability, and fostering cooperative partnerships in the maritime domain," the spokesperson added.

INS Vikramaditya and INS Vikrant, the centrepieces of the exercise, serve as "floating sovereign airfields", providing a launch platform for a wide array of aircraft, including MiG-29K fighter jets, MH-60R, Kamov, Sea King, Chetak and Dhruv helicopters.

Increased flexibility



“These mobile bases can be positioned anywhere, allowing for increased mission flexibility, timely response to emerging threats and sustained air operations to safeguard our national interests across the globe,” the spokesperson said.

The Russian-origin INS Vikramaditya, with a displacement of 44,500 tonnes, sailed out of the dockyard recently after a long refit.

Navy Chief Admiral R. Hari Kumar has said that INS Vikrant, with a displacement of 42,800 tonnes and commissioned into the Navy last September, will be fully operational by year-end, as reported by The Hindu earlier. Adm. Kumar had also said that the Navy was finalising plans to approach the government to repeat the order for a Vikrant-sized carrier — Indigenous Aircraft Carrier (IAC)-2 — with some modifications. Given the long timelines, it is likely to end up as a replacement for INS Vikramaditya.

As part of the operationalisation, Vikrant will shortly go for scheduled maintenance within the warranty period by the manufacturer Cochin Shipyard Limited.

ISRO, NORWAY AND THE ‘SVALBARD MISSION’

On November 20, 1997, a Rohini RH-300 Mk-II sounding rocket rose to the skies from Svalbard, Norway, operationalising a new rocket launching range there. The solid propellant-powered rocket was shipped from India for the launch, while four senior hands of the Indian Space Research Organisation (ISRO) were specially flown to Norway to make sure everything went off all right.

The resolve to deepen space sector ties between India and Norway following Norwegian Ambassador Hans Jacob Frydenlund’s visit to the ISRO headquarters last week offers an occasion to recall this challenging mission which took place 26 years ago at Ny-Alesund, Svalbard.

“The RH-300 Mk-II was given a new name by the NSC (Norwegian Space Centre): Isbjorn-1, which translates literally as ‘Polar Bear-I.’ If we love our royal Bengal tigers, they love their polar bears!”, ISRO veterans P.V. Manoranjan Rao and P. Radhakrishnan have recalled in their 2012 book, ‘A Brief History of Rocketry in ISRO.’

On the technical side, the Norway mission presented unique challenges for ISRO. The Rohini rockets had till then flown only in the tropical hot and humid conditions in India. “The Svalbard archipelago, on the other hand, sits in the Arctic Ocean and temperatures were on the extremely low side,” says Mr. Dathan, who was managing the solid propellant plant at VSSC back then. (Mr. Dathan later became Director, VSSC. He is presently Mentor (Science) to Kerala Chief Minister Pinarayi Vijayan).

ISRO had shipped the RH-300 Mk-II to Norway after qualifying it for arctic weather conditions. Renamed Isbjorn-1, it lifted off at 11:07 p.m. IST on November 20, 1997. The rocket, unfortunately, did not achieve the predicted height, rising only up to 71 km. The reason was a strange one. To keep the ambient temperature at 18 degrees celsius, it was kept covered with a velostat shroud. The idea was that it would pierce through the cover during launch. Instead, the rocket dragged it along, and the increased drag resulted in a lower altitude.

Nevertheless, the Norwegian scientists seemed quite happy with the launch, for the data collected during the flight led to some new findings. “Well that is space science,” notes ‘A Brief History of



Rocketry in ISRO,' adding that the launch marked a new era of cooperation between the two countries in space research.

GOVT. ASKS CERC TO 'COUPLE' POWER EXCHANGES

The power ministry has asked the Central Electricity Regulatory Authority (CERC) to initiate the process of coupling multiple power exchanges, a mechanism which seeks to ensure uniformity in price discovery of energy at trading platforms.

At present India has three power exchanges — Indian Electricity Exchange (IEX), Power Exchange of India (PXIL) and Hindustan Power Exchange (HPX). Currently, buyers and sellers at each exchange trade electricity and discover spot price separately at these exchanges. After coupling of exchanges, the price discovery would be uniform.

In a communique to the regulator, the Ministry said: "Several stakeholders approached the Ministry of Power on the subject of market coupling in the context of multiple power exchanges. The ministry of power has decided to go ahead with the process."

IS THE RANKING SYSTEM OF COLLEGES FLAWED?

The story so far:

In a country as diverse as India, ranking universities and institutions is not an easy task. The Ministry of Education established the National Institutional Ranking Framework (NIRF) in 2016 to determine the critical indicators in which institutions' performance could be measured. Since then, institutions nationwide, including universities and colleges, eagerly await their standings in this nationally recognised system every year.

How does the NIRF rank institutes?

Currently, the NIRF releases rankings across various categories: 'Overall', 'Research Institutions', 'Universities', and 'Colleges', and specific disciplines like engineering, management, pharmacy, law, etc. The rankings are an important resource for prospective students navigating the labyrinth of higher education institutions in India.

NIRF ranks institutes by their total score and it uses five indicators to determine this score — 'Teaching, Learning & Resources' (30% weightage); 'Research and Professional Practice' (30%); 'Graduation Outcomes' (20%); 'Outreach and Inclusivity' (10%); and 'Perception' (10%). Academic communities have had concerns about the construction of these indicators, the transparency of the methods used, and the overall framework. An important part of it is focused on the research and professional practices part of the evaluation because they pay a lot of attention to bibliometric measures.

What are bibliometrics?

Bibliometrics refers to the measurable aspects of research, such as the number of papers published, the number of times they are cited, and the impact factors of journals. The allure of bibliometrics as a tool for assessing research output lies in its efficiency and convenience compared to qualitative assessments performed by subject experts, which are more resource-intensive and require time.



However, science policy experts have cautioned authorities against relying too much on bibliometrics as a complete assessment. They argued that bibliometric indicators don't fully capture the intricacies of scientific performance, and that we need a more comprehensive evaluation methodology.

The journal Science recently reported that a dental college in Chennai was using "nasty self-citation practices on an industrial scale" to inflate its rankings. They reported the use of bibliometric parameters to understand the research impact of institutions as well as the risk of a metric becoming the target.

What is the issue with overly relying on bibliometrics?

This criticism has been levelled against the NIRF vis-a-vis the efficacy and fairness of its approach to ranking universities. For example, the NIRF uses commercial databases, such as 'Scopus' and 'Web of Science', to get bibliometric data. But these entities aren't impervious to inaccuracies or misuse. Recently, 'Web of Science' had to delist around 50 journals, including a flagship journal of the publisher MDPI.

The NIRF's publication-metrics indicator solely considers research articles, sidelining other forms of intellectual contributions, such as books, book chapters, monographs, non-traditional outputs like popular articles, workshop reports, and other forms of grey literature.

As a result, the NIRF passively encourages researchers to focus on work that is likelier to be published in journals, especially international journals, at the cost of work that the NIRF isn't likely to pay attention to. This in turn disprivileges work that focuses on national and local issues, as international journals prefer work on topics of global significance.

Is the NIRF transparent?

University rankings are controversial. NIRF, the Times Higher Education World University Rankings, and the QS World University Rankings all have flaws. Experts have emphasised that they ought to be transparent about the data they collect, the sources and how they collect it, and how that data becomes the basis for the total score. The NIRF is partly transparent as it publicly shares its methodology, but it doesn't provide a detailed view.

The framework for assessment and scoring are based on bibliometric data. However, there is a potential discrepancy in how they label research quantity and quality. The labels in question are imprecise and potentially misleading.

What's the overall effect on the NIRF?

The case of the dental college is emblematic of the dangers of over-relying on one type of assessment criterion, and it opens a door to manipulation and obscure the true performance of an institution.

No matter how rigorous the methods, university rankings invariably involve some level of ambiguity. The NIRF's emphasis on rankings can lead to unhealthy competition between universities, fostering a culture that puts metrics in front of the thing they are trying to measure: excellence in education and research.

'NOT IN OUR NAME,' 33 POLITICAL SCIENTISTS JOIN CHORUS, ASK NCERT TO DROP THEIR NAMES FROM TEXTBOOKS



Within a week of political scientists Yogendra Yadav and Suhas Palshikar dissociating themselves from the rationalised political science textbooks of the National Council for Educational Research and Training (NCERT), 33 academicians who were part of the textbook development committee (TDC) have joined in and written to the Council, also requesting the removal of their names from the books.

In a letter addressed to NCERT director Dinesh Prasad Saklani, the 33 academicians, who were members of the textbook development committee in 2006-07 when the political science textbooks (currently being used in schools) were drafted, have expressed that the recent rationalisation exercise has jeopardised their “creative collective effort.”

“Since there are several substantive revisions of the original texts, making them thereby different books, we find it difficult to claim that these are the books we produced and to associate our names with them,” reads the letter written Wednesday.

The 33 academicians (see the complete list at the end) include Kanti Prasad Bajpai, the former JNU professor who currently serves as the vice dean at the National University Singapore; Pratap Bhanu Mehta, the former vice-chancellor of Ashoka University; Rajeev Bhargava, the former director of CSDS; Niraja Gopal Jayal, the former JNU professor; Nivedita Menon, a professor at JNU; Vipul Mudgal, the Head of Common Cause; KC Suri, a former professor at the University of Hyderabad who is now associated with Gitam University; and Peter Ronald deSouza, the former director of the Indian Institute of Advanced Studies.

Their letter comes within a week of Yadav and Palshikar’s first missive to the NCERT wherein they expressed their inability to identify any educational rationale for the textbook rationalisation process and expressed embarrassment at being associated with “mutilated and academically dysfunctional” books.

Responding to this, NCERT released a public statement on June 9 highlighting that the textbook development committees — of which Yadav and Palshikar were members — ceased to exist once the books were published. It said the copyright of the educational materials has since remained with NCERT, independent of the committee.

In their letter, the 33 academicians highlighted that the textbooks were the result of extensive deliberations and collaborations among political scientists from various perspectives and ideological backgrounds and originally intended to impart knowledge about India’s freedom struggle, the constitutional framework, the functioning of democracy, and key aspects of Indian politics, while also integrating global developments and theoretical principles of political science. “We are now given to believe that this creative collective effort is in jeopardy,” they wrote.

Questioning NCERT’s defence of the revisions under Intellectual Property Rights, they argued that while NCERT has the right to publish the textbooks as they were originally produced, “but it is not at liberty to make substantive changes, minor or major, and then claim that the same set of contributors and Chief Advisors continue to be responsible for the revised text as it now stands.”

73 ACADEMICS DEFEND NCERT EFFORTS TO ‘UPDATE’ SYLLABUS

After 35 scholars, including chief advisers for textbook development committee Yogendra Yadav and Suhas Palshikar, asked for their names to be removed from the “rationalised” National Council for Educational Research and Training (NCERT) textbooks, 73 academicians have called their



move “a false propaganda against the NCERT” and the exercise of school curriculum rationalisation.

Academicians from Jawaharlal Nehru University (JNU), University Grants Commission (UGC) and Vice-Chancellors from various State universities issued a joint statement saying that stalling the process of issuing revised textbooks was no less than stalling the students’ futures. “Their demand is that students continue to study from 17-year-old textbooks rather than updated textbooks. In their quest to further their political agenda, they are ready to endanger the future of crores of children across the country,” they said.

“In the past three months, there have been deliberate attempts to malign the NCERT, a leading public institution, and disrupt the much-needed process for curriculum updation. Academicians trying to capture media attention through this name-withdrawal spectacle seem to have forgotten that textbooks result from collective intellectual engagement and rigorous efforts,” they said.

‘Derailing NEP’

The NCERT had clarified through a statement earlier that it held intellectual property rights over the textbooks and that it was at liberty to print the names of the advisers who had been on the committee between 2005 and 2008.

Academicians, who supported the “rationalisation” exercise, stated that it was public knowledge that the school curriculum in India had not been updated for nearly two decades. “The current NCERT team has been making consistent efforts to make the content relevant according to current needs.”

“Through misinformation, rumours, and false allegations, they want to derail the implementation of the National Education Policy (NEP 2020) and disrupt the updation of NCERT textbooks,” the statement further said.

UGC Chairman Jagadesh Kumar on Friday slammed academicians objecting to the rationalisation. “There is no merit in the hue and cry of these academicians. The objective behind their grumbling seems to be other than academic reasons,” Mr. Kumar said. He added that the NCERT is fully justified in carrying out the rationalisation.

WHY THE GAUHATI HC QUASHED NAGALAND GOVT’S NOTIFICATION BANNING DOG MEAT’S SALE AND TRADE

An order issued on July 4, 2020, by the office of the Chief Secretary of Nagaland had banned dog markets, the commercial import and trading of dogs, as well as the commercial sale of dog meat in markets and in dine-in restaurants.

The Kohima bench of the Gauhati High Court recently quashed a 2020 government notification, which had banned the trade and sale of dog meat in Nagaland. In its judgement, the single-judge bench of Justice Marli Vankung made a number of observations on what is considered acceptable for human consumption and the extent to which the state can regulate this.

What is the government notification in question?

The order had been issued on July 4, 2020, by the office of the Chief Secretary of Nagaland and it had banned the commercial import, trading of dogs, dog markets, as well as the commercial sale of dog meat in markets and in dine-in restaurants.



Any person found violating the order could be punished under Sections 428 and 429 of the Indian Penal Code (IPC), which punish acts of cruelty against animals, such as killing, poisoning, or maiming them. Violating the order could also attract punishment under Section 11 of the Prevention of Cruelty to Animals Act, 1960.

This order had come after a 2014 circular by the Food Safety and Standard Authority of India (FSSAI), stating that the slaughter of any species other than the ones listed in Food Safety and Standards (Food Products Standards and Food Additives) Regulation, 2011 is not permissible. The Nagaland government order had stated that the ban was necessary to “regulate the safety of food articles safe for human consumption”.

What powers does the FSSAI have?

The Food Safety and Standards Act (FSSA), 2006, was passed to “consolidate the laws relating to food and to establish the Food Safety and Standards Authority of India for laying down science-based standards” for it. It also aimed to regulate the “manufacture, storage, distribution, sale and import” of food articles to ensure the availability of “safe and wholesome food”. It led to the establishment of the FSSAI.

The duties and functions of the FSSAI were laid out in Section 16 of the FSSA. It is to regulate and monitor the manufacture, processing, distribution, sale, and import of food. It can also make regulations specifying the standards and guidelines for food articles.

Besides this, Section 92 also gives FSSAI the power to make regulations and rules consistent with the Act, with the Centre’s prior approval. This culminated in the FSS (Food Products Standards and Food Additives) Regulations, 2011, notifying standards and guidelines on food for human consumption.

What are the animals listed in the regulations?

Regulation 2.5.1(a) of the 2011 Regulations defines “animal” as any animal belonging to the species of ovines [sheep family], caprines [goat family], suillines [pig family], bovine [cattle], and including poultry and fish.

What were the court’s comments on this categorisation?

In its judgement, the court observed that the absence of dogs from the listed animals is “not surprising”, since the consumption of dog meat is limited to some parts of North Eastern states. As the idea is alien to other parts of the country, the inclusion of dogs in the list would be “inconceivable” because the consumption of dog meat “would be considered unthinkable”.

However, the court observed that dog meat “appears to be an accepted norm and food amongst the Nagas even in modern times.” Based on the petitioner’s submissions, the court noted that the long-standing consumption of dog meat by various tribes in Nagaland has been recorded in multiple texts such as ‘The Angami Nagas, With Some Notes on Neighbouring Tribes’ authored by J.H. Hutton in 1921; ‘The AO Nagas’ and ‘The Rengma Nagas’ authored by J.P. Mills in 1926 and 1937, respectively.

The court also underlined that the definition of ‘food’ in the FSSA as primarily meaning “any substance, whether processed, partially processed or unprocessed, which is intended for human consumption.” The court noted that this definition is “wide and liberal enough” to include dog meat.



Was there discussion on cruelty to animals as well?

The counsel for respondents People for Animals and Humane Society International/India had argued that dogs have been smuggled and brought into markets in Nagaland “in a pathetic state where dogs are tied and put in gunny bags with their mouth tied for long periods of time with no food or water to drink”, and that their trade entails cruelty to dogs.

The court observed that while photographs submitted by the respondent show that dogs meant for slaughter appear to have been subjected to pain and suffering, this does not justify the ban. Instead, the court stated, there can be remedial measures to ensure the enforcement of the Prevention of Cruelty to Animals Act and the IPC.

EXPRESS VIEW ON JACK DORSEY’S COMMENTS: DENIAL IS NO ANSWER

Fresh revelations have come to light in the confrontation between Big Tech and the Indian state. In an interview on Monday night, Jack Dorsey, Twitter’s co-founder and former CEO, said that the social media platform had received several requests from the Indian government around the time of the farmers’ protest to take down accounts critical of it.

More worryingly, Dorsey has said that there were threats of shutting down Twitter in India, raiding the homes of its employees, and closing the company’s offices in the country in case it failed to comply with the government’s demands. Considering the influence these platforms wield in shaping public opinion in polarising times, these are serious allegations. The government has denied the allegations outright, but that may not be enough.

Surely, Twitter has questions to answer. Its actions have often been arbitrary and shrouded in opacity. The decision to de-platform Donald Trump was one such. Dorsey himself is no stranger to controversy — during his visit to India in 2018, he was seen holding a controversial poster, in the company of activists. Twitter’s new owner, Elon Musk, has provided internal documents that supposedly showcase the platform’s bias against conservatives. They also include information on controversial decisions such as blocking certain news stories and restricting the reach of certain accounts, raising serious concerns about the neutrality of these platforms. Considering the lack of transparency and accountability in its own decision-making process, for the social media company to point fingers at the government is a bit rich.

On the other hand, the government’s categorical denial is not persuasive given how heavy-handed it is in response to the criticism directed towards it, and in its approach to social media platforms. It has been reported that Twitter receives an inordinate amount of demands from India — in the last six months of 2021, of the 326 legal demands to block content posted by accounts of verified journalists and news companies, 114 came from India. The government needs to find a way to voice its concerns over social media regulation and ensure that rules of the land are abided by, while being careful not to use its coercive powers to intimidate. Big Tech needs to be more accountable and transparent in its decision-making. A more careful balance needs to be arrived at.

THE STATUS OF TRANSGENIC CROPS IN INDIA

The story so far:

Three States, Gujarat, Maharashtra and Telangana, have deferred a proposal, approved by the Centre’s Genetic Engineering Appraisal Committee (GEAC), to test a new kind of transgenic cotton

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



seed that contains a gene, Cry2Ai, that purportedly makes cotton resistant to pink bollworm, a major pest. This conflict shows that a broad acceptance of genetically modified crops continues to be elusive.

What is the status of transgenic crops in India?

There are an array of crops — brinjal, tomato, maize, chickpea — in various stages of trials that employ transgenic technology. However, cotton remains the only transgenic crop that is being commercially cultivated in India. After a long hiatus, the GEAC, the apex technical body charged with evaluating proposals for testing genetically modified (GM) seeds, approved the environmental release of Mustard hybrid DMH-11 and its parental lines, during its 147th meeting on 18 October, 2022 for seed production and testing. This is one step away from full commercial cultivation.

However, the GEAC, which is under the Union Environment Ministry, isn't the final arbiter in the case of GM crops. There is a long-standing litigation in the Supreme Court on the permissibility of allowing transgenic food crops in farmer fields based on petitions filed by activist Aruna Rodrigues and Gene Campaign, an NGO. Following the GEAC approval for DMH-11, the petitioners approached the apex court asking for a stay on the release of the crop because it would encourage farmers to spray herbicides, which are banned in India. Hearings on this case are still ongoing. In 2017, the GEAC had accorded a clearance for GM mustard, but went back on its decision and imposed additional tests. In 2010, the GEAC had approved GM brinjal, but this was put on an "indefinite moratorium" by the United Progressive Alliance government.

What is the process of regulating transgenic crops in India?

The process of developing transgenic crops is an elaborate one as inserting transgenic genes into plants to elicit a sustained, protective response is a mix of both science and chance. There are multiple safety assessments done by committees before they are cleared for further tests in open plots of lands, which are located at either agricultural universities or are plots controlled by the Indian Council for Agricultural Research (ICAR). A transgenic plant can apply for commercial clearance, only after it has proven to be demonstrably better than comparable non-GM variants on claimed parameters (for instance, drought tolerance or insect resistance) without posing ecological harm to other species that may be being cultivated in the vicinity. Open field trials often take place over multiple crop seasons, and types of geographical conditions, to assess its suitability across different States.

Why have Gujarat, Maharashtra and Telangana rebuffed the GEAC?

The cotton seed has been developed by the Hyderabad-based Bioseed Research India with Cry2Ai which makes it resistant to pink bollworm. The first generations of transgenic cotton had been developed to inure cotton against a more widespread pest called American bollworm. The Cry2Ai seed has passed preliminary, confined trials and was recommended by the GEAC to be tested in farmer's fields at Telangana, Maharashtra, Gujarat and Haryana. Agriculture being a State subject in most cases, companies interested in testing their seeds need approvals from the States for conducting such tests. Only Haryana gave permission for such tests.

This was after the GEAC in October 2022 sent letters to all States to "communicate their views/comments" within two months on the proposal. Telangana requested GEAC for a 45-day extension to consider the proposal. On May 16, Telangana responded that it would not allow trials



to be conducted in the current cropping season. Gujarat later responded that the proposal was “unacceptable” to them, but did not furnish reasons.

Following these responses, the GEAC has asked the Department of Biotechnology (DBT) and the ICAR to “jointly organise capacity-building activities with regard to GM crops for apprising the State/UT Government(s) about the technology involved and the regulatory framework in place for evaluation of these GM crops.” Activist groups objected to the GEAC asking States to furnish reasons for disapproval and said that it was tantamount to a “biased lobbying approach”, according to Kavitha Kuruganti, a member of the Coalition for a GM-free India.

Are there changes in the offing in process of regulation of GM crops?

The GEAC consists of a panel of plant biotechnologists and is headed by a senior official of the Environment Ministry and co-chaired by the scientist of the DBT. To resolve the issue of States not according approvals on testing, because of differing attitudes to GM crops, the GEAC is considering a proposal by the DBT to declare some regions across India as ‘notified testing sites’. There are 42 such proposed sites and, if it goes through, companies wanting to conduct trials of GM crops at these locations won’t need the permission of States for trials.

ARE NON-COMMUNICABLE DISEASES INCREASING IN INDIA?

The story so far:

The new national estimates for diabetes and other non-communicable diseases (NCD) shows that 31 million more Indians became diabetic in four years (2019-2021).

What were the findings?

In 2021, a study found that India has 101 million people with diabetes and 136 million people with prediabetes. Additionally, 315 million people had high blood pressure; 254 million had generalised obesity, and 351 million had abdominal obesity. 213 million people had hypercholesterolaemia (wherein fat collects in arteries and puts individuals at greater risk of heart attack and strokes) and 185 million had high low-density lipoprotein (LDL) cholesterol. The decade-long nationwide study was funded by the Indian Council of Medical Research and Department of Health Research, Ministry of Health and Family Welfare and co-ordinated by the Madras Diabetes Research Foundation. The results of the study are to be published in The Lancet Diabetes and Endocrinology journal.

What is the significance of the study?

The study is the first comprehensive epidemiological research paper which includes participants from 31 States and some Union Territories, with a large sample size of 1,13,043 individuals. There are two big trend indicators in the study.

First, diabetes and other metabolic non-communicable diseases, such as hypertension, obesity and dyslipidemia are much more common than estimated previously in India and second, while currently urban regions had higher rates of all metabolic NCDs than rural areas, with the exception of prediabetes, rural India will see a diabetes explosion in the next five years if left unregulated.

The study also highlights interstate and inter-regional variations. The highest diabetes prevalence was found in Goa , Puducherry and Kerala. While prediabetes was prevalent in Sikkim, hypertension was highest in Punjab. Generalised obesity and abdominal obesity were highest in



Puducherry, while Kerala had high hypercholesterolemia and high LDL cholesterol. The lowest prevalence of NCDs was found in U.P., Mizoram, Meghalaya and Jharkhand. This cross-sectional, population based survey of adults aged above 20 years, across the country uses a stratified, multistage sampling design in the study titled — “Metabolic non-communicable health report of India-the ICMR-INDIAB National Cross-sectional Study.”

While the diabetes epidemic is stabilising in the more developed States of the country, it is still increasing in most of the other States. Thus, there are serious implications for the nation, warranting urgent State-specific policies and interventions to arrest the rapidly rising epidemic of metabolic NCDs in India.

How does this study impact India?

While India in the past four years has substantially added to its burden of diabetics and hypertensive persons with generalised and abdominal obesity, the study gives us an early warning that if not controlled, this population is predisposed to NCDs and life-altering medical conditions including strokes.

Experts have explained that India is facing the dual problem of malnutrition and obesity. There is availability of surplus food, but after being exposed to fast foods, a lack of sleep, exercise and stress creates a perfect setting for NCDs to latch-on.

What is the way forward?

The answer to this developing problem, is in wellness and in having a lifestyle that encompasses healthy diet and exercise. NCDs have also been one of the major concerns of the Health Ministry. It has identified the four major NCDs — cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. They all share four behavioural risk factors — unhealthy diet, lack of physical activity, and use of tobacco and alcohol. Programmes have been brought in to strengthen health infrastructure, human resource development, health-promotion and awareness-generation for prevention, early diagnosis and ensuring referrals to appropriate healthcare facilities for NCDs.

AT AIIMS IVF CLINIC, YOU KNOW WHAT’S MAKING WOMEN INFERTILE: LATE MARRIAGE, DIABETES AND TB

A cross-section of women who have chosen to be mothers mid-life and are battling infertility issues brought on by diabetes and tuberculosis (TB). “Diabetes accelerates the loss of eggs. The implantation of the embryo gets affected. If the woman gets pregnant and her blood sugar is not controlled, the baby can have congenital malfunction. Women also have a risk of abortion,” says Dr Singh.

TB is known to affect the female genital organs, especially the fallopian tubes, the uterus and endometrial lining. In uterine tuberculosis (also known as pelvic TB), the uterine lining becomes so thin that it is unable to tolerate the implantation or hold the embryo, resulting in miscarriage. A 2018 study by the Indian Council of Medical Research (ICMR) showed that over 50 per cent of female patients in India signing up for IVF procedure had genital TB.

Most women are from non-affluent backgrounds as the cost of IVF treatment at AIIMS is very minimal at Rs 60,000 per session. This offers hope for patients coming from Tier 2 cities and rural areas. “We have a lot of patients from Bihar, eastern Uttar Pradesh, Rajasthan and Haryana where



the facilities may not be as good. They have an awareness about treatment protocols but cannot access trusted facilities in their hinterland,” says Dr Singh, who says she has a waiting list of a year. “We do about 100 fresh cycles per month,” she adds.

A few things stand out among her couple profiles: Most of them married when they were 32 and started planning a child at 34-35. A lot of couples also wanted a baby after they remarried between the ages of 40 and 50. “At least 80 per cent of the patients in my clinic are infertile. Earlier, a woman was able to conceive by 35-36 but now the fertility curve is dipping fast,” says Dr Singh.

Another major challenge for delayed pregnancy is the increase in cases like endometriosis and fibroids in women. “Endometriosis is a progressive disease and fibroids mean you might have to seek a surgery before planning a baby. We have to create awareness among masses that age is the biggest deterrent for fertility and at an advanced age, even if you seek IVF, the chances of pregnancy are dismal,” says Dr Singh.

So what are the age-wise chances for conception? Though this depends on a number of variables like uterine health, sperm and egg quality and the number of eggs, “a couple less than 30 years old has a 50 per cent chance. Spouses 35 and above have a 30 per cent chance,” says Dr Singh. She also clarifies that success differs from person to person. “So do not fall for advertisements by private clinics which claim 70 or 80 per cent success. These can be misleading. You cannot generalise and give blanket statements,” she warns. When you see Dr Singh dealing with her patients, you come to know the value of patience as she explains each step in detail, sometimes playing counsellor to worried parents and parents-in-law sceptical about artificial conception. “Many families expect only a male child through IVF,” says Dr Singh. In the end, the prospect of a healthy baby always wins.

WHAT IS EL NINO AND HOW IT IMPACTS THE MONSOON

Any discussion on Indian monsoon these days invariably has references to the El Nino phenomenon. It is almost as if the fate of the Indian monsoon depends on the abnormalities in sea surface temperatures in far-away Pacific Ocean.

This year’s monsoon is also progressing under the cloud of an El Nino in the Pacific Ocean. El Nino, as is commonly known, refers to an abnormal warming of surface waters in equatorial Pacific Ocean. It is known to suppress monsoon rainfall. The opposite phase, La Nina, which is the abnormal cooling of sea surface waters in the same region, is known to aid rainfall over India. There is a third, neutral phase, as well in which the sea surface temperatures remain roughly in line with long-term averages. Together, these three phases in the Pacific Ocean are referred to as El Nino Southern Oscillation, or ENSO.

But why do the surface waters in equatorial Pacific Ocean get abnormally warm or cold? And, why do these warm or cold phases have any bearing on Indian monsoon? Not everything about ENSO and Indian monsoon is very well understood, but scientists do have a fair idea of how this entire system works. El Nino phenomenon was first noticed by the scientists in the 1920s, though local populations in Peru and Ecuador were aware of the periodic warming much earlier. The La Nina phenomenon, on the other hand, was discovered only in the 1980s.

Ocean-Atmosphere system

Though ENSO is mostly discussed in terms of temperature abnormalities of sea surface waters, it is important to understand that it is not just an ocean system. ENSO actually is an interaction of



ocean and atmospheric conditions. In fact, the 'southern oscillation' part in the term ENSO refers to a specific atmospheric condition that is a measure of the difference in sea-level air pressure over western and eastern side of the Pacific Ocean. Another atmospheric condition that plays a key role in ENSO is the strength and direction of winds.

Just the abnormal warming or cooling of surface waters in Pacific Ocean does not result in an El Nino or La Nina event. The associated atmospheric conditions also have to be in sync.

The ocean part of the ENSO is measured by what is known as the Oceanic Nino Index or ONI. The atmospheric part is monitored through Southern Oscillation Index, or SOI.

The ocean and atmospheric conditions in El Nino or La Nina tend to reinforce each other, producing a cyclic process. That means that the warming of the sea surface waters during an El Nino event influences atmospheric conditions in a way that these, in turn, result in further warming of the waters. Similar processes happen during La Nina event as well. The linkages between waters and wind were unveiled in the 1960s.

The playground of this entire system is the equatorial region in the Pacific Ocean. On the east are Ecuador and Peru in northwestern South America and on the west are the islands of Philippines and Indonesia. Between them is nearly 17,000 km of uninterrupted ocean. This region receives the most sunlight anywhere on earth, a lot of which is stored as heat in the ocean.

ENSO Neutral condition

To understand the processes that lead to abnormal warming or cooling, it would help to know what happens during a normal year, when ENSO neutral conditions prevail. The tropical regions, that is the area immediately above and below the equator, is home to a permanent wind system called trade winds that move from east to west at quite low altitudes.

Because of the exposure to sunlight, the sea surface in the Pacific Ocean is quite warm. When the trade winds move over the Pacific Ocean, they push these relatively warm waters, which also become lighter, in the westward direction. So, the surface waters in the eastern Pacific Ocean, that is near the South American coast, get pushed towards the west. It is replaced by the relatively cooler waters from below. The warmer surface waters continue to get pushed till they encounter a landmass in the islands at Philippines and Indonesia. They cannot be pushed any further.

The result of this process is the accumulation of relatively warm waters near Indonesia, called the Western Pacific Warm Pool, and relatively cold waters near Ecuador and Peru. This sweeping of surface waters and its accumulation also results in a relative rise in sea levels near Indonesia. The sea levels on the eastern coast of Indonesia happens to be about half a metre higher than the western coast of Ecuador and Peru.

The warmer surface waters near Indonesia creates a region of low-pressure area, causing the air to rise upwards. This also results in formation of clouds and heavy rainfall. The air flow also helps in building up the monsoon system which brings rainfall over India.

At higher altitudes, this air starts to move towards eastern Pacific Ocean, that is, in direction opposite to the trade winds that flow at lower altitudes. This wind system, east to west near the surface, and west to east at higher altitudes, creates a loop, and reinforces the temperature gradient between the east and west Pacific Ocean.



The Abnormal behaviour

In some years, for reasons that are not fully understood, the trade winds get weakened. It affects the ability of the trade winds to push warmer surface waters towards the Indonesian coast. Not enough warmer water is swept towards western Pacific Ocean.

That means the central and eastern Pacific Ocean, off the coasts of Ecuador and Peru, becoming warmer than normal. This is the El Nino phase. Because the sea-level at the Indonesian coast is higher, and the trade winds are not very strong to resist the motion, some accumulated warm water begins to flow backwards towards the South American coast under the influence of gravity. This further adds to the warming in the eastern Pacific Ocean.

The air circulation loop also gets affected, as a result. That, in turn, reduces the amount of precipitation over Indonesia and neighbouring regions, and impacts the Indian monsoon as well.

Exactly the opposite happens during a La Nina event. The trade winds become stronger than usual, pushing more warmer waters towards the Indonesian coast, and making the eastern Pacific Ocean colder than normal.

The amount of energy transferred during the movement of waters and winds in the different phases of ENSO system is massive. Though the most profound impacts of ENSO events are seen in the tropical regions, weather patterns across the world get affected.

Both El Nino and La Nina usually begin to develop in the March to June season, reach their peak strength in the winters and then begin to dissipate in the post winter season. Both these phases typically last for a year, though La Nina, on an average, lasts longer than El Nino. While these phases alternate over a period of two to seven years, with the neutral phase thrown in between, it is possible for two consecutive episodes of El Nino or La Nina to occur.

ENSO and Climate Change

In general, El Nino has a warming effect on the planet, while La Nina tends to cool it down. The warmest years in a decade are usually the El Nino years. The warmest-ever year on record, 2016, was part of one of the longest and strongest El Nino episodes ever, dubbed the Godzilla El Nino.

It is important to note that the warming over the planet accounts only for the near-surface temperatures. It does not account for the massive amount of heat trapped in the oceans. El Nino or La Nina years do not alter the overall heat in the system, but these do influence how much of it gets sunk in the ocean. During the La Nina phase, for example, a larger than normal amount of warm surface water of Pacific Ocean is pushed towards the Indonesian coast.

Here the entire column of ocean, several hundred metres deep comprises of relatively warm water. On the other side of the Pacific Ocean, relatively colder water from the deep emerges on the top. A large area over the eastern Pacific Ocean thus contains colder water. This has the ability to absorb some of the heat from the atmosphere, making the atmosphere slightly cooler. This is how La Nina produces a cooling effect.

El Nino works in exactly the opposite direction, and produces a heating effect. El Nino thus accentuates the global warming phenomenon, and contributes to climate change. The reverse effect, that of climate change on ENSO – the kind of impacts climate change is having in the Pacific — is not very clear, however.



WARMING OCEANS MAKE IT HARDER TO FORECAST CYCLONES IN ARABIAN SEA

On the evening of June 9, Biparjoy was situated about 700 km west of Goa. As per the IMD forecast, it was to move away from the Gujarat coast to dissipate into the sea without reaching land in either Kutch, Gujarat or Pakistan. Only on June 11, or four days before Biparjoy commenced landfall, did the IMD first suggest that the storm would strike India.

Contrast this with the most recent storm, Mocha, in the Bay of Bengal. On May 9, the IMD forecast that Mocha, then located in the South Andaman sea, would recurve (sharply change direction) towards the Bangladesh-Myanmar coasts. This was the trajectory that the cyclone largely adhered to when it made landfall on May 14 between Cox's Bazaar (Bangladesh) and Sittwe (Myanmar).

Cyclone Yaas in May 2021, Cyclone Mandous in December 2022 and Cyclone Gulab in September 2021 – all major storms in the Bay of Bengal in recent years that made landfall – followed paths predicted by the IMD at least four or more days in advance.

However, the last major cyclonic storm in the Arabian Sea before Biparjoy — Cyclone Tauktae — also threw a surprise. Its direction could be gauged only two days before landfall.

Experts told The Hindu that cyclones in the Bay of Bengal, being far more frequent, were better understood. The Arabian Sea cyclones, historically have been fewer because of relatively colder sea surface temperatures. Nearly 48% of cyclones here never reached land, as opposed to 13% in the Bay of Bengal.

Heat a key factor

“It is the winds in the upper reaches of the atmosphere, called steering winds, that influence the direction and recurving, whereas the heat within the ocean layers determine the strength and duration of cyclones. While the latter is better captured in our (prediction) models, the wind component is not always fully captured in our models,” said M. Ravichandran, Secretary, the Ministry of Earth Sciences, the parent organisation of the IMD.

There are factors unique to the Arabian Sea that influence a cyclone's intensity and movement. “The Arabian Sea has a much deeper — up to 40 metres – layer of warm water compared to the Bay of Bengal. Many times, these sub-surface values aren't captured in the prediction models and that's why the strength and speed of cyclones aren't accurately captured in advance,” said Roxy Mathew Koll of the Indian Institute of Tropical Meteorology, Pune.

CYCLONE BIPARJOY: WHAT IS THE 'LANDFALL' OF A CYCLONE?

The landfall process of Cyclone Biparjoy started near Jakhau port in the state's Kutch district on Thursday evening and continued till midnight, according to the India Meteorological Department (IMD). The cyclone crossed Saurashtra & Kutch and adjoining Pakistan coasts between Mandvi (Gujarat) and Karachi (Pakistan) late night on Thursday.

What is the “landfall” of a cyclone?

Simply put, landfall is the event of a tropical cyclone coming onto land after being over water. As per the IMD, a tropical cyclone is said to have made a landfall when the center of the storm – or its eye – moves over the coast.



Crucially a landfall should not be confused with a 'direct hit', which refers to a situation where the core of high winds (or eyewall) comes onshore but the centre of the storm may stay remain offshore. As per the US's National Oceanic and Atmospheric Administration (NOAA), because the strongest winds in a tropical cyclone are not located precisely at the centre, it is possible for a cyclone's strongest winds to be experienced over land even if landfall does not occur.

What is the damage caused by a cyclone's landfall?

The damage caused by the landfall will depend on the severity of the cyclone – marked by the speed of its winds. For Cyclone Biparjoy, classified by the IMD as a "very severe cyclonic storm", the impact may include extensive damage to kutchha houses, partial disruption of power and communication lines, minor disruption of rail and road traffic, potential threat from flying debris and flooding of escape routes. The factors behind this kind of damage include extremely strong winds, heavy rainfall and the storm surge which cause devastating floods in the coast.

How long does a landfall last?

Landfalls can last for a few hours, with their exact duration depending on the speed of the winds and the size of the storm system. Cyclone Biparjoy's land process is expected to last around five to six hours, with the cyclone almost completely dissipating over approximately the next 24 hours.

Cyclones lose their intensity once they move over land because of sharp reduction of moisture supply and increase in surface friction. This means that while landfalls are often the most devastating moments of cyclones, they also mark the beginning of its end.

ADAPTING TO LIVING AT HIGH ALTITUDES

The village of Karzok in Ladakh, with a population of 1,300, is the highest settlement in our country — at 4,570 metres above sea level. The villages of Komic and Hanle in Himachal Pradesh are both over 4,500 msl. Globally, it is estimated that 6.4 million people (nearly 0.1% of the world's population) live at elevations greater than 4,000 msl. Large numbers of these have lived on the high-altitude plains of the Andes (S. America) and Tibet (Asia) for more than 10,000 years.

People living at lower altitudes have difficulty adjusting to the cold and to the reduced atmospheric pressure and therefore less oxygen at these altitudes. So how do people living there adopt, and what difficulties do they face?

Economic outlook

But first, a look at economic factors. Lack of opportunities is the main reason why very few people settle down in places such as the Himalayas. Agriculture requires land to be first shaped into terraces along steep mountain slopes. Water for irrigation is a major challenge. Also, as you go higher, there are fewer organisms such as fungi and nematodes to enrich the health of the soil.

Grazing of livestock like yaks in the Himalayas, and the llamas, alpacas and vicunas in the Andes is feasible only for the warmer months of the year. Mining is done where resources are found. The world's highest settlement, La Riconada in Peru (5,100 msl), has attracted thousands of settlers after gold was discovered there. These days, adventure tourism provides sustenance too – the village of Lobuche (4,950 msl) in Nepal supports climbers trying to scale Mount Everest.



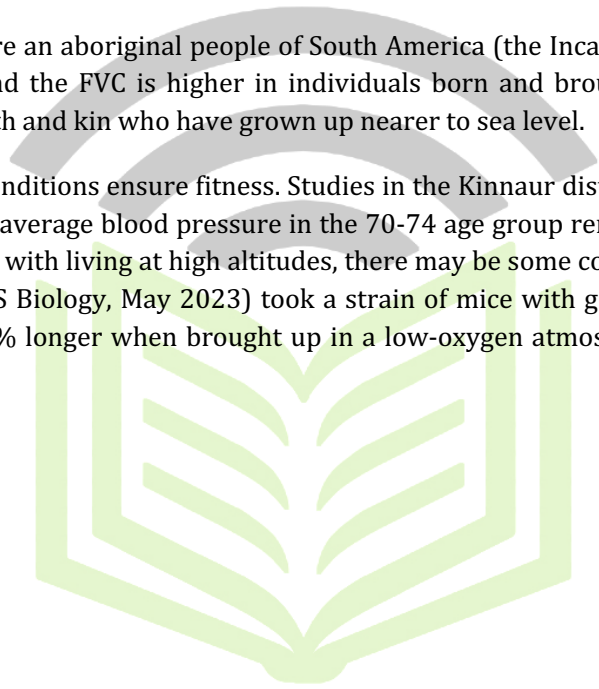
Lung capacities

A low-altitude dweller, when taken to high altitudes, shows a 25-30% increase in basal metabolic rate, which is the calories you burn while remaining in bed all day. This means that more oxygen is required by the body, even though the air has less oxygen. It takes a few weeks to acclimatise to low oxygen.

High-altitude-adapted Tibetans and Andeans have the same normal basal metabolic rate at high altitudes as other people on their home grounds. The forced vital capacity (FVC) is the maximum amount of air that you can exhale after filling your lungs. The FVC is 15% higher in men, and 9% higher in women adapted to higher altitudes. FEV1, the amount of air that is exhaled in one second, is also higher.

The Quechua, who are an aboriginal people of South America (the Incas belonged to this group) have deep chests, and the FVC is higher in individuals born and brought up at high altitudes compared to their kith and kin who have grown up nearer to sea level.

The difficult living conditions ensure fitness. Studies in the Kinnaur district of Himachal Pradesh have shown that the average blood pressure in the 70-74 age group remains 120/80. For all the hardships associated with living at high altitudes, there may be some compensatory benefits too. A recent study (PLOS Biology, May 2023) took a strain of mice with genetically short life span. These mice lived 50% longer when brought up in a low-oxygen atmosphere that simulates the Everest base camp!



DreamIAS



BUSINESS & ECONOMICS

WHY ARE CRYPTO EXCHANGES IN THE LINE OF FIRE?

The story so far:

On Monday, the U.S. Securities and Exchange Commission (SEC) filed over a dozen charges against Binance, alleging that the crypto exchange commingled billions of dollars of investors' funds and routed them to a company in Europe owned by CEO Changpeng Zhao. A day later, on June 6, the regulator slapped a lawsuit against another major crypto exchange, Coinbase, for evading disclosure requirements.

What happened to Binance?

Crypto exchange Binance handles tens of billions of dollars in trading volumes every day. Due to trading controls in the U.S. and strict oversight and registration procedures for crypto businesses, Binance did not allow U.S. customers to trade on Binance.com. But it offered the Binance.US trading platform to U.S.-based users. The regulator alleged that Binance let "high-value U.S. customers" access the international Binance.com platform. Binance.US is operated by Binance and BAM Trading Services Inc.

The regulator alleged that BAM Trading and BAM Management US Holdings, Inc. misled investors about trading controls that did not exist on Binance.US. The regulator also stated that Binance and its CEO commingled and diverted customer funds while Mr. Zhao was controlling the operations of Binance.US in secret. The SEC has filed 13 charges against Binance entities and Mr. Zhao, alleging that they were "engaged in an extensive web of deception, conflicts of interest, lack of disclosure, and calculated evasion of the law."

What happened to Coinbase?

The regulator alleged that Coinbase evaded disclosure requirements that were put in place to safeguard investors. The lawsuit charged that the exchange traded at least 13 crypto tokens that should have been registered. Coinbase said in a statement that it will continue its regular operations. Coinbase went public in 2021 during the crypto boom and opened at \$381 a share on its first trading day. On Tuesday, the company's shares were down to \$51.61 apiece.

WHY REMITTANCE INFLOWS GROWTH COULD SLOW TO JUST 0.2% IN 2023

The projection by the World Bank's latest Migration and Development Brief marks a dramatic slowing from 2022, when remittances to India grew by more than 24% to reach a record-high \$111 billion. The reasons: slower growth in OECD and GCC economies, high base effect.

Slower growth in OECD economies — especially in the high-tech sector in the United States that could affect the demand for information technology (IT) workers and lead to a diversion of formal remittances toward informal money transfer channels — is likely to impact the flow of remittances this year.

India, which registered a growth of more than 24% to reach a record-high \$111 billion in remittances in 2022, is expected to post a growth of just 0.2% in remittance inflows in 2023, according to the World Bank's latest Migration and Development Brief.



The Organisation for Economic Co-operation and Development (OECD) is a grouping of 38 high-income democratic countries. A lower demand for migrants in the Gulf Cooperation Council (GCC) countries, a grouping of six Arab nations located around the Arabian Gulf where declining oil prices have dented growth, is another key contributing factor.

In its previous update of the Migration and Development Brief in November last year, the World Bank had estimated a record \$100 billion remittances inflows for India in 2022. In the latest update released on June 13, the World Bank has revised up this number to \$111 billion on the back of strong labour market conditions and wage hikes in the high-income destination economies, and higher energy prices in the GCC countries, a key destination for less-skilled migrants.

Why are remittances expected to grow at a slower pace in 2023?

Remittances to India, which account for more than 60% of South Asian inflows, are expected to grow by only 0.2% in 2023. Remittance flows to the other six South Asian countries will also be limited by demand for migrants in the GCC countries where declining oil prices are expected to slow growth from 5.3% in 2022 to 3% in 2023, the report said.

The growth of remittances is likely to be the highest in Latin America and the Caribbean (forecast of 3.3%), as the labour market in the US continues to be strong.

Remittance growth is expected to be the lowest in South Asia (0.3%), mainly because of the high base in 2022 along with slowing demand for highly skilled IT workers in the US and Europe.

“In addition, slowing demand for migrants in the GCC countries and weak balance-of-payments conditions and exchange controls are expected to divert remittances to informal money transfer channels in Pakistan, Bangladesh, and Sri Lanka,” the report said.

What are the top sources of remittances for India?

Almost 36% of India’s remittances are from the high-skilled and largely high-tech Indian migrants in three high-income destinations — the US, United Kingdom, and Singapore. The post-pandemic recovery led to a tight labour market in these regions, and wage hikes boosted remittances.

In addition, India’s other high-income destinations also had favourable economic conditions. High energy prices and low food price inflation in the GCC countries, which remain the single largest destination for less-skilled South Asian migrants, had positive spillovers for all countries.

“High energy prices favoured employment and incomes of the less-skilled Indian migrants in the GCC countries, while the GCC governments’ special measures to curb food price inflation shielded migrants’ remitting potential. As a result, remittance inflows from the GCC countries, which today account for about 28% of India’s total remittance inflows, also soared in 2022,” the report said.

What will be the trend in remittances in other regions?

Remittance flows to low- and middle-income countries (LMICs) are expected to moderate to 1.4% in 2023, resulting in total inflows of \$656 billion. In 2022, the inflows to LMICs are estimated to have increased by 8% to reach \$647 billion. For the world, remittance flows are expected to reach \$840 billion in 2023. In 2024, the remittances growth rate globally is projected to increase to 2.0% in 2024, increasing inflows by \$18 billion.



Several economic factors that pushed up remittances in 2022 in the host economies of the migrants in the East Asia and Pacific region are projected to dampen them in 2023. “Central banks’ tight monetary stances to counter inflation, limited fiscal buffers to absorb shocks amid historically high debt levels, and continued global uncertainty regarding Russia’s invasion of Ukraine are likely to weigh down growth in the high-income countries,” the report said.

The projected decline in GDP growth from 2.8% in 2022 to approximately 1.0% in 2023 and 2024 will erode many of the employment and income gains that East Asia’s high-skilled migrants reaped in 2022, dampening remittance flows to the region in 2023.

The global slowdown will also gnaw into the demand for manufactured goods with implications for East Asian migrants employed in the export factories of China, Malaysia, and Thailand’s manufacturing sectors, although China’s recent opening up after the Covid-19 pandemic will counter some of this negative trend, it said.

What was the trend for remittances in 2022?

In 2022, India posted more than 24% growth in its inward remittances to reach \$111 billion, higher than the World Bank’s earlier estimate of \$100 billion. This represented 63% of South Asia’s remittance flows, which grew by more than 12% in 2022 to reach \$176 billion.

The top five recipient countries for remittances in 2022 were India (\$111 billion), followed by Mexico (\$61 billion), China (\$51 billion), the Philippines (\$38 billion), and Pakistan (\$30 billion).

The strong growth in remittances in 2022 came after a 10.6% increase in 2021, on the back of slower growth and high inflation in some OECD countries, which may have reduced the real incomes of migrants. Remittances were supported by the oil surge in member countries of the GCC, which increased migrants’ incomes; large money transfers from the Russian Federation to countries in Central Asia; and the strong labour market in the US and the OECD countries.

Remittance costs remained high in the fourth quarter of 2022. According to the World Bank’s Remittance Prices Worldwide Database, the global average cost of sending \$200 was 6.2% in Q4 2022, slightly more than the 6% a year earlier. Among developing country regions, the average cost continued to be the lowest in South Asia at 4.9% and the highest in Sub-Saharan Africa at 8%.

Why are remittances important?

In the aftermath of the Covid-19 pandemic, remittances are being viewed as a critical financial inflow, and an important source of foreign exchange for several countries including those in South Asia.

“Remittances are highly complementary to government cash transfers and essential to households during times of need,”.

Remittances measured almost 326% of foreign direct investment (FDI) inflows in 2022, up from 247% in 2019; and 1,036% of official development assistance (ODA) relative to 935% in 2019.

Although remittances amounted to only 4% of South Asia’s GDP in 2022, the variation across countries was large. In Nepal, remittances stood at 23.1% of GDP in 2022, compared with 7.9% in Pakistan, 5.1% in Sri Lanka, and 4.7% in Bangladesh. In India, the largest global recipient, remittances represented only 3.3% of GDP in 2022.



In an indicator of the significance of the remittances for funding current account and fiscal shortfalls, remittance inflows represented very large shares of GDP in countries such as Tajikistan (51% of GDP), Tonga (44%), Lebanon (35%), Samoa (34%), and the Kyrgyz Republic (31%).

MILES TO GO

India's economy is firmly out of the throes of the pandemic blues, the higher-than-expected 7.2% GDP growth last year could actually be an 'underestimate', and the country is now poised for a decade, if not more, of uninterrupted 6.5%-7% growth, even if no further reforms are undertaken. This was the key message from Chief Economic Advisor (CEA) V. Anantha Nageswaran's prognosis of the state of the economy, conveyed to industry leaders last week. India, he asserted, could now grow for a longer period of seven to 15 years as China did between 1979 and 2008 without "running into overheating problems" as it did after three-four years of strong growth in recent decades. Among the reasons for his optimism — strong momentum, better macro fundamentals with inflation and trade deficits easing in recent months, and cleaner bank and corporate balance sheets, bolstered by reforms such as Goods and Services Tax (GST) and digitisation that are spurring formalisation. The CEA's elaborate elucidation on the economy's bright prospects can well be seen as a fresh official nudge to the private sector to stop worrying and restart investing. At the same time, his comment that the economy could be on 'auto-pilot' mode, may be a hint that the appetite for important pending reforms such as rationalising the GST structure or fixing archaic factor market laws is low, at least till the 2024 Lok Sabha election.

With sectors such as steel and cement seeing higher capacities in action, sections of industry may well start loosening the purse strings soon but a broad-based revival may take longer and needs more actions to buttress the confidence-building. That India has now recovered from the COVID-19 hit on the economy, marked by a 5.8% GDP contraction in 2020-21, is good. But returning to the pre-pandemic trajectory is not enough — remember that growth had slid for seven successive quarters even before the pandemic lockdowns. The economy grew just 3.9% in 2019-20 from 6.5% in the year before, and the quality of the recovery thus far remains uneven. Unless private investment recovers firmly and revs up job creation for millions of youth, demand growth shall not sustain enough to create the virtuous cycle the government is betting on. If India wants to encash the world's China-plus-one supply chain quest, that intent is not often matched by actions. Misadventures such as high import tariffs and the complex 'angel tax' on inbound investments apart, even failing to fix an online service to register a new company does not engender investor confidence. Before the economic engine can be truly on 'auto pilot' mode, the government must desist from unnecessary tinkering with its calibrations and create conducive conditions for a smooth and swift, hurdle-free passage for value and job creators.

SHIFTING SANDS

Initial estimates for India's external trade performance in May are a harbinger of even tougher times ahead. The 10.3% decline in goods exports marks the fourth successive month of contraction in outbound shipments and the sixth such occasion in eight months. May's \$35 billion export value is only 0.8% over April's figure that was a six-month low. Barring electronics exports, which grew healthily year-on-year as well as sequentially, exporters across sectors had a tough month. Engineering goods that make up over a quarter of India's goods export basket, contracted for the 11th month in a row, while the employment-intensive textiles sector shrank for the seventh straight month. The 30% decline in petroleum exports (the seventh contraction in eight months) may largely be due to cooling global prices that are also affecting other commodities'



export values, if not volumes. After a 6.7% rise in 2022-23, goods exports are now down 11.4% over the first two months of this year. The current estimate of \$25.3 billion for May's services exports is quite sobering as well.

A 26.7% boom in services exports last year had helped narrow the steep goods trade and current account deficits amid surging global prices of commodities such as oil and fertilizers whose imports are inelastic for India. The trend reversal in that pace of growth began this March and has accelerated to a critical point with a mere 0.7% rise in global services receipts in May. The global slowdown that had clearly hit consumer demand for products, now appears to be infecting the appetite for services too. With IT companies slashing guidance and benching fresh recruits, some impact on domestic demand is visible and may intensify in coming months. Core imports (excluding oil and gems and jewellery) have contracted 5.5% so far in 2023-24. Overall goods imports are down over 10% through April and May, after surging 16.5% last year to \$714 billion. May's \$57.1 billion import bill was just 6.6% below 2022 levels and almost 14% over April's figure which had been the lowest in 15 months. This has lifted the merchandise trade deficit to a five-month high of \$22.1 billion. Last month, the Commerce Ministry had expressed hope that demand from key markets may revive from August or September. Now, it believes the trend may improve from July or August. It has again cited the World Trade Organization global trade growth upgrade from 1% to 1.7% for 2023. Even if that were to fructify, it is far from the 2.6% growth averaged in the last 12 years and the respite for India may be limited. A 'business as usual' approach will not suffice any more to keep this key growth engine of the economy firing.

BASE BOOST

The pace of retail inflation slowed to a 25-month low of 4.25% in May, propelled largely by the elevated level of year-on-year price gains in May 2022, when the month's print had exceeded 7%. Headline inflation extended its decelerating trend for a fourth month, in some measure validating the Reserve Bank of India (RBI)'s decision to pause monetary tightening till it could assess the impact of past interest rate increases. Still, month-on-month, the provisional Consumer Price Index (CPI) showed price gains at 0.51% in May, unchanged in pace from April's six-month high sequential inflation reading. A key contributor to the deceleration in year-on-year price gains in May was the inflation in food items, which slowed by 93 basis points to 2.91%. Oils and fats contributed to the easing in food item prices, posting a 16% deflation. A continuing deflation in the cereals and products category, which has an almost 10% weight in the CPI, also helped. Cereals inflation eased by more than 100 basis points from April's print to 12.7%. The risk of reading too much into the year-on-year moderation in inflation was, however, most evident in the food and beverages group that accounts for 46% of the CPI, with nine of its 12 sub-groups witnessing sequential increases in price levels.

Crucial food items including vegetables and the key protein sources of milk, meat and pulses all posted appreciable quickening in prices from a month earlier. Vegetable prices, which deflated 8.2% from the year-earlier levels, logged 3.35% sequential inflation, a pace that was almost twice April's 1.7% month-on-month gains. Milk and dairy, and pulses are the other food categories of concern. While year-on-year inflation in milk hovered close to the 9% level in May, sequentially too the reading was at a three-month high at 0.67%. Prices of pulses, the primary protein source in vegetarian consumers' diets, have also been rising at a disconcerting clip, with the year-on-year rate quickening by 128 basis points to a 31-month high of 6.56%. Sequentially, the category that includes lentils such as tur and urad dal, posted 1.21% inflation. Acknowledging the sensitivity of dal prices, especially when key State elections are due, the Centre, on June 2, imposed limits on



the holding of stocks of urad and tur till October 31. With households' perception of current inflation found to be running at 8.8%, and three-month and year-ahead forecasts pegging price gains at more than 10% in the May round of the RBI's inflation expectations survey, policymakers have their task cut out to convince consumers that inflation will be tamed so as to not erode their purchasing power and savings.

EXPRESS VIEW ON RBI'S FRAMEWORK FOR WILFUL DEFAULTERS: DON'T GIVE A FREE PASS

Last week, the Reserve Bank of India released the framework for technical write-offs and compromise settlements, including for accounts categorised as fraud and wilful defaulters. A wilful defaulter is one who chooses not to honour obligations to banks, despite the ability to do so. The default could involve non-repayment of loans as the funds may have been diverted/siphoned off for purposes other than those for which they were obtained. Considering that in the past, the RBI has itself been against providing leeway to such borrowers — under the June 7, 2019 framework, those who have committed “frauds/malfeasance/wilful default” were ineligible for restructuring of loans — it is odd that it has now introduced a framework that paves the way for settlements to be negotiated between these borrowers and banks. This raises several troubling questions.

As these borrowers have wilfully reneged on their obligations, and in cases where they indulged in fraudulent activities, shouldn't they be made to face the full consequences of their actions? What message does this framework send to the average Indian who honours her financial obligation? The new guidelines also point towards the possibility of these wilful defaulters being able to avail fresh loans from the banking system after a 12-month period post the settlement. What is the rationale for this? And then, why only a 12-month period? Moreover, as these agreements usually tend to be settled at amounts significantly lower than what is actually owed to banks, will they be opened up and subject to scrutiny in a different political environment? Bank unions have come out against this framework, arguing that it “may compromise the integrity of the banking system and undermine efforts to combat wilful defaulters effectively”. As per data shared by the government in Parliament, at the end of March 2022, the top 50 wilful defaulters owed Rs 92,570 crore to banks. Gitanjali Gems, owned by Mehul Choksi, was at the top of the list with outstanding dues of Rs 7,848 crore. Choksi and his nephew Nirav Modi, who is also facing fraud charges, have fled the country. Others on the defaulter list include Winsome Diamonds and Kingfisher Airlines. Under the new framework, banks can, in the future, negotiate settlements with such entities/promoters who have committed fraud, many of whom have fled the country.

Considering that the ruling dispensation has repeatedly stated its intent to go after those who have defrauded the banking system, it is perplexing that rather than punish these unscrupulous players, this new framework will end up creating the space for continued misuse. As public sector banks dominate the country's financial system, and most bad loans have in the past tended to originate in these banks, it is ultimately the taxpayer who will bear the cost. Coming less than a year before national elections, this new framework does not pass the political smell test. It must be reconsidered.

LESS THAN HALF OF URBAN CONSUMERS PESSIMISTIC ABOUT ECONOMY

For the first time since the onset of the COVID-19 pandemic, the share of urban consumers who were pessimistic about the Indian economy declined to below 50%, according to the bi-monthly



Reserve Bank of India (RBI) survey. When asked to comment on their current perception of the economy, 48.9% said it has worsened, the lowest share since the pandemic outbreak.

By the end of 2019, due to the worsening economic situation, more than half the urban consumers had opined that the economy had worsened compared to the earlier year. Following the pandemic outbreak, the share of pessimistic consumers continued to surge. It peaked in May 2021 with 80% of them saying that the economy had worsened. While the levels of pessimism have rapidly declined since, they are still much higher compared to the pre-pandemic levels.

The RBI survey was conducted across 19 major cities between May 2 and 11, covering 6,089 respondents.

While the levels of pessimism in the economy have sharply reduced in recent months, a similar decline was not observed regarding employment opportunities. The share of people who said that the current employment situation has worsened compared to the earlier year. While the levels of pessimism about the employment did rapidly fall post the pandemic peak in May 2021, the rate of decline has weakened since. In the past six months, the share of consumers pessimistic about their employment scenario has stagnated in the 47-49% range.

The share of urban consumers who said that their income levels have declined compared to the year earlier. The share of people who are pessimistic about their income levels continued to decline rapidly, approaching the pre-pandemic levels. In May 2023, only 26.3% of urban consumers felt that their income levels had declined, a considerable fall from 32.9% in November 2022.

Therefore, while the economy seems to be improving, it has not reflected much on the employment front, whereas the income levels of those who already got jobs seems to be stabilising or even rising considerably. Worryingly, over 90% of the respondents continued to say that price levels of commodities have increased compared to the earlier year. In May 2023, 92.2% of urban consumers said that the price levels increased. The share of those who said price levels increased have remained above the 90% mark since the second wave of the pandemic in 2021.

Overall, the current situation index (CSI) of the RBI's survey, which captures the confidence levels among urban consumers currently, continues to improve, while the pace of ascent has slowed down. The CSI improved by 1.5 points, from 87 in March to 88.5 in May, similar to the pre-pandemic levels. However, it is to be noted that the confidence levels were poor even before the pandemic due to the economic slowdown in 2019. So, when compared to the end of 2018, which precedes the economic downturn, the confidence levels in May 2023 continue to remain relatively low.

The future expectation index (FEI), which captures the confidence levels among urban consumers about their future, mimics a similar trend. The FEI improved marginally from 115.5 in March to 116.3 in May, again relatively lower than the levels seen at the end of 2018.

EXPLAINSPEAKING: ULTRA-RICH INDIVIDUALS ARE PROJECTED TO KEEP LEAVING INDIA IN 2023. WHY DO THE RICH MIGRATE FROM A COUNTRY?

According to the latest edition of the Henley Private Wealth Migration Report (2023), India is expected to witness a net outflow of 6,500 ultra-rich. The more technical term for these ultra-rich is High Net-Worth Individuals (HNWIs) and it refers to people so rich that they have an investable wealth of US\$1 million or more. In rupee terms that threshold means Rs 8.2 crore or more.

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



Investible wealth refers to an individual's net investable assets, namely, all their investable assets (property, cash and equities) minus any liabilities.

India's likely net outflow (net of inflow and outflow) in 2023 will make it the second worst performer on losing HNWI after China. In 2022, India saw an outflow of 7,500 such individuals. "The top five destinations for net inflows of high-net-worth individuals in 2023 are projected to be Australia, the UAE, Singapore, the USA, and Switzerland. On the flip side, the largest net outflows of millionaires are expected to come from China, India, the UK, Russia, and Brazil," writes Andrew Amoils, the Head of Research at New World Wealth, the organisation that provides the data for this report.

To be sure, as of the end of 2022, India was among the 10 richest countries in the world — ranked 10th in the so-called W10 grouping — if one goes by the HNWI population. India has 3,44,600 HNWIs, 1,078 centi-millionaires (those with wealth exceeding \$100 million) and 123 billionaires (those with wealth exceeding \$1 billion or Rs 8,200 crore). India has a population of 1,428 million. For comparison, China has 7,80,000 HNWIs and 285 billionaires while the US (with a population of just 340 million) has 52,70,000 HNWIs and 770 billionaires. The W10 includes (in order of HNWIs in each country) the US, Japan, China, Germany, the UK, Switzerland, Australia, Canada, France, and India.

Explaining what motivates the world's wealthiest to migrate from one country to another, Juerg Steffen, CEO of Henley & Partners, writes: "Affluent families are extremely mobile, and their transnational movements can provide an early warning signal in terms of a country's economic outlook and future country trends. Like the proverbial canary in the coal mine, they alert us to dangers that may lie ahead as they are more sensitive to potential threats to their wealth and usually have the resources to take a corrective course of action to preserve their legacies. An increasing outflow of millionaires often points to a drop in confidence in a country, since high- and ultra-high-net-worth individuals have the means to leave and are usually the first to exit and vote with their feet when circumstances deteriorate."

What are the top priorities of the wealthy?

Steffen writes that "political stability, low taxation, and personal freedom have always been key metrics for millionaires when it comes to deciding where to live. However, the priorities of affluent individuals are shifting to the intangible but equally vital elements that impact; their children's prospects, the quality of their lives, and the legacies they leave." He points out that apart from being a safe haven for wealth, security is also a key factor, "which is why so much private wealth is flowing into countries that offer a robust regulatory environment where the rule of law is respected, and economic freedoms are guaranteed."

THE NEXT FINANCE COMMISSION WILL HAVE A TOUGH TASK

The government will appoint a Finance Commission in the next few months to determine how much of the Centre's tax revenue should be given away to States (the vertical share) and how to distribute that among States (the horizontal sharing formula).

In the pre-reform period, the Finance Commission recommendations were not that critical because the Centre had other ways to compensate States, or indeed to play favourites, through plan financing and public sector undertaking (PSU) investments. Post-reforms, fresh PSU investments have thinned out and the Planning Commission was abolished in 2014 with the result



that the Finance Commission remains virtually the sole architect of India's fiscal federalism. Its responsibility and influence are, therefore, much larger.

Issue will be about horizontal distribution

Currently, the Centre gives away 41% of its tax pool to the States. For sure, States will demand that this proportion be raised, but I do not see much room for stretching this further given the Centre's expenditure needs and the constraints on its borrowing limit. Therefore, much of the debate will centre on the horizontal distribution formula.

When the previous Finance Commission was appointed in 2017, its terms of reference became quite contentious because it was asked to take into account the 2011 population figures in determining the expenditure needs of a State. This was a departure from the standard practice until then of mandating Finance Commissions to use the 1971 population numbers so as not to give a perverse incentive to States to neglect family planning with an eye on a higher share of devolution. States which had done well in stabilising population growth rates, typically the southern States, protested against this change in the base year, calling it a 'penalty for good performance'.

A similar conflict arises with regard to revenue deficit grants that the Finance Commission awards to States which remain in deficit on the current account even after tax devolution. In theory, revenue deficit grants have a neat rationale — that every State in a country should be able to provide a minimum level of service to its residents even if it involves an element of cross-subsidisation. The worry is that this too has become a perverse incentive. Why bother raising revenues on your own when the Finance Commission will compensate you?

Historically, Finance Commissions have struggled to determine how much a State's deficit is due to its fiscal incapacity and how much is due to fiscal irresponsibility. They have tried to tweak the distribution formula to support deficit States without penalising responsible States, a mathematically impossible task since you cannot give more to a State without giving less to another. The net result is that every horizontal distribution formula has been criticised as being inefficient or unfair or both.

These faultlines across States have in fact deepened in recent years along political, economic and fiscal dimensions. When the Bharatiya Janata Party (BJP) lost the Karnataka election last month, many political commentators read that as a north-south divide, with the BJP being confined to the northern States while the Opposition parties rule the southern States. Similarly, many headline numbers suggest that the southern States of the country are doing better in terms of infrastructure, private investment, social indicators and the rule of law, which has put them on a virtuous cycle of growth and prosperity and widened the north-south gap.

The bottom-line though is that it is in the very nature of horizontal distribution that richer States compensate poorer States. How to ensure that this happens without deepening the divide will challenge the government in defining the terms of reference of the Finance Commission, and of the Finance Commission itself in delivering on those terms of reference.

Cesses and surcharges

The terms of reference of the Finance Commission enjoin it to take into account the expenditure needs and revenue earning capacity of the Centre and States. I believe the forthcoming Finance Commission should use this leverage to focus on two issues in particular.



The first is the egregious practice by the Centre of increasingly resorting to a levy of cesses and surcharges rather than raising taxes. A white paper released by the Tamil Nadu government a couple of years ago pointed out that the proportion of cesses and surcharges in the Centre's total tax revenue had nearly doubled from 10.4% in 2011-12 to 20.2% in 2019-20.

There is a perverse incentive in operation here. The straightforward option for raising revenues is to raise taxes, but if the Centre does that, it has to part with 41 paise to States. On the other hand, if it raises the additional rupee by way of a surcharge, it gets to keep all of it. When the Constitution was amended in the year 2000 giving States a share in the Centre's total tax pool, the implicit understanding was that the Centre will resort only sparingly to cesses and surcharges, and not as a matter of routine as has become the practice. As a result of this breach of understanding, States have felt cheated out of their legitimate share of national tax revenue. The next Finance Commission should lay down guidelines for when cesses and surcharges might be levied, and also suggest a formula to cap the amount that can be raised.

Restraint on freebies

The second issue of focus for the Finance Commission should be government spending on what has come to be called freebies. All political parties are guilty on this count, some more than others, but trying to apportion blame will be a wrong start.

In a poor country, where millions of households struggle for basic human needs, it sounds cruel to argue against safety-nets for the poor. But it is precisely because India is a poor country, that we need to be more circumspect about freebies.

In theory, the restraints imposed by the Fiscal Responsibility and Budget Management (FRBM) Act should have acted as a check on such populist spending, but governments have found ingenious ways of raising debt without it appearing in the budget books. It is not easy to unambiguously define a freebie, and any check on this will be contested as infringing on the sovereignty of elected governments. Nevertheless, the next Finance Commission should bite the bullet in the interest of long-term fiscal sustainability and lay down guidelines on the spending on freebies.

After the BJP lost the Karnataka election, the Prime Minister said that the guarantees offered by the Congress in Karnataka were impossible to implement, and if taken forward, 'the country and the State concerned will become bankrupt.' Strong words indeed. In the State Assembly elections to be held later this year, the Prime Minister should walk the talk and invest his political capital to show that the promise of good governance can trump the lure of freebies.

That will embolden the Finance Commission to formalise a mechanism for a restraint on freebies.

WHY DID THE GOVT. IMPOSE A CEILING ON WHEAT STOCKS?

The story so far:

On June 12, in a move endeavouring to manage the "overall food security and to prevent hoarding and unscrupulous speculation", the Union Government imposed limits on stock of wheat that can be held by traders, wholesalers, retailers, big chain retailers and processors. The objective here is to stabilise the price of the essential commodity by steadying supply. Secretary at the Department of Food and Public Distribution Sanjeev Chopra stated that there was enough stock of wheat in the country. The order stood effective with immediate effect until the end of March next year.



What are the limits?

The permissible stock that traders/ wholesalers can hold is 3,000 metric tonnes. Retailers and big chain retailers can hold up to 10 metric tonnes at each of their outlets, while the latter can hold up to 3,000 metric tonnes at all their depots combined. Processors would be able to stock 75% of the annual installed capacity.

The mentioned entities are expected to declare their stock positions and update them regularly on the Department of Food and Public Distribution's portal. If the stock held by them are higher than the limit, they will have 30 days from the day of issue of notification to bring the same under the prescribed limits.

What are the additional orders?

The government has also decided to offload 15 lakh tonnes of wheat from the central pool via the Open Market Sale Scheme (OMSS) to flour mills, private traders, bulk buyers, manufacturers of wheat products through e-auction. The idea is to control retail prices of wheat. They would be sold in lot sizes of 10 to 100 metric tonnes. This would be the first tranche, and more could be released depending on the prices and demand. The Food Secretary also announced that the government would offload rice under OMSS to moderate its prices. The quantity of the first phase of the e-auction (for rice) would be decided shortly.

Why is there a concern?

The moves come in the backdrop of rising concerns about the overall wheat output taking a hit after the unseasonal rains and hailstorms towards the end of March and early April alongside hotter temperatures in February.

Lower production leads to higher prices of the crop. This could in turn create conditions for local prices exceeding the government's purchase prices and thus, bothering the latter's endeavour to stock up supplies.

The daily average price of wheat at the retail level, on June 14, stood at ₹29/kg compared to ₹27.54/kg a year back. At the wholesale level, it stood at ₹2,593.5 for each quintal against ₹2,557.89/quintal for the previous month and about ₹2,423/quintal a year back.

The Food Corporation of India is entrusted with the responsibility to ensure food grains are accessible at reasonable prices to the vulnerable sections of society under the Public Distribution System. The government had set a target of procuring 341.5 lakh metric tonnes of wheat for the Central Pool in the ongoing Rabi Marketing Season (RMS) 2023-24. RMS rolls from April to March with the maximum proportion acquired around April and June.

As on June 12, 261.99 lakh metric tonnes of wheat have been procured. News agency Reuters learnt from government officials and traders that India's wheat procurement in 2023 could fall by a fifth from the initial estimate as government purchases have slowed down in the last few days after local prices jumped. As of June, the government had 313.9 lakh metric tonnes of wheat in the central stock compared to 311.42 lakh metric tonnes in the year-ago period.

What about production?

Notwithstanding the warnings from experts about the potential effects of El Nino, the Agricultural Ministry estimates the production of wheat at a record 1,127.43 lakh metric tonnes for the



agriculture year 2022-23, higher by 50.01 lakh metric tonnes from previous year's production. The optimism is premised around the increased area of wheat sowed and better yield.

WHAT IS THE MASSIVE GRAIN STORAGE PLAN THE GOVT HAS UNVEILED, HOW IT'LL HELP FARMERS

The Union Cabinet recently approved the constitution of an Inter-Ministerial Committee (IMC) to facilitate the “world’s largest grain storage plan in the cooperative sector”. What is the plan and how will it be implemented?

Why does India need a grain storage plan?

India, the most populous country in the world, accounts for 18 per cent (1.4 billion) of the global population (7.9 billion). However, it accounts for only 11 per cent (160 million hectare) of the arable land (1,380 million hectare) in the world. Also, India runs the world’s largest food programme under the National Food Security Act, 2013, that covers about 81 crore people. Therefore, to ensure food security of a billion plus population, a robust network of foodgrain storage facilities becomes essential.

At present, India has a foodgrain storage capacity of 145 million metric tonnes (MMT) against the total food production of 311 MMT—leaving a gap of 166 MMT. In the absence of sufficient storage facilities, foodgrains are sometimes stored in the open, which results in damage.

According to the Ministry of Cooperation, several countries have better storage capacities. For instance, against the total foodgrain production of 615 MMT, China has a storage capacity of 660 MMT. USA, Brazil, Russia, Argentina, Ukraine, France, and Canada are among other countries with the capacity to store more food grains than they produce.

India has a storage capacity of 47 per cent of its total foodgrains production. At the regional level, only a few southern states have the storage capacity of 90 per cent and above. In northern states like Uttar Pradesh and Bihar, it is below 50 per cent.

What is the ‘world’s largest grain storage plan in the cooperative sector’?

At present, multiple government agencies, like the Food Corporation of India (FCI), Central Warehouse Corporation, Warehouse Development Regulatory Authority, Railways, and the civil supply departments of states are involved in grain management. However, that has not yielded the desired results.

Under the new plan, the Ministry of Cooperation aims to set up a network of integrated grain storage facilities through Primary Agricultural Credit Societies (PACS) across the country. According to the ministry, there are more than 1,00,000 PACS spread across the country with a huge member base of more than 13 crore farmers. This is one of the reasons why the PACS network was chosen for the new plan.

Who is in the IMC?

The Union Cabinet has approved an IMC for the scheme, to be constituted under the Chairmanship of Minister of Cooperation Amit Shah. Three other ministers — Narendra Singh Tomar, Minister of Agriculture and Farmers Welfare; Piyush Goyal, Minister of Consumer Affairs, Food and Public Distribution; and Pashupati Kumar Paras, Minister of Food Processing Industries and Secretaries will be members of the committee.

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



The IMC will “modify guidelines/ implementation methodologies of the schemes of the respective Ministries as and when need arises, within the approved outlays and prescribed goals” for facilitation of the scheme, “by creation of infrastructure such as godowns, etc. for Agriculture and Allied purposes, at selected ‘viable’ Primary Agricultural Credit Societies (PACS).”

What is the budgetary allocation?

Though the plan does not have a separate allocation, it will be implemented by the convergence of 8 schemes. These schemes are— Agriculture Infrastructure Fund (AIF), Agricultural Marketing Infrastructure Scheme (AMI), Mission for Integrated Development of Horticulture (MIDH), and Sub Mission on Agricultural Mechanisation (SMAM) under the Ministry of Agriculture and Farmers Welfare. It includes two schemes of the Ministry of Food Processing Industries: Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme (PMFME), and Pradhan Mantri Kisan Sampada Yojana (PMKSY). Besides, the plan also includes two schemes of the Ministry of Consumer Affairs, Food and Public Distribution: allocation of food grains under the National Food Security Act, and Procurement operations at Minimum Support Price.

What are the benefits of the plan?

According to the government, “The plan is multi-pronged — it aims to address not just the shortage of agricultural storage infrastructure in the country by facilitating establishment of godowns at the level of PACS, but would also enable PACS to undertake various other activities, viz: Functioning as Procurement centres for State Agencies/ Food Corporation of India (FCI); Serving as Fair Price Shops (FPS); Setting up custom hiring centers; Setting up common processing units, including assaying, sorting, grading units for agricultural produce, etc.”

Officials in the Cooperation ministry said the new initiative would result in multiple benefits. First, it would reduce post-harvesting losses. Second, it would bring down the foodgrain handling and transportation cost. Third, farmers would have a choice to sell their produce depending on the market conditions, and not be forced into distress sale.

What will the integrated facility look like?

Spread over 1 acre of land, the facility will be built at a cost Rs 2.25 crore. The integrated modular PACS will have a custom hiring centre, a multi-purpose hall—procurement centers, primary processing units for cleaning and winnowing — a storage shed, and container storage and silos. Of the Rs 2.25 crore, Rs 51 lakh will come as subsidy, while the remaining will come as margin money or loan. It is expected that the PACS will earn Rs 45 lakh in a year.

According to the Cooperation ministry, the new storage plan is based on the hub and spoke model. Of the 63,000 PACS across the country, 55,767 will function as spoke and will have a grain storage capacity of 1,000 metric tonnes each, while the remaining 7,233 PACS, which will function as hubs, will have a storage capacity of 2,000 metric tonnes each. Thus, all the 63,000 PACs will have a combined grain storage capacity of 70 million tonnes.

According to officials, the PACS will purchase agricultural equipment like tillers, rotary tillers, disc harrows, harvesters, and tractors under various government schemes, such as Sub-Mission on Agricultural Mechanisation (SMAM) and Agriculture Infrastructure Fund (AIF). It will then offer this equipment to farmers on rent.

The modern silos will have the facility of computerised real-time monitoring systems. These will be rented out to the FCI and other private agencies.



LIFE & SCIENCE

WILL BETELGEUSE, THE BRIGHT RED GIANT STAR, BLOW UP IN YOUR LIFETIME?

The bright red star Betelgeuse, called 'Thiruvathirai' or 'Ardra' in Indian astronomy, is easily spotted in the constellation Orion. By examining its pulsation — the periodic contraction and expansion of the star — researchers from Japan and Switzerland recently reported that the star is in its late carbon-burning stage. In massive stars like Betelgeuse, the carbon-burning stage lasts only up to a few hundreds of years, after which the star 'dies' and collapses into a supernova within a few months.

In humans, slow or abnormal heartbeats indicate a possible blockage of the heart. Likewise, the researchers say Betelgeuse's observed pulsation matches theoretical estimates of a late carbon-burning stage, suggesting the red supergiant is in its death throes. "From the pulsation periods, we can infer the radius of the pulsating object. From the calculated radius, luminosity and mass of Betelgeuse, we determine that it must be a late stage of core carbon-burning," Devesh Nandal, a PhD student in the Department of Astronomy at the University of Geneva and one of the authors of the study, told The Hindu.

A death foretold

Most stars, including the Sun, fuse the simplest element in the universe, hydrogen, to produce helium and some energy as a byproduct. This energy's outward push balances gravity's inward pull, and keeps the star from collapsing.

Massive stars like Betelgeuse run out of hydrogen fuel in only a few crore years, after which they switch to using helium to make carbon. The energy released in the fusion of helium is less than that of hydrogen, so the star burns more helium to stay stable and not collapse. The helium runs out in about ten lakh years. At this time, red giants like Betelgeuse burn carbon, then silicon, and briskly consume one by one the elements of the periodic table, until finally their core brims with iron — whose fusion requires more energy than it releases — and some cobalt and nickel.

Each of these stages is shorter than the predecessor. In a star like Betelgeuse, carbon burns in a few hundred years whereas silicon lasts about a day. Therefore, the late-carbon stage is the terminal phase of Betelgeuse. Once the core is rich in iron, the temperature and pressure within the star drops. With nothing to stop it, gravity compresses the core and turns it into a neutron star or a black hole. The shock wave resulting from the collapse blasts the surrounding layers into interstellar space and the star explodes in a celestial firework display.

WHAT IS HAPPENING TO ARCTIC SEA ICE?

The story so far:

A recent study in the Nature journal says that the loss of Arctic sea ice is inevitable in the decades ahead, even if the world somehow gets its act together and sharply reduces carbon emissions.

Why is the Arctic sea ice important?

The massive sheets of ice that pad the Arctic region play a major role in influencing global climate and the rise and fall in Arctic sea temperatures. During winter, the sea ice envelops most of the Arctic Ocean and in summer, a portion of it melts due to being exposed to longer periods of



sunlight and elevated temperatures. Sea ice normally melts and is at its thinnest and most sparse in mid-September, when the area covered by ice is roughly half the size of the winter maximum. With the onset of winter and dipping temperatures, the ice begins to expand and thicken, all the way until March when it reaches its zenith.

The United States' Environment Protection Agency (EPA) explains the importance of sea ice thus: "Sea ice is light-coloured and therefore reflects more sunlight back to space than liquid water, thus playing a vital role in keeping polar regions cool and maintaining the earth's energy balance. Sea ice also keeps the air cool by forming a barrier between the cold air above and the relatively warmer water below. As the amount of sea ice decreases, the Arctic region's cooling effect is reduced, and this may initiate a 'feedback loop' whereby ocean warming caused by more absorption of solar energy leads to an even greater loss of sea ice and further warming."

Changes in sea ice can affect biodiversity and impact mammals such as polar bears and walrus, which rely on the presence of sea ice for hunting, breeding, and migrating. The reduction in ice cover also affects the traditional subsistence hunting lifestyle of indigenous Arctic populations such as the Yup'ik, Iñupiat, and Inuit, the EPA notes. On the other hand, reduced ice can present "commercial and economic opportunities" with the opening up of shipping lanes and increased access to natural resources in the Arctic region. This has already provoked global competition with several countries, including India, vying for greater influence in groups such as the Arctic Council that governs access to Arctic resources.

What does the new study say?

That the Arctic sea ice is decreasing is well-known and acknowledged in several reports of the Intergovernmental Panel on Climate Change (IPCC) and it is widely expected that the world will see its first 'sea-ice free summer' before 2050. This, however is under the assumption that global emissions will drive temperatures to beyond 4.5°C making the Arctic ice-free by 2081-2100. There was uncertainty on whether this sea-ice-free scenario applied to situations where carbon emissions were curbed enough to ensure that temperature-rise was restricted to say 1.5°C or 2°C, as envisaged in the Paris Agreement. The recent Nature study confirms that there is no scenario under which the Arctic sea ice can be saved in summer. Moreover, if drastic reductions in emissions aren't undertaken, we could very well be seeing the first such summer in the 2030s. Ever since satellite records began to monitor the Arctic, the rate of loss has been nearly 13% every year.

What's the basis for this study's conclusions?

The researchers first estimated how much of the ice-melting was due to human-instigated, or anthropogenic factors and they found that this was as much as 90%, the rest of it caused by natural variability. They established that the climate models, which even the IPCC relied on, underestimated the rapidity of melting. When they corrected for this, it turned out that there were also likely to be ice-free Augusts and Octobers by 2080 in the emission scenarios where temperatures rose above 4.5°C. Roxy Mathew Koll, climate scientist at the Indian Institute of Tropical Meteorology, Pune told The Hindu that the studies projections were "reasonable for September" because regardless of pathways, the temperature change was quite similar until 2060 with little difference between high and low emissions pathways until then.

While the ice-free summer may be inevitable, reducing carbon emissions might mean being better able to adapt to climate 'tipping points.'



LIGHTNING, BLAMED FOR CANADA FIRES, WILL GET WORSE IN A WARMING WORLD

In at least one climate scenario, lightning capable of causing fires is expected to become more common by the 2090s. Within India, lightning has been the deadliest natural disaster for some time, taking 90,632 lives from 1972-2019, says a report

New York City's air quality was recently among the worst in the world due to smoke drifting from the wildfires in Canada. According to AirNow, areas from the mid-Atlantic through the northeast and upper parts of the Great Lakes registered air quality in 'unhealthy' or worse categories starting Wednesday. The smoke also went on to blanket Washington D.C. and other parts of the North American continent.

According to the Canadian Interagency Forest Fire Centre, there were 426 active fires in the country as of June 8, 2023. Of these, 232 were reportedly out of control a major chunk of them (144) were reported to have been from Quebec province alone. The Centre also raised the national preparedness level, an indicator of wildland fire activity, to its highest level of five.

What's causing the wildfires?

Wildfires in Canada's British Columbia and Alberta province started in late April, news agency Reuters reported. They have since moved on to the eastern provinces of Quebec, Ontario, and Nova Scotia. Quebec is Canada's largest province by area and also home, as of June 12, to the most currently active wildfires. Most of these blazes were caused by lightning, Reuters added. Human activities are also to be blamed for adding to the forest fires, reports have said.

According to a study published in Nature on February 10, 2023, lightning is the main precursor of natural wildfires. Laboratory experiments and field observations have together revealed that lightning electric currents that flow for more than some tens of milliseconds, the so-called long-continuing currents (LCC), are likely to produce fires.

The study indicated an increase in the total global lightning activity and global LCCs by the 2090s. In one climate projection, the simulated globally averaged surface temperature increased by about 4 degrees C. Here, the amount of total lightning activity was found to increase by 11% per K.

The same study also found that LCC lightning activity increased by around 47% over land, implying a higher risk of lightning-ignited wildfires in the future. The simulated relative increase in the global total lightning flash rate of 43% is also similar to the relative increase in the global LCC lightning flash rate (41%).

The trends face the other way in some other regions, including the western parts of North America, northern and southern South America, parts of Central Asia, and in the Scandinavian peninsula. Simulations have found that in these parts of the world, the total lightning activity could decrease but the amount of LCC lightning activity could increase, leading to an increase in wildfires.

How does lightning work?

During a storm, water droplets in warmer air and ice crystals that condensed in cooler air coalesce together to form thunderstorm clouds (usually cumulonimbus clouds). Contact between these droplets and crystals produces a static electrical charge in the clouds.



The negative and positive charges in the clouds build up. Over time, the voltage difference becomes high enough to surmount the resistance presented by the air, leading to a rapid discharge of electric charge. This is what we see as a lightning flash. It can occur between oppositely charged surfaces within a thunderstorm cloud or between such surfaces in the cloud and on the ground.

Is lightning a climate indicator?

Long-term changes in lightning patterns reflect, at least in part, changes wrought by the climate crisis. The World Meteorological Organisation recognises lightning to be an essential climate variable that contributes critically to the way the earth's climate is characterised.

This said, in a 2009 book, geophysicist Colin Price wrote: "It needs to be emphasised that lightning-climate relationship based on data for short periods, and different regions, in the present climate cannot always be used as a proxy for future global warming." This, he added, is because surface temperature is also affected by a host of other factors. According to Eos, a publication of the American Geophysical Union, lightning also produces nitrogen oxides, which react with oxygen in the air to form ozone, which is a strong greenhouse gas.

Lightning strikes in India

Of late, lightning strikes have been the deadliest natural disaster in India. There were 18.5 million lightning strikes in the country between April 2020 and March 2021 – 34% higher than the previous year – according to the Climate Resilient Observing Systems Promotion Council. The Indian Institute of Tropical Meteorology, Pune, has also reported a sharp uptick in strikes in the decade since 1995.

Per a report of the Lightning Resilient India Campaign, 90,632 people died by lightning between 1972 and 2019. According to the National Crime Records Bureau, India had 2,875 deaths due to lightning in 2019, rising marginally by 2021. The private weather-forecasting company Skymet has reported that Odisha recorded the most strikes among India's states in 2019.

However, the Campaign report also said strikes had dropped by 60% in Odisha, Andhra Pradesh, and Nagaland in 2021-2022. It also said that most such deaths in India happen because people living in villages seek shelter from lightning under tall trees, which are more likely to be struck.

What else is happening in Canada?

According to Reuters, Canada's Atlantic coast received lower snowfall this winter followed by an unusually dry spring. The weather of Nova Scotia province, where wildfires are not unusual but are nonetheless less common than in other provinces, is influenced by the North Atlantic Ocean. Due to its proximity to the water-body, the region is ordinarily more humid and has more moderate temperatures compared to other parts of the country. This year, Nova Scotia's capital, Halifax, received only 120 mm of rain between March and May, roughly a third of the average, according to Reuters. To add to the region's woes, a late-May heatwave pushed the temperature up, causing it to breach a high 33 degrees Celsius mark on June 8.

DID HOMO NALEDI REALLY MAKE ROCK ART AND BURY THEIR DEAD?

On September 13 2013, speleologists Rick Hunter and Steven Tucker descended deep into South Africa's Rising Star cave system and discovered the first evidence of an extraordinary assemblage of hominid fossils.



To date, the remains of more than 15 individuals belonging to a previously unknown species of extinct human, dubbed *Homo naledi*, have been found in the cave. These short-statured, small-brained ancient cousins are thought to have lived in Southern Africa between 335,000 and 241,000 years ago.

Rising Star Cave is an exceptional resource for exploring the origins of our species. However, archaeological work at the site has been some of the most controversial in the discipline.

Three new studies made available today (as pre-prints awaiting peer review) claim to have found evidence *Homo naledi* intentionally buried their dead (a sophisticated practice we usually associate with *Homo sapiens*) and made rock art, which suggests advanced cognitive abilities.

However, as archaeologists who investigate early humans in Africa, we're not convinced the new research stacks up.

Did *Homo naledi* bury their dead?

The research purports to have evidence *Homo naledi* undertook deliberate burial of their dead – a major claim.

So far, the earliest secure evidence for burial in Africa comes from the Panga ya Saidi cave site in eastern Kenya, excavated by our team and dated to 78,000 years ago. This burial of a *Homo sapiens* child meets rigorous criteria agreed upon by the scientific community for identifying intentional human burial.

The aim of the criteria is to help differentiate burial from other practices and phenomena that could lead to the depositing of human remains. These include, for example, the natural accumulation of skeletal parts in a predator's cavern, or the kind of carrying and protecting of dead bodies observed among cognitively advanced non-human species such as gorillas and chimpanzees.

The claimed *Homo naledi* burials precede the Panga ya Saidi burial evidence by as much as 160,000 years. If the claim is correct, it significantly pushes back evidence for advanced mortuary behaviour in Africa. It also implies intentional burial wasn't limited to our species or other big-brained hominins.

Such a finding would force us to rethink the role of brain size in advanced "meaning-making" cognition, as well as what distinguishes our species from our ancestors.

Insufficient evidence

The site's researchers claim to have evidence for three intentional burials.

However, not one of the burials provides compelling evidence of a deliberately excavated pit. Indeed, the shallow cavities may not be dug pits at all, but natural depressions where the bodies accumulated and were later disturbed by trampling, or partial cave collapse.

The alleged burials also fail to meet another fundamental criteria for deliberate burials: anatomical alignment of the body and articulation of skeletal remains.

In a deliberate burial, the body is generally intact and any minimal displacement can be explained by decomposition. That's because burial involves immediately covering the body with soil, which protects the anatomical integrity of the skeleton.



Rising Star Cave so far hasn't produced evidence for anything other than the general spatial association of some skeletal elements. At most, it provides evidence for the in-situ decomposition of particular body parts, such as an ankle, and partial hand and foot articulations.

Moreover, confirming intentional burial in the past has required the presentation of human remains in an arrangement that can't have been achieved by chance. However, the scattered distribution of the remains at Rising Star prevents reconstruction of their original positions.

Other claimed evidence for funerary behaviour is equally unconvincing. A stone artefact supposedly included in the burial as a "grave good" is said to have scratches and edge serrations from use. But this so-called artefact's shape suggests it may be natural. It's still encased in sediment and has only been studied through synchrotron X-ray.

But perhaps the biggest barrier to confirming the status of the findings is that so far none of the alleged burials have been fully excavated. It's therefore impossible to assess the completeness of the bodies, their original position, and the limits of the purported pits.

Did Homo naledi make rock art?

An equally splashy claim made in one of the publications is that Homo naledi left rock art on the walls of Rising Star Cave.

There port

describes engravings in the form of deeply impressed cross-hatchings and geometric shapes such as squares, triangles, crosses and X's. Further claims are made about the preparation of and potential repeated handling or rubbing of the associated rock surface, and the use of a similar "tool" to the one they claim was found with the alleged burial.

This claim has major implications. To date, rock art has only reliably been linked to Homo sapiens and, in rarer cases, some of our large-brained ancestors. Similar to deliberate burial, producing rock art has major implications for the cognitive abilities of a species. It denotes a capacity for representation, and the creation and communication of meaning via abstract symbols.

The problem with the rock art at Rising Star Cave is that it's undated. To imply any link with Homo naledi requires firm dates. This could be achieved through using dating techniques on associated residues or natural deposits covering the art, or by studying materials from excavated and dated archaeological layers that can be linked to the art (for instance, if they contain engraving tools or engraved rock fall fragments).

In the absence of dating, it's simply spurious to claim the engravings were made by Homo naledi, rather than by another species (and potentially at a much later date).

Did they light up Rising Star Cave?

The researchers also claim the mortuary and engraving activities in Rising Star Cave involved strategic use of fire for illumination.

In public lectures and on social media they clarify they have found new evidence for hearths, including charcoal, ash, discoloured clay and burned animal bones. Yet none of the scientific research needed to confirm the use of fire has been carried out. Or if it has, it hasn't been published.



Previously acquired radiocarbon dates obtained by the site investigators on the apparent hearth material provided very late dates that distanced the hearths from the remains of Homo naledi by several hundred thousand years.

We're not opposed to the idea that the Rising Star Cave witnessed precocious mortuary behaviour involving the intentional disposal of bodies by Homo naledi. But it's clear the latest inferences require further investigation before they're accepted by the broader scientific community.

WHY ARE YOUTUBE CREATOR ACCOUNTS WITH LARGE FOLLOWINGS TARGETED BY HACKERS?

The story so far:

On June 5, veteran Indian journalist Barkha Dutt said the email and YouTube channels of her digital news platform The Mojo Story were hacked by cybercriminals. Upon gaining access to the channel, the hackers deleted the videos. YouTube froze the account after receiving a complaint from the journalist. The account with all its content was later retrieved. Accounts of comedian Tanmay Bhat and YouTuber Abdu Rozik were also reportedly compromised. While the content of these YouTube channels differ, they had one thing in common — a high subscriber count. Tanmay Bhat's YouTube channel had around 4.4 million subscribers and other channels had well over 500k subscribers.

Why do hackers target YouTube content creators?

Hackers attack such accounts to demand a ransom in return, or to gain access to the accounts' audience base to distribute scam links or other malware. When hackers intend to use stolen YouTube accounts to distribute links to malicious websites or malware, they change the name, profile, and content of these channels often imitating the accounts of a larger company or well-known individuals to increase the scope of the attack. Hackers also tend to remove content from the original publisher, posting content that lures subscribers to click on malicious links shared by them.

Attackers also place restrictions or disable comments entirely on hacked channels. Conditions could include only allowing subscribers who have subscribed to the channel for 15 or even 20 years to post messages. The hackers also ensure the original owner of the channel is unable to warn subscribers in the comments.

How do threat actors hijack YouTube channels?

Hackers do not need to steal any credentials to compromise such channels. They can make use of socially engineered phishing campaigns to access and use session tokens to compromise accounts. Cookie theft or attacks to steal session tokens have been around for some time now, and are also known as "pass-the-cookie attacks", Google's Threat Analysis Group shared in a blog post.

A typical attack begins with an email, pretending to be from a genuine company to a blogger. The first email does not contain any suspicious links or files and is used to lure victims into a false sense of security by proposing product placement and collaboration opportunities. Subsequent emails are used to share zipped folders or links to a cloud service masquerading as contracts or important information. These zip folders contain malware and are often masked by Word or PDF files, along with fake forms. Malware protection software and mail servers are unable to scan these files for viruses and malware due to their large size. The virus is delivered to the victim's



system when the folder is unzipped to access the files within. The malware contained within the files is then used to steal session tokens from the victim's browsers, which in turn are used to access the victim's account. Most of the shared malware is capable of stealing both user passwords and cookies, Google said.

Hackers make use of browsers "remember" feature with the help of stolen session cookies, thereby bypassing the need for login credentials. Thus, they are able to gain control and access the victim's account without the need for credentials or two-factor authentication. Session cookies are composed of data created by a server and shared with the user's browser to authenticate the user. Cookies are stored by the users' browser and shared with the server to authenticate the user — removing the need for login credentials every time the user visits their user account.

Cloud links are similarly used by attackers to gain access to victims' session tokens to bypass the need for login credentials.

What is Google doing to stop such attacks on YouTube creators?

Google, in 2021, said it is continuously trying to improve its detection methods with tools and features that can automatically identify and stop threat actors. YouTube has also implemented features and protections to make channel transfer more stringent. Additionally, the platform has also implemented features for the auto-recovery of hijacked accounts. However, judging by the reported incidents and comments of YouTubers it seems that these measures may not be enough. YouTubers have complained that the platform does not require users to enter their password or two-factor authentication code to change profile pictures and remove all videos from the channel.

How do we improve security?

Content creators can take measures to reduce the probability of their YouTube accounts being hijacked by threat actors. Some of these measures include knowing and identifying typical signs of phishing attacks, being aware of social-engineering attacks, not following suspicious links, especially those from unverified sources, and not downloading archived attachments from untrusted sources.

CANCEL CULTURE: SPEAKING TRUTH TO POWER OR A FORM OF MOB VIGILANTISM?

Many people have come to believe that cancel culture is no longer about holding people accountable, and has instead become an online form of vicious mob intimidation. They believe that it first and foremost affects free speech

In June 2020, author J.K. Rowling posted some controversial tweets about the transgender community. There was a swift and fierce backlash against her online, especially from trans activists and fans of Harry Potter. Rowling was then promptly "cancelled". The number of calls online to stop buying her books has only grown since then, as the author has refused to change her stance. However, Rowling herself has said in interviews that she does not consider herself "cancelled," as her book sales have only shot up since the controversy erupted.

Understanding the phenomenon

'Cancel culture' is a widely used contemporary term, but without a clear-cut definition. Broadly, when any perceived wrong, whether from two minutes ago or half a century ago, suddenly comes under scrutiny from a group of people online and results in public shaming, censorship, loss of



friends and connections or even a job, it means that the person who has aired such a view has been “cancelled.” Demanding accountability from people holding such problematic views is central to cancel culture.

Those who are “cancelled” for not ascribing to a particular view or value or norm are often public figures such as Rowling. However, we are also increasingly seeing online mob attacks on those without power. For instance, in May 2020, a woman, Amy Cooper, was walking her dog in Central Park in New York when she ran into a Black man and birdwatcher, Christian Cooper. Christian asked Amy to put her dog on leash, as was the rule in Central Park. When she refused, he tried to give the dog a treat. Amy panicked, called the police, and complained that an African-American man was threatening her. Christian recorded this on video, a part of which went viral. The public backlash for calling the police on a Black man for no reason resulted in Amy getting fired from her job at an investment company. Later, Christian said in an interview that even though what Amy did was racist, she did not deserve to get laid off. His opinion, however, did not really matter: their inter-personal interaction in the park had, through the virality of the video, become a matter of scrutiny for society as a whole. Therefore, what a group of people believed was the right consequence to her actions took precedence over what Christian himself thought.

It is also significant that this incident happened at the same time as the death of George Floyd, when emotions were high on social media.

Proponents and opponents

For many people, such swift collective action has come to signify a form of social justice. The idea of cancel culture began as a tool for marginalised communities to assert their values and norms against public figures who continued to cling on to power despite wrongdoing. Since changing the inherent structural inequality of society itself is not possible for such communities, cancel culture emerged as a way to change public sentiment. Proponents of cancel culture believe that people with enormous power and clout (such as Rowling) cannot be made to get away with statements or acts that affect individuals and communities who do not enjoy such power (such as trans people).

However, many also believe that cancel culture is no longer about speaking truth to power and has become an online form of vicious mob intimidation. They believe that it first and foremost affects free speech. Second, as the goalposts of cancel culture keep changing, individuals and organisations are selectively targeted and face different degrees of outrage. While some are made to feel embarrassed for a while, others are at risk of losing their careers. Also, instead of focusing on those who discriminate against others or propagate injustice of some kind, cancel culture has become a way of shaming anyone who does not agree perfectly with a view that a person or group holds.

Third, cancel culture often signifies the lack of ability to forgive and move on. The views that people held 20 years ago may not necessarily be the views that they hold today. Fourth, cancel culture has the tendency to club all kinds of people together — a common man who did something wrong has, thanks to social media activism, sometimes been “cancelled” in the same way that a politician making a hate speech has been “cancelled.” And finally, cancel culture has led to people being constantly aggravated and frustrated with each other. They can’t seem to move beyond that, to actually initiate change of the kind they actually want to see, for public sentiment is constantly changing.



Former U.S. President Barack Obama referred to cancel culture once saying, “This idea of purity and you’re never compromised... you should get over that quickly.” In a letter published in Harper’s Magazine in 2020, a group of public figures including Margaret Atwood, David Brooks, Noam Chomsky, Francis Fukuyama, Atul Gawande, Gloria Steinem and Rowling wrote a public letter expressing concern about the trend but without referring to the term ‘cancel culture’. They said: “The democratic inclusion that we want can be achieved only if we speak out against the intolerant climate that has set in on all sides. The free exchange of information and ideas, the lifeblood of a liberal society, is daily becoming more constricted. While we have come to expect this on the radical right, censoriousness is also spreading more widely in our culture: an intolerance of opposing views, a vogue for public shaming and ostracism, and the tendency to dissolve complex policy issues in a blinding moral certainty.”

Predictably, this letter garnered criticism, with many defenders of ‘cancel culture’ saying it is simply a way of demanding accountability for statements and actions, and that the very same people who wrote this letter are perhaps afraid of their powers being increasingly questioned and their statements coming under scrutiny.

Conservatives in the U.S. have now latched onto the term ‘cancel culture’ as a cudgel to use against liberals whenever they face political adversity. Former President Donald Trump even called it a form of “totalitarianism.” While cancel culture began as a way to correct power imbalances, it is also now being used by those holding positions of power against those it intended to help.

A nebulous term

Thus, today, the meaning of cancel culture may change depending on who you ask. For some, it is a form of harassment, for some a form of justice; for some a consequence of public misdemeanour; for some a form of mob vigilantism; for some a way to demand accountability and for some an act of censorship. The truth is that it could be any of these. It often depends on your political prism, background, and importantly, the case at hand.

SENSITIVE TO TOUCH

Even without nerves, plants can sense when something touches them and when it lets go, a study has found. In a set of experiments, individual plant cells responded to the touch of a very fine glass rod by sending slow waves of calcium signals to other plant cells, and when that pressure was released, they sent much more rapid waves (Nature Plants). This study shows that plant cells send different signals when touch is initiated and ended. Within 30 seconds of the applied touch to a cell, the researchers saw slow waves of calcium ions, called cytosolic calcium, travelling from that cell through the adjacent plant cells, according to a release. Removal of the touch showed an almost instant set of more rapid waves that dissipated within a minute. These waves are likely due to the change in pressure inside the cell. Unlike animal cells with permeable membranes, plant cells also have strong cellular walls that cannot be easily breached, so just a light touch will temporarily increase pressure in a plant cell.

IN DEFENCE OF THE ANNOYING FRUIT FLY A TEST BED FOR GENETIC RESEARCH

Thousands of neuroscientists use fruit flies to study learning, memory, sleep, aggression, addiction and neural disorders – not to mention cancer and ageing, processes of development, the gut microbiome, stem cells, muscles and the heart



Fruit flies can be truly annoying when they are buzzing around your living room or landing in your wine. But we have much to thank these tiny nuisances for – they revolutionised biological and medical science.

Flies and mosquitoes both belong to Diptera, the group of insects that have only two wings (from the Greek *di* meaning two and *pteron* meaning wing). However, just as most people accept the bothersome as well as the positive traits of their friends, we shouldn't judge flies for their negative behaviour alone. We should open our eyes to their enormous economic and environmental importance, as entomologist Erica McAlister argues in her book *The Secret Life of Flies*. For example, many plants (including the cacao plant that gives us chocolate) rely on Diptera as pollinators. Or try to imagine a world without flies to decompose dead animals.

I will argue from a different angle, though, to win your respect for one specific dipteran: the fruit or vinegar fly (*Drosophila melanogaster*).

Drosophila may be smaller than a fingernail but it can be a big nuisance in summer when it hovers over maturing fruit or emerges in swarms from litter bins. The species *Drosophila* was first mentioned by German entomologist Johann Meigen in 1830 and has since earned a celebrity status among scientists. It has become the best-understood animal organism on the planet and a powerhouse of modern medical research. Ten scientists working on *Drosophila* have been awarded a Nobel Prize in physiology or medicine. Science's partnership with flies started during the early 1900s when biologist Thomas Hunt Morgan at Columbia University in New York decided to test evolutionary theories, such as how genetic mutations are linked to other characteristics, and the rediscovery in 1900 of Gregor Mendel's theories of inheritance, published 1865. Mendel remains the acknowledged father of genetics today.

Helping science

Morgan was not the first to work with *Drosophila*. But his idea to harness the fly's cheap husbandry (pieces of banana kept in milk bottles), and rapid reproduction (one generation in about ten days; about 100 eggs per female per day) would make it possible to study evolution in the laboratory. This is because it's easier to see evolutionary changes in large populations of a species with high turnover.

His mass-breeding experiments with hundreds of thousands of flies led to the discovery of a single fly with white eyes, instead of the red eyes fruit flies normally have. Morgan and his team's subsequent studies of its white-eyed progeny revealed that genes can mutate and are arranged into orderly and reproducible maps on chromosomes (a long DNA molecule). This new understanding founded the field of classical genetics as we know it. For example, it led to an understanding of how genetic disease is inherited. In the 1940s, scientists, including George Beadle and Edward Tatum, established that some gene codes for proteins can facilitate chemical reactions and produce the molecules needed in cells.

Other researchers mapped the structure of the DNA helix and deciphered the genetic code. Through these developments, long-debated questions came into focus. For example, how genes regulate complex biological processes, such as the development of an entire organism from a single fertilised egg cell.

Scientists gradually established techniques using microscopes to study *Drosophila* embryos in their tiny 0.5-mm transparent eggshells. The plethora of genetic strategies we've learned about in flies has turned into a powerful means to dissect mechanisms of fly development. Just like human



gene mutations can cause body malformations in people, fly embryos also show such defects. For example, lacking their heads or tails.

Scientists can study mutant defects, even if the eggs never hatch, which can then inform us about the normal function of the affected gene. These kinds of genetic studies of *Drosophila*, combined with emerging technologies, such as gene cloning, helped us understand how gene networks can determine the development of a body and how they can sometimes cause inherited disorders. Gene networks are a set of genes, or parts of genes, that interact with each other to control a specific cell function. In 1995, three scientists won the Nobel Prize for their contribution to this new understanding.

A startling likeness

Eventually, it emerged that the entire genomes of flies and humans showed astonishing similarities, and mechanisms or processes discovered in flies often turned out to apply to more complex organisms. Many human genes can even take over the function of their *Drosophila* equivalent when inserted into the fly genome.

The common ancestor that founded the evolutionary lines of flies and humans, half a billion years ago, appears to have been equipped with biology so well-designed that many of its aspects are still maintained, such as mechanisms of growth or neuronal function. Because we are so alike genetically, many aspects of human biology and disease have been explored first in *Drosophila*. Meanwhile, research on fruit flies is fast, cost-effective and extremely versatile. It's ideal for scientific discoveries.

Once knowledge has been gained in a fly, that knowledge can accelerate research in more complex organisms. Today, over 10,000 researchers worldwide are estimated to work with *Drosophila* in many areas of science that relate to human biology and disease. It is used by neuroscientists for studying learning, memory, sleep, aggression, addiction and neural disorders. Not to mention cancer and ageing, processes of development, the gut microbiome, stem cells, muscles and the heart. That said, flies are not mini-humans. They cannot be used to study personality loss seen in Alzheimer's disease, for example. But they can be used to study why neurons die in such diseases and bridge important gaps in our understanding of this type of disease.

Fruit flies hovering in your kitchen might be aggravating, but hopefully you will see them in a different light now.

GENETIC EVIDENCE CLEARS MOTHER JAILED FOR KILLING KIDS

For almost two decades, Kathleen Folbigg was behind bars in Australia for the death of her four children. But on June 5, Ms. Folbigg was pardoned and released after an inquiry concluded that there was "reasonable doubt as to [her] guilt ... for each of the offences for which she was originally tried," Nature reported.

The real culprit turned out to be a rare genetic mutation, evidence of which wasn't available at the time of her trial.

In 2003, a jury determined that Ms. Folbigg had killed her children – two sons and two daughters – over a decade. The trial was based on circumstantial evidence.



In 2019, Carola Vinuesa, a geneticist at Francis Crick Institute, London, and her team found that Ms. Folbigg and her two daughters had a mutation in a gene called CALM2. CALM2 encodes a protein called calmodulin that is important for heart function.

In 2020, Dr. Vinuesa and her team compiled more detailed findings and published them. The authors of this paper and other scientists rallied together and filed a petition for another inquiry, which commenced in 2022.

The three CALM genes (1-3) encode for calmodulin, which helps bind and move calcium within cells. It's also instrumental in allowing and prohibiting calcium channels to open and close in cardiac muscle cells, helping the rhythmic contraction of the heart.

The protein has also conserved its amino acid sequence across vertebrates, leading to an assumption that any mutation to the genes would be lethal. But as genome sequencing became more advanced and common, scientists found mutations in the CALM genes as well.

These mutations are extremely rare and severe. At least 27% of people carrying this mutation have died due to sudden cardiac death, according to a 2019 study.

As the family's genes were sequenced, Dr. Vinuesa found out that the two daughters carried mutations in CALM2 genes.

The resulting protein couldn't help move calcium through cardiac muscle cells. The sons carried a mutated version of a gene that encoded for a protein involved in organising the cytoskeleton responsible for maintaining cells' structure, particularly at the ends of the brain cells where neurotransmitters are released.

After Ms. Folbigg's innocence seemed plausible, researchers took the evidence to the court.

The Australian Academy of Science recommended nearly 30 researchers, at least half of whom presented evidence.

Finally, last week, the governor of New South Wales granted Ms. Folbigg an unconditional pardon.

EXPRESS VIEW ON SYNTHETIC HUMAN EMBRYOS: ALL ABOUT LIFE

Twenty years ago, actor Christopher Reeve gave a talk at the Yale School of Medicine, where he made an impassioned plea to those opposing embryonic stem cell research on ethical grounds. Reeve, who had lost the use of his limbs in an accident had become an ardent supporter of the relatively new field of study, which he believed had the potential to cure his condition. He died in 2004, too early to see the advances in stem cell research. One groundbreaking leap was announced at the International Society of Stem Cell Research's annual meeting in Boston on Wednesday. Magdalena Zernicka-Goetz, who holds professorial chairs at the University of Cambridge and Caltech in the US, announced that her team has succeeded in creating synthetic human embryos using stem cells, sidestepping the need for egg and sperm.

Zernicka-Goetz said that the primitive embryos do not have a heart or a rudimentary brain but include cells that go on to form the placenta, the yolk-sac and the embryo itself. She hopes the research will shine a light on the "black box of human development", the period before a pregnancy's progress can be detected on a scan. The stem cell-based models could provide a window to understanding cases of miscarriage and help study genetic disorders without having to use early embryos.



It's not yet clear whether these embryos have the potential to progress beyond the early stage. But last year Zernicka-Goetz's team demonstrated that stem cells from mice could be programmed into developing a beating heart and primordial brain. In a field of research that has been dogged by ethical concerns related to issues such as cloning, the new development will pose regulatory challenges. None of the animal embryos have gone on to produce living species. Even then, ethicists believe that this is the time to set boundaries — limit research to welfare such as alleviating the trauma of patients like Reeve.

TRIALS FIND A POTENTIAL DRUG TO TARGET CANNABIS ADDICTION

Animal studies and human clinical trials have found a potential new drug that could facilitate the treatment of cannabis addiction. The results were published recently in the journal *Nature Medicine*. The findings, based on data from animal models and phase 1 and 2a clinical trials, demonstrate that a newly developed inhibitor of the cannabinoid receptor (CB1) reduces cannabis' effects without triggering withdrawal symptoms.

Cannabis is the most widely used illicit drug in the world, and 19.5% of those who have used cannabis develop a Cannabis use disorder (CUD). CUD is characterised by persistent impairment, such as failing to attend to work or personal obligations, continuing to use cannabis despite problems, and an inability to cut down its use. Despite this public health concern, there are currently no treatments for CUD.

Previous research has shown that activation of the cannabinoid receptor by Tetrahydrocannabinol (THC) - the main psychoactive component of cannabis - is responsible for the behavioural effects of cannabis. Pier Vincenzo Piazza from Aelis Farma, France and the corresponding author of the study and colleagues developed a new drug that targets a mechanism that inhibits a subset of the molecular pathways activated by the cannabinoid receptor. The authors report data from preclinical proof-of-concept studies demonstrating that the drug inhibited THC's behavioural effects without disrupting normal behaviour or physiological activities in mice and non-human primates. They also report results from two phase 1 clinical trials, conducted in 64 healthy human volunteers, that show the drug to be safe and well tolerated. The authors ran a phase 2a crossover trial that involved 29 participants with CUD who received one of two different doses of the drug in a five-day phase and placebo in another five-day phase. The results indicate that the drug decreased ratings of cannabis' positive subjective effects and decreased cannabis self-administration relative to placebo, without triggering cannabis withdrawal or disrupting normal functions (such as mood, sleep, food intake) over a five-day period.

These findings suggest that the drug under investigation may have the potential to be used for treating CUD without substantial side effects. The authors, however, note that further trials are needed in larger cohorts to determine the long-term safety and efficacy of the intervention and that a three-month study in patients seeking treatment for CUD is under way.

MALE-CENTRIC MEDICINE IS AFFECTING WOMEN'S HEALTH

"If you were a young boy, I could have offered you a bouquet of medicines. Unfortunately, for both of us, you are a lovely young girl," said my daughter's neurologist, writing out her prescription. And then he began to explain the possible side-effects, some mild, some severe. Exactly three decades ago, the U.S. National Institutes of Health (NIH) Revitalization Act of 1993 mandated the inclusion of "women and minorities" in clinical trials in a bid to reduce health disparities. Yet, to date, the male model of medicine is thriving, and so is the tendency of treating women as smaller

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



men despite a growing body of research insisting on physiological differences (beyond the reproductive organs) between the sexes. The genetic and epigenetic differences between men and women are also extensively documented.

Generic drugs, trials, mental health

In India, the “pharmacy of the world”, the gender disparity in clinical trials has even bigger implications, thanks to generic drug production and consumption. It has been demonstrated in various studies that women’s bodies respond differently to the components of generic drugs.

Professor Cassandra Szoeki, Director of Healthy Ageing Program at the University of Melbourne, Australia, says that thanks to the recent inclusion of women in clinical trials for generic medicine, we now know that “nearly one-fifth of medications showed a difference in the active dose between men and women”. Women have been either overdosing, as in the case of Zolpidem, a common sleep medicine, or not getting enough, as in the case of several pain medicines, for decades now thanks to their underrepresentation in clinical trials.

It is not just about treatment but also testing and diagnosis where women have been getting a rough deal. Take, for instance, mental health. According to a study conducted in Tamil Nadu by Nobel laureates Abhijit Banerjee and Esther Duflo, along with their research partners, “26 per cent of men and 31 per cent of women aged 61-70 have symptoms indicating a high likelihood of depression”.

The study firmly notes that depression rates and the prevalence of anxiety are higher for women than for men worldwide in general. One can add to this a study on human capital conducted by Ernst R. Berndt and others that states that women with an early onset of depression “are less likely to obtain college degrees and less likely to pursue postgraduate degrees”. We see the vicious cycle of women’s underrepresentation here.

Like depression, cardiac issues are now acknowledged as having a slightly more prevalence in women. Yet, they continue to be diagnosed and treated like ‘lesser men’. Study after study demonstrates that women are less likely to receive appropriate medications, diagnostic tests and clinical procedures even in developed countries such as Canada and Sweden. The stereotype of the “hysterical woman” continues to haunt women even when they need urgent clinical interventions.

Gaps that can be linked to apathy

The exclusion of women from clinical trials and research projects addressing sex-agnostic critical illnesses such as cancer and heart disease has resulted in a limited understanding of sex-specific symptoms and responses to treatment. When it comes to sex-specific illnesses such as breast or endometrial cancers, polycystic ovarian syndrome, and pregnancy-related issues, there are serious gaps in research that can only be explained by an apathy towards “women’s only” issues. United States-based studies show that the funding received for research in migraine, endometriosis and anxiety disorders is much lower in proportion to the burden of these illnesses.

‘If men menstruated there would be several multi-million dollar projects studying cramps’ — this meme is not funny any more when you look at mortality numbers because of poor reproductive health. World Health Organization data from 2017 show that “every day about 808 women die due to complications of pregnancy and childbirth”. Almost all of these were preventable but



occurred “due to interaction between pre-existing medical conditions and pregnancy”. Pregnant women are further down the ladder of representation in clinical trials and research.

In an equitable world, women would be accepted as an individual category, with race, age and class as subcategories. And an equal amount of time and resources would be spent in finding and providing treatment and health care. How can women even aspire to have access to equal health care when their ailments are not even understood?

For India to note

India has several progressive policies with respect to women’s health including the right to abortion. It is time for policy intervention in the space of sex-specific research in medicine and the implementation of outcomes.

India’s G-20 presidency may be an opportune time to highlight this issue in alignment with Sustainable Development Goals on women’s health.

URIC ACID AND GOUT: WHERE ARE WE GOING WRONG?

DOES URIC ACID HAVE ANY FUNCTION IN THE BODY?

Uric acid is more of an immune system stimulant, is needed for endothelial functions and regulates immune responses. Basically, it works like an antioxidant. In humans, over half the antioxidant capacity of blood plasma comes from uric acid. You would find it concentrated in the liver, vascular endothelial cells and in human nasal secretions, where it acts as an antioxidant. The problem happens when its levels go higher.

WHAT HAPPENS WHEN ITS LEVELS GO HIGHER?

When the body cannot expel excess levels of uric acid into the bloodstream, it crystallises and settles in common joints, mostly the big toes, ankles, wrists, knees, smaller joints and even elbows. That’s why you experience body aches all over and get inflammatory conditions like gout.

Elevated levels of uric acid cause the formation of kidney stones, which can damage the organ if left untreated. Even if it doesn’t form stones, it can still damage the kidneys. High uric acid can lead to the development of hypertension and once you control it, you can manage your blood pressure levels well and reduce the risk of heart attacks, disease and stroke. In fact, high levels of uric acid, with co-morbidities like high cholesterol, diabetes, abdominal obesity and obstructive sleep apnea, can lead to complications.

WHAT IS THE NORMAL RANGE OF URIC ACID?

Normal values range between 3.5 to 7.2 milligrams per decilitre (mg/dL). It is usually 6 for women, 7 for men and does not require medication unless you develop gout, kidney stones. But medication is a must if your figures are higher than 9.

WHAT ARE THE RISK FACTORS OF URIC ACID?

Though there could be some genetic predisposition towards uric acid pile-up, the most important reasons have got to be diet and alcohol.

Diet and alcohol: Since uric acid is formed as a result of the breakdown of a compound called purine, one has to watch out for foods that come enriched with it. High purine foods are mostly

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



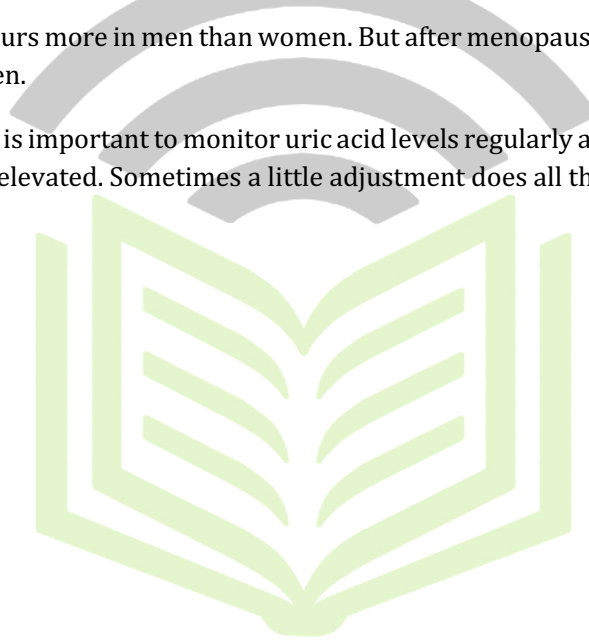
animal derived, be it red meat, organ meats and seafood which includes anchovies, sardines, mussels, scallops, trout and tuna. In alcohol, beer and whiskey contribute the most to purines, wine is the least. Avoid sweetened carbonated beverages and fructose corn syrup for the same reason. All of these interfere with the body's ability to expel uric acid. For a long time, most advisories also asked patients to stay away from purine-rich plant foods like spinach, beans, peas, and tomatoes but latest research shows that their contribution to raising uric acid levels in the bloodstream is negligible. In fact, wholegrains, legumes, fruits, fibrous food, coffee and vitamin C have been known to have a protective effect.

Weight: Being overweight or obese can contribute to elevated uric acid levels.

Medication: Certain medicines increase uric acid like the TB medicine Pyrazinamide, diuretics, BP medication, angiotensin-converting enzyme (ACE) inhibitors and beta blockers.

Age and sex: Gout occurs more in men than women. But after menopause, women's uric acid levels approach those of men.

Just remember that it is important to monitor uric acid levels regularly and to take steps to manage them if they become elevated. Sometimes a little adjustment does all the trick.



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