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DreamIAS



INTERNATIONAL

5 TAKEAWAYS FROM DONALD TRUMP'S KEY ADMINISTRATIVE APPOINTMENTS

Over the past week, United States President-elect Donald Trump has made several appointments in his incoming administration, including filling 10 Cabinet-level positions.

His choices reflect the lessons he has learnt from his first term in the Oval Office, his determination to build an administration in his own image, and the unparalleled premium he places on personal loyalty.

As Team Trump takes shape, here are some key takeaways.

01 Loyalty above all else

Trump has tapped his staunchest allies and well-wishers for the positions he considers the most important, regardless of their past experience or qualifications for the job.

The standout example is Trump's choice of Pete Hegseth, a military veteran and an ultraconservative Fox News host who has been his die-hard supporter and advocate, as Secretary of Defence.

Hegseth, 44, will be the youngest ever in the post. With no previous experience in administration at any level, he will be in charge of the world's most powerful military, comprising some 2.3 million personnel, with an annual operating budget of \$ 900 billion.

Former Democratic Representative Tulsi Gabbard, who has been tapped to be Director of National Intelligence, has no previous experience in national security and intelligence positions – even though she has served for long in the Army National Guard.

02 Lessons from Trump 1.0

Analyses by The New York Times and the Financial Times noted that Trump appears to have learnt lessons from his 2017-21 term, during which he, still an outsider to Washington, made more conventional appointments from the Republican policy establishment. These appointees, The New York Times said, were often “too independent” for him.

In picking Hegseth, Gabbard, and Matt Gaetz (for Attorney General), Trump has targeted the three pillars of the so-called “deep state” that frustrated him the most in his first term – the Pentagon, intelligence agencies, and the Department of Justice.

Appointees to these posts in Trump 1.0 either resigned or were fired after fundamental disagreements with Trump, including a refusal to help legitimise his presidency and overturn the results of the 2020 election.

This time, Trump has a “much better understanding of how power works in the White House and a better sense of whom to trust,” The NYT said.

03 Eye on legal cases

The appointment of Gaetz, 42 – the subject of a now-dropped federal sex-trafficking investigation and a House Ethics Committee inquiry, and the architect of a far right revolt that ousted the



Republican Speaker Kevin McCarthy – is key in the context of the legal challenges that the President-elect continues to face.

A pliant head of the Department of Justice could simply dismiss the two federal cases against Trump (related to the January 6, 2021 Capitol attack and his handling of confidential documents after he left the White House), without putting the President in a situation in which he has to pardon himself.

Gaetz has been a strong critic of the DOJ and FBI, organisations that he will, if confirmed by the Senate, head as America’s top law enforcement officer.

04 unease among Republicans

Most of Trump’s appointments will have to be confirmed in the Senate, which will be under Republican control come January.

Several Republican leaders are said to be unhappy or uncomfortable with Trump’s choices, and almost all American media organisations have reported their surprise and disappointment. Gaetz’s confirmation, especially, is said to be up in the air, given that he is disliked by a number of both Democrats and Republicans.

Given the mandate Trump has got from American voters, however, most Republican Senators will likely fall in line. The only Republican Senator to have broken publicly from Trump’s choice so far has been Susan Collins of Maine, who has specifically questioned the choice of Gaetz.

Trump, on his part, has hinted that he wants to make “recess appointments”, which would bypass hearings in Congress.

05 More effective term likely

Trump seems likely to be far more effective in furthering his political agenda in his second term than he was in his first. With a cabal of ardent loyalists backing him, and a massive mandate that has seen Republicans take control of both the House and Senate apart from the White House, there is seemingly very little that could thwart his legislative agenda.

He is also likely wiser from his previous experience as President, and might be better able to control some natural impulses of his personality that commentators have repeatedly flagged as hurting his own objectives. A presidency of radical change is likely for the US and the world.

VACCINE SCEPTIC ROBERT F. KENNEDY JR. TO HEAD U.S. HEALTH DEPARTMENT UNDER TRUMP

Donald Trump on Thursday tapped anti-vaccine activist and conspiracy theorist Robert F. Kennedy Jr. as his Secretary of Health in the latest provocative nomination from the incoming Republican president.

“We want you to come up with things and ideas and what you have been talking about for a long time and I think you are going to do some unbelievable things,” Mr. Trump told Mr. Kennedy Jr. during an event at his Mar-a-Lago resort in Florida on Thursday evening.



Mr. Kennedy, a scion of the famous political family who is popularly known as RFK Jr., is a longtime environmental campaigner who abandoned a fringe bid for the presidency to endorse Mr. Trump against Democratic candidate Kamala Harris.

Mr. Trump had said previously he wanted Mr. Kennedy to “go wild” in changing healthcare and the two campaigned together promising to “Make America Healthy Again.”

Hollywood A-lister Sylvester Stallone, who was among the attendees of the Mar-a-Lago event, told the audience, which included Tesla CEO Elon Musk, that Mr. Trump was a “mythical character.” Mr. Trump joked that he could not get Mr. Musk out of his Mar-a-Lago resort.

TRUMP’S IMMINENT TRADE WAR, AND WHAT INDIA MUST WATCH FOR

Robert Lighthizer, a staunch protectionist and an architect of the tariff battles of Donald Trump’s first term, might once again lead the President-elect’s pursuit of his frequently cited trade goals of reciprocal market access.

- Trade economists suggest that while China and its “cheap” exports might be Trump’s primary target, it is in New Delhi’s best interests to advocate for reform at the World Trade Organization (WTO), and play an active role in preserving a rules-based trade order to safeguard future growth.
- Lighthizer has long argued that the United States’ liberal trade policies—pursued after the collapse of the Soviet Union in 1989 with the hope of spreading free-market capitalism globally—are misguided. He believes that while free trade enables easier imports and boosts corporate profits, it leads to job losses that ultimately harm local communities.
- Having spent decades helping manufacturing companies in the US seek tariff protection against unfair competition, the former attorney also believes that the WTO has become detrimental to American interests by restricting the country’s sovereign right to protect its industries through tariffs.
- In 2019, he effectively disabled the WTO’s dispute settlement body by blocking the appointment of judges necessary to achieve quorum. This allowed Trump to impose tariffs on countries without repercussions from the apex trade body.
- Abhijit Das, an expert on international trade and former head of the Centre for WTO Studies at the Indian Institute of Foreign Trade (IIFT), said that Trump’s second term could see a ramp-up of actions violating WTO rules, and that tariff retaliation might be India’s only effective means of responding to any additional taxes imposed by the US. This approach proved successful when India raised tariffs on US agricultural products in response to US tariffs on steel and aluminium. A settlement was reached under the Joe Biden administration.

Do You Know:

- **C. Raja Mohan writes**—“Five themes of concern for India stand out from Trump’s worldview.
 1. First is Trump’s plan to “dismantle the regulatory state,” dramatically downsize the bureaucracy, and make it easier for US capital to invest and develop new technologies.
 2. Second, Trump is determined to re-industrialise America. He has argued repeatedly that globalisation has played havoc with US manufacturing and the industrial working class.



3. Third, immigration has been one of the issues that has propelled Trump to his historic political comeback in this election. Although his anti-immigration rhetoric has caused much concern in India, Trump has sought to differentiate between “legal” and “illegal” immigration....India will have a deep interest in contributing to the US debate on separating the “bad” immigration from the “good”.

4. Trump’s relationship with China and Russia will be of special interest to Delhi. It was under the first Trump administration that the Quadrilateral framework was revived in 2017. There is no reason to expect that the second would dilute its commitment to limit Chinese power in Asia and the Indo-Pacific.

5. Finally, the Biden years have seen a significant expansion of defence and high technology cooperation between Delhi and Washington. Sustaining and expanding this under the Trump Administration will be a key priority for Delhi.

HOW WILL TRUMP TREAT ILLEGAL INDIANS?

The story so far:

On October 22, the Department of Homeland Security (DHS) flew a “large-frame charter removal flight” to repatriate Indian nationals “who did not establish legal basis to remain in the United States.” Royce Murray, assistant secretary for Border and Immigration Policy at the DHS, said the U.S. had repatriated over 1,100 Indian nationals in the previous fiscal year.

Why were the Indians repatriated?

The U.S. officials maintain that they want to deter “irregular migration” to the U.S. from India among other countries, and that the charter flight was in addition to the regular removals that the Immigration and Customs Enforcement department carries out through commercial flights. The flight was aimed at showcasing the strong will of the then poll-bound Joseph Biden administration to enforce immigration laws and deliver “tough consequences for those who enter unlawfully.”

What are the ways in which irregular Indian immigrants try to enter the U.S.?

Indians who try to enter the U.S. unlawfully generally try to use the southern U.S. border with Mexico and the Canada-U.S. border in the north. The pressure is more on the Mexico-U.S. border as several Latin American or central American countries like Honduras, El Salvador and Guatemala are known to provide visa-free entry to U.S.-visa holding Indians for a period of time. Using this facility, some people try to stay for extended periods of time in these countries that are known for their porous borders and easy travel to the Texas border by using dangerous human trafficking agents and organisations. India has a large number of agreements for visas with these countries that allow for extended stays for Indian citizens. For example, Peru is among those that waives visa requirement for Indian nationals for business and tourism purposes for one or more stays totalling up to 180 days per year, provided that they hold permanent residence or a visa valid for a minimum of six months for Australia, Canada, U.K., the U.S., or any Schengen country.

From which States is there a high rate of irregular immigration?

The latest flight from the U.S. that carried the Indian nationals landed in Punjab, an U.S. official told the media, indicating that most of the people on board that special flight hailed from Punjab. The Hindu had reported in November 2023 that from November 2022 to September 2023, a



record number of Indians — 96,917 — were arrested while crossing illegally into the U.S., according to U.S. Customs and Border Protection (UCBP) data. The number of Indians trying to enter the U.S. has witnessed a five-fold rise since 2019. Available data indicates that Gujarat has been supplying half of the total illegal immigrants trying to enter the U.S. There have also been several instances of deaths of people while trying to cross the border. In a well-documented case, a family of four — Jagadish Patel, Vaishaliben Patel and their two children, Vihangi and Dharmik, froze to death as they tried to cross from Canada into the U.S.

What is meant by lawful immigration to U.S.?

There are various legally accepted processes through which Indian citizens immigrate to the U.S. Every U.S. fiscal year (October 1 to September 30) around 1,40,000 employment-based immigrant visas are made available to qualified persons under the provisions of U.S. immigration law. Employment-based immigrant visas fall into five “preference categories”. In certain cases, spouses and children are allowed to join the applicant. The professionals who fall in the first three categories are persons with extraordinary ability in the sciences, arts, education, business or athletics, outstanding professors and researchers with adequate experience, multinational managers and executives. Professionals holding advanced degrees and persons of exceptional abilities can also apply for immigrating lawfully to the U.S. Skilled workers, professionals and unskilled workers who can fill positions after two years of training also fall in this range. The fourth category is ‘Certain Special Immigrants’ that includes professionals who work with broadcast media in the U.S., certain employees or former employees of the U.S. government as well as people from conflict zones like Iraq and Afghanistan (translators/interpreters). The fifth category includes investors who can launch foreign commercial enterprises in the U.S.

President-elect Donald Trump, who is known to have used expressions like “poisoning the blood” on the issue of immigration, has not targeted Indians. In fact, during the closing part of his campaign, he even spoke for protection of the Hindu minority community in Bangladesh which appealed to Indian-origin voters in the U.S. That apart, Vice-President-elect J.D. Vance’s wife Usha Chilukuri Vance is of Indian origin. The greater part of his focus on immigration has been turned towards the cross-border flow from Latin American countries. However, anti-immigration measures under him will be uniformly implemented and is likely to hit Indian immigrants too.

What was Trump’s policy on immigration during his first term?

During his first stint (2017-2021), President Trump had increased the rate of denial of H1B visas to Indian professionals. Mr. Trump had issued a “Buy American and Hire American” executive order on April 18, 2017. Subsequently, the Foreign Affairs Manual included a directive to consular officials to keep the executive order in view while deciding on granting of a visa. According to U.S. Citizenship and Immigration Services (USCIS), under President Trump, denial of H1B visa for initial services grew rapidly from 13% in 2017 to 21% in 2019. There were also allegations that U.S. consular officials were making it extremely difficult for Indian companies to transfer employees from India to the U.S. under the L1 visa category. During his first term, Mr. Trump had given the slogan of ‘Build the Wall’ in the southern border of the U.S. with Mexico. In the just-concluded presidential election, he focused on stopping illegal immigration and deporting foreigners who are staying in the U.S. illegally — the number being touted to be in the region of 11 million. Mr. Trump has delivered a series of speeches on how he plans to deal with this problem which is presumed to affect the job market in the U.S. He has declared that the National Guard will be deployed to deport illegal overstayers and that he might even invoke the 1798 Alien Enemies



Act. However, there is little clarity about how Mr. Trump would address immigration-related concerns that his supporters have displayed during the campaign.

In addition, his anti-immigrant stance will clash with the economic policy of his tech czars who want to access the Indian market. It will be ironical if the Trump presidency opposes the entry of people from markets favoured by Trump-friendly business tycoons.

POLITICAL MELTDOWN

The collapse of German Chancellor Olaf Scholz's coalition in Germany last week has plunged Europe's largest and a recession-affected economy deeper into crisis. The three-way coalition, involving Mr. Scholz's Social Democrats, Greens and pro-market Free Democratic Party, was struggling for the past year to put up a united face amid public differences. As the economic crisis worsened, differences on a recovery also deepened, leading to Chancellor Scholz sacking his Finance Minister, Christian Lindner of the Free Democrats. While the Social Democrats and the Greens supported more borrowing and public spending to modernise and support industry and a shift towards environmental energy, Mr. Lindner advocated lower taxes and austerity measures. After Mr. Lindner's firing, his party colleagues quit the government. Infighting and economic challenges had already turned the government unpopular. All three parties in the coalition lost support in recent months, while the Conservatives and the far-right Alternative for Germany (AfD) saw a surge in opinion polls. Now that he has lost parliamentary majority, Mr. Scholz will have to depend on opposition parties to pass key policy measures, including the budget for 2025, through the Bundestag.

Mr. Scholz has so far resisted calls to face a vote of confidence quickly. Reports are that his plan is to run a minority government for a few more months. The Social Democrats say a collapse of the government at a time of multiple challenges would leave the country rudderless. But Mr. Scholz clinging on to power, heading an unpopular, minority government, is unlikely to resolve any of Germany's critical problems. The continuing war in Ukraine has hurt the German economy, which is set to contract for a second consecutive year. The country has also seen a large influx of migrants in recent years — over six million in a decade — which the far-right AfD has used to trigger panic in society and drum up support for itself. And the return of Donald Trump, who is sceptical of American support for Ukraine and NATO's role in general, is also a concern for Berlin. What Germany has to do is to bring in a decisive shift in its Ukraine policy, focusing on bringing the war to an end at the earliest through talks. And it should also take measures to pump-prime the economy and have policies to address the immigration challenge in a humanitarian fashion. Mr. Scholz, as a lame-duck Chancellor, is unlikely to take any decisive measure. What he can do is to face a vote of confidence immediately and prepare the country for snap elections.

A RESOUNDING VICTORY

It is an unambiguous and resounding mandate for the Janatha Vimukthi Peramuna (JVP)-led National People's Power (NPP), a coalition that includes civil society groups and trade unions, in Sri Lanka's just-concluded parliamentary election. The election has demonstrated the NPP's growing appeal among all sections, who had in 2022, frustrated with economic hardships and the old political establishment, thrown out what they despised as a corrupt regime. Having elected JVP chief Anura Kumara Disanayake as the country's President in September, the people have now provided the ruling alliance with a hard-to-get over two-thirds majority. The NPP, which has secured 141 seats, with around 6.87 million votes in 196 seats, bagged 18 more seats under the



system of proportional representation, giving it 159 seats in total in the 225-member legislature. The NPP has accomplished what former President Mahinda Rajapaksa could not get in the 2010 poll after the LTTE's defeat.

The significance of the poll also lies in the extent and geographic span of the NPP's victory. It has been a remarkable show in Jaffna and Vanni in the Northern Province, that is home to Tamils and the stronghold of the Illankai Tamil Arasu Kadchi. Except for Batticaloa, the NPP emerged the top party in the east, with its sizeable population of Muslims, and in the Central Province's Nuwara Eliya district, with its majority hill-country Tamils. In its vote share, island-wide, the coalition outperformed Mr. Dissanayake, who touched the 50% mark only in four electoral districts in the September poll. The rise of the coalition, from three seats with 3.84% vote share in 2020, to a super majority now, is remarkable. The political calculations of Mr. Dissanayake, who called for a poll within days of assuming office, have paid off, as the Opposition did not put up a fight. Though Sajith Premadasa's Samagi Jana Balawegaya remains the principal Opposition party in Parliament, its vote share has dropped considerably. The parties backed by two former Presidents, Ranil Wickremesinghe and Mr. Rajapaksa, have performed miserably. While voters have spared Mr. Dissanayake the compulsion of seeking allies to pursue his reform agenda, he should still consult all sections. His promises at the time of the presidential poll, such as the abolition of executive presidency, a new Constitution, and the repeal of oppressive laws, cannot be fulfilled merely with support in the legislature. The big takeaway from the November 14 poll is that the country has voted for decisive change that it sought from the time of the citizen's uprising in 2022. Mr. Dissanayake, at the commencement of his innings, described the unity of Sinhalese, Tamils, Muslims, and all Sri Lankans as the bedrock of the new beginning. He can now build on this unity.



DreamIAS



NATION

HOW WILL SDS VISA MOVE HIT STUDENTS?

The story so far:

In a significant development, the Canadian government announced the discontinuation of the Student Direct Stream (SDS) visa in November 2024. This decision has far-reaching implications for Indian students, who have historically been one of the largest groups of international students in Canada. In 2022, India accounted for over 21% of all international students in Canada, with a staggering number of 222,450 Indian students choosing to study in Canadian institutions. Over 189,000 Indian students opted for the SDS visa that year, which significantly simplified their application process. For instance, while non-SDS applicants had an approval rate of 19%, SDS applicants enjoyed a 63% approval rate.

What is the Canadian SDS visa?

The SDS visa, introduced in 2018, was a streamlined pathway designed to expedite the study permit application process for Indian students. It offered a faster processing time and reduced application fees, making it a popular choice among Indian students aspiring to pursue higher education in Canada. However, it also served students from other countries, including Antigua and Barbuda, Brazil, China, Colombia, Costa Rica, Morocco, Pakistan, Peru, Philippines, Saint Vincent and the Grenadines, Senegal, Trinidad and Tobago, and Vietnam. The SDS visa was specifically tailored to offer several key benefits to international students.

One of the primary advantages was its significantly reduced processing time. By meeting specific eligibility criteria, such as a higher level of English language proficiency and a confirmed admission to a Designated Learning Institution (DLI), students could expect a quicker decision on their study permit application.

The SDS visa also offered a lower application fee than the standard study permit, which significantly reduced the financial burden for many international students.

It simplified the application process by requiring fewer supporting documents. By adhering to the specific eligibility requirements, students could submit a more streamlined application, making it easier to navigate the immigration process.

Why was the SDS visa discontinued?

The Canadian government's decision to discontinue the SDS visa program was driven by a combination of factors aimed at addressing various challenges and concerns within the immigration system.

On his X handle on September 19, Canadian Prime Minister Justin Trudeau said, "We are granting 35% fewer international student permits this year. And next year, that number is going down by another 10%. Immigration is an advantage for our economy — but when bad actors abuse the system and take advantage of students, we crack down." This refers to international applicants who applied for the SDS as an excuse to take a simple diploma course, hardly worth going abroad for, with their ultimate goal being to apply for permanent residency.



While the official reasons cited by the government focused on “strengthening program integrity, addressing student vulnerability, and giving all students equal and fair access to the application process,” several underlying factors likely contributed to this decision. Canada has been grappling with a significant housing shortage, particularly in major cities such as Toronto and Vancouver, and the rapid influx of international students, many of whom rely on off-campus housing, has exacerbated this issue. The increasing number of international students has also placed a strain on public services and infrastructure, including healthcare, education, and transportation.

The Canadian government may be reassessing its immigration policies to better manage the inflow of foreign students and ensure they contribute positively to the Canadian economy.

By discontinuing the SDS visa, the government aims to regulate the number of international students, alleviate pressure on housing and resources, and implement a more equitable approach to student visa processing.

How does the discontinuation affect Indian students?

The discontinuation of the SDS visa has undoubtedly had an impact on Indian students seeking to pursue higher education in Canada and has introduced a host of challenges.

One of the most immediate consequences of the SDS visa’s discontinuation is the prolonged processing time for student visa applications. Before the SDS visa, the average processing time for student visas was significantly longer. With the removal of this expedited pathway, Indian students can expect to wait for a more extended period. This delay can disrupt academic plans and cause significant inconvenience.

Additionally, the discontinuation has led to increased application fees. While the exact fee structure may vary, it is generally higher for standard student visa applications than the SDS visa. This additional financial burden can be a considerable challenge, especially for students from lower-income backgrounds.

Furthermore, the application process for standard student visas is more complex and rigorous than the SDS visa. Students are required to submit a wider range of documents, including proof of funds, language proficiency test scores, and detailed study plans. The increased complexity can be overwhelming and time-consuming, potentially leading to errors and delays.

The direct impacts of the SDS visa’s discontinuation have far-reaching indirect consequences for Indian students. Potential delays in study plans can disrupt academic progress and career aspirations. Students may have to defer their admissions or explore alternative study destinations, which can impact their overall educational journey.

Moreover, this has created uncertainty about future immigration opportunities. The SDS visa was often seen as a stepping stone towards permanent residency in Canada. With this pathway no longer available, Indian students may face increased challenges in securing post-study work opportunities and ultimately immigrating to Canada.

Experts and stakeholders have expressed concerns about the discontinuation and its potential impact on Indian students. Immigration consultants and education advisors have highlighted the increased processing times, higher application fees, and stricter eligibility criteria associated with the regular student visa process.



Social media platforms have been abuzz with discussions, with many students expressing frustration and uncertainty about their study plans. One student, commenting on a popular education forum, lamented, “The SDS visa was a game-changer. It made the application process much smoother. Now, with its discontinuation, I’m worried about potential delays and increased costs.” While the Canadian government has cited concerns about program integrity and equitable access, critics argue that the decision may deter talented Indian students from choosing Canada as their study destination.

What other options do Indian students have?

While the discontinuation of the SDS visa has presented challenges for Indian students, seeking to study in Canada, there are still viable alternative visa options available. The traditional student visa remains a primary pathway for international students, including Indians. By meeting the eligibility criteria, such as proof of funds, language proficiency, and a Letter of Acceptance from a DLI, students can apply for a student visa.

However, it is important to note that the standard student visa application process can be more time-consuming and requires a more comprehensive documentation package compared to the SDS visa. Additionally, students may face longer processing times and increased application fees.

To enhance their chances of visa approval, Indian students should carefully plan their applications, submit all required documents on time, and consider consulting with immigration experts to navigate the complexities of the process.

The longer processing times, higher fees, and more complex application procedures have created significant hurdles. The indirect consequences, such as delayed study plans, increased financial burden, and uncertainty about future immigration opportunities further compound the challenges faced by Indian students.

For Indian students considering studying in Canada, it is crucial to plan ahead and prepare thoroughly. Early application is key, as it allows ample time for processing and addressing any potential issues. Thorough documentation is essential to meet the stringent requirements of the regular student visa process.

While the discontinuation of the SDS visa has presented challenges, it is important to remain hopeful for future changes or the introduction of alternative streamlined pathways for international students.

As the Canadian government continues to evolve its immigration policies, new opportunities may arise for Indian students. By staying informed and taking proactive steps, Indian students can navigate the complexities of the Canadian immigration system and achieve their academic and career goals.

WHY DELHI MUST REACH OUT TO JAKARTA

“Despite a shared history, India has neglected its eastern neighbours over the past six decades. On October 20, a vital maritime neighbour, Indonesia, saw a potentially climactic power transition. The avowedly nationalist Prabowo Subianto succeeded the affable Joko Widodo as president, with the latter’s son Gibran Rakabuming Raka providing continuity as vice president.”



- “China is the first country President Prabowo is visiting, despite a Chinese coast guard ship having intruded into Indonesian waters on October 26. Prabowo’s relations with the US remain wary because of his human rights record. India must embrace President Prabowo before yet another key neighbour joins the Sinosphere despite Indonesian wariness about China’s overbearing business and geopolitical influence.”
- “Sukarno hosted the Bandung Conference in April 1955 which was to flower into the Non-Aligned Movement that India and Indonesia were instrumental in creating.”
- “Indonesia’s mineral-rich economy is among the world’s largest exporters of thermal coal, rubber, palm oil, nickel (vital for EV batteries) and tin, and a significant exporter of natural gas. This makes it naturally complementary to India’s expanding manufacturing sector. Opportunities for deeper cooperation exist for India’s service professionals to help Indonesia reduce its business costs.”
- “Indonesia’s turbulent modern history shouldn’t obscure the deep civilisational links that bind our two nations. The Arjuna Wijaya statue (depicting Arjun and Krishna) built by Suharto at Jakarta’s Merdeka (Independence) Square symbolises the depth of those links. Let us embrace President Prabowo, and deepen the natural links with ASEAN’s largest nation before it too falls (like Myanmar) into China’s lap through our benign neglect.”

BANGLADESH TO SEEK INTERPOL HELP TO REPATRIATE SHEIKH HASINA

Bangladesh’s interim government on Sunday said it will seek Interpol’s assistance in repatriating deposed prime minister Sheikh Hasina from India, and other “fugitives”, to face trial for alleged crimes against humanity.

- Hasina and her party leaders face accusations of ordering brutal suppression of the Anti-Discrimination Students Movement, resulting in numerous casualties during the July-August protests. The movement later intensified into a large-scale uprising, forcing Hasina to secretly flee to India on August 5.
- According to the interim government led by Chief Adviser Muhammad Yunus, at least 753 people were killed and thousands injured during the protests, which it termed crimes against humanity and genocide. Over 60 complaints of crimes against humanity and genocide have been filed against Hasina and her party leaders with the ICT and the prosecution team till mid-October.
- However, Chief Adviser Yunus in an interview with the UK-based Financial Times newspaper last month said his government would not immediately seek Hasina’s extradition from India, an approach seen as preventing diplomatic tensions between the two countries.
- Officials said a Red Notice is not an international arrest warrant, but rather a global request for law enforcement agencies to locate and provisionally arrest a person pending extradition, surrender, or similar legal action.

- Interpol member countries enforce Red Notices according to their own national laws.

Do You Know:

- **Interpol Red Notice:** Criminals or suspects often flee to other countries to evade facing justice. An Interpol Red Notice alerts police forces across the world about fugitives who are wanted



internationally. Interpol describes an RN as “a request to law enforcement worldwide to locate and provisionally arrest a person pending extradition, surrender, or similar legal action”.

- Red Notice (RN) contains information that helps identify wanted persons, such as their names, dates of birth, nationality, and physical attributes such as the colour of their hair and eyes, as well as pictures and biometric data such as fingerprints, if they are available. RNs also mention the crime(s) they are wanted for.
- India and Bangladesh have deep-rooted bonds of history, language, culture, and many other commonalities. The exceptional nature of their bilateral ties is reflected in a comprehensive partnership based on sovereignty, equality, trust, and understanding. India was one of the first countries to recognize Bangladesh and establish diplomatic relations immediately with it in December 1971.

CAN AMU FINALLY CLAIM A ‘MINORITY’ STATUS?

The story so far:

In a narrow 4-3 majority verdict, the Supreme Court on November 8, overturned its 1967 ruling in *S. Azeez Basha versus Union of India*, which had previously served as the basis for denying Aligarh Muslim University (AMU) its minority institution status. The majority verdict was penned by former Chief Justice of India (CJI) D.Y. Chandrachud and endorsed by Justices Sanjiv Khanna, J.B. Pardiwala, and Manoj Misra. Justices Surya Kant, Dipankar Datta and S.C. Sharma dissented.

What is a ‘minority institution’?

Article 30(1) of the Constitution guarantees religious and linguistic minorities the fundamental right to establish and manage educational institutions of their choice. Article 30(2) further mandates that the state must ensure “equality of treatment” in granting aid to all educational institutions, regardless of their minority status. Notably, such institutions enjoy greater autonomy than most others. Under Article 15(5), they are exempt from providing reservations for Scheduled Castes and Scheduled Tribes, and may reserve up to 50% of seats for students from their own community. In the landmark *T.M.A. Pai Foundation (2002)* case, the Supreme Court clarified that a ‘minority’ status should be determined based on the demographic composition of the concerned State, rather than the national population.

What is the background of the case?

In 1875, Muslim reformer and educationist Sir Syed Ahmed Khan established the Muhammadan Anglo-Oriental (MAO) College in Aligarh to offer modern British education rooted in Islamic values to Muslims. In 1920, the Aligarh Muslim University Act (AMU Act) was passed, incorporating MAO College and the Muslim University Association into AMU. Under Section 23 of the Act, only Muslims were permitted to be members of the university’s governing body, known as the Court. While the institution primarily catered to Muslims, students from other religious communities were also admitted. In 1951, this mandate for Muslim-only representation on the Court was abolished. A subsequent amendment in 1965 redistributed the Court’s powers among other administrative bodies, with provisions allowing the President of India to nominate members to it.

In 1967, the Supreme Court, in *Azeez Basha*, upheld the amendments to the Act, reasoning that AMU was neither established nor administered by the Muslim minority since it had been



established through central legislation. This decision sparked widespread protests, ultimately leading to an amendment of the AMU Act in 1981, which officially recognised the university's minority status.

In 2005, the university introduced a policy reserving 50% of seats in its postgraduate medical courses for Muslim students. This was subsequently challenged before the Allahabad High Court which struck it down on the ground that the university did not qualify as a minority institution as per the Azeez Basha ruling.

In 2006, a two-judge Bench of the Supreme Court stayed the reservation policy and referred the case to a larger Bench.

In 2019, a three-judge Bench headed by former CJI Ranjan Gogoi referred the Azeez Basha decision for reconsideration by a seven-judge Bench.

The matter stayed in limbo till October 2023 when CJI Chandrachud constituted a seven-judge Bench to hear it.

What did the majority rule?

Justice Chandrachud, in an expansive interpretation of Article 30, affirmed that educational institutions established prior to the adoption of the Constitution are equally entitled to the protections granted under Article 30(1). He clarified that statutory enactments conferring legal recognition or status upon such institutions do not compromise their minority character, provided their foundational purpose was “predominantly” aimed at benefiting the minority community.

The majority verdict further emphasised that an institution does not forfeit its minority character simply because its administration is no longer vested with the community. The judges reasoned that founders or the minority community might appoint individuals from outside the community to helm the administrative affairs, particularly if the institution seeks to focus on secular education. “This may be the case for professional colleges which offer specialised courses such as law, medicine, or architecture, where the founders may not possess the knowledge, experience, or insight necessary to manage or administer the institution personally,” they added.

Accordingly, the majority overturned the longstanding Azeez Basha ruling, asserting that treating legal formalities for recognition or degree conferral as grounds to nullify an institution's minority status would constitute a breach of fundamental rights. However, Justice Chandrachud clarified that the onus rests on the concerned religious or linguistic minorities to demonstrate that the educational institution was primarily established for the benefit of their community to qualify for protection under Article 30(1). He pointed out that such an assessment of the “brain” behind an institution's creation could be conducted through a comprehensive review of documents, correspondence and historical records.

Dismissing the Centre's contentions, the judges further declared that recognising an institution as one of national importance does not inherently diminish its minority character, as the national and minority attributes are “not at odds with each other nor mutually exclusive.” They also refused to assign any weight to either the provision of religious instruction or the prominence of religious buildings, such as the St. Stephen's College church or AMU mosque, in determining an institution's minority status.



What do the dissenting opinions state?

Justice Kant primarily differed from the majority on procedural grounds, arguing that the two-judge Bench in Anjuman-e-Rahmaniya versus District Inspector of Schools (1981), which had initially questioned the precedent set by a five-judge Bench in Azeez Basha, overstepped its jurisdiction by referring the matter directly to a seven-judge Bench. He reasoned that this undermined the Chief Justice's authority as the "master of the roster."

While concurring with Justice Kant on procedural impropriety, Justice Datta questioned the legitimacy of AMU's minority status, asserting that conferring such recognition after nearly a century would amount to "historical revisionism." Notably, he critiqued the lack of constructive discussions among the judges on the Bench, revealing that the draft opinions from Justice Chandrachud — later forming the majority judgment — were received late and underwent frequent revisions. In a likely reference to the majority ruling, Justice Datta remarked that judges should refrain from disregarding long-standing precedents in favour of judicial activism.

Justice Sharma too concluded that initial support from a minority community does not automatically grant an institution minority status, particularly if the actual control vests with the government.

What happens next?

A regular Bench, assigned by CJI Sanjiv Khanna, will now reevaluate AMU's minority character based on criteria set by the majority without being constrained by Azeez Basha. Meanwhile, the stay on the university's 2005 reservation policy will persist until a final determination is made.

This reassessment is likely to have far-reaching implications for AMU's autonomy, its authority to reserve seats for Muslim students, and the broader discourse on minority rights in India.

HOW SIR SYED COLLECTED FUNDS FOR HIS AMU DREAM

"At the Aligarh Numaish (exhibition), an event started by the British that evolved into a major socio-cultural affair over the years, on February 6, 1894, Sir Syed Ahmad and his group of friends took the stage to recite ghazals and act in a play. Proceeds from their performance were earmarked for the development of the Muhammadan Anglo-Oriental (MAO) College, founded by the Muslim scholar, to further the cause of the community's education in the country."

- "In 1920, two decades after Sir Syed's death on March 27, 1898, MAO College would become Aligarh Muslim University (AMU). Over a century later, on November 8 this year, the Supreme Court underlined that the determination of the "minority character" of an institution is not a rigid concept and, in a narrow 4-3 majority verdict, overruled its 1967 ruling that had held that AMU was not a minority institution."
- "The university traces its origin to the founding of the Madrasatul Uloom in Aligarh by Sir Syed on May 24, 1875. On January 7, 1877, the Madrasatul Uloom became MAO College. Then, after the AMU Act was passed in 1920, nearly four decades later, MAO College got its current name."
- "MAO College's journey to becoming AMU was realised due to Sir Syed adopting a multitude of ways to collect funds for his vision. MAO College was patterned on the universities of Oxford and Cambridge, which Sir Syed had visited in Britain. His objective was to build a college in line with the British education system — but without compromising on Islamic values."



- “As per a coffee table book published by AMU in 2020, its centenary year, Sir Syed collected funds through all possible means and methods — donations, lotteries, and sale of pictures and books, among others. “In the Aligarh Exhibition, an annual feature, he set up a book stall and sold books. He even put on a beggar’s jholi and begged for money,” says the book.

Do You Know:

- Sir Syed Ahmad Khan, a prominent Indian Muslim reformer, educator, and philosopher, was best known for his pivotal role in promoting modern education among Muslims. He founded the Aligarh Movement, which aimed to reform educational practices by incorporating Western scientific methods and English as a medium of instruction. This movement led to the establishment of the Muhammadan Anglo-Oriental College in 1875, which later became Aligarh Muslim University (AMU).

HIGH PREVALENCE OF SEXUAL VIOLENCE AGAINST GAY, BISEXUAL MEN ACROSS SIX CITIES: STUDY

A research conducted by four academics sheds light on the prevalence of violence against gay and bisexual men across six cities.

About 44% of the men sampled in Delhi said they faced sexual violence, making it the city with the highest prevalence of sexual violence against men who have sex with men.

The survey, showing that 78.7% gay men and 44% bisexual men have faced some sort of violence, be it verbal, physical, or sexual violence, comes amid growing concerns about safety among the community, with the Bharatiya Nyaya Sanhita replacing the Indian Penal Code.

Unlike the IPC, the BNS does not have a Section dealing with rape of men or transgender persons.

The research published by BMC Public Health, conducted by Suraj Pal, Praveen Kumar Pathak, Margubur Rahaman and Niharika Tripathi, sampled 300 self-identified gay and bisexual men in Delhi, Mumbai, Kolkata, Bengaluru, Ahmedabad, and Lucknow. The research concluded that violence against gay and bisexual men is a pervasive issue, particularly affecting individuals with lower education and low income.

The results reveal that those aged 18-24 reported the most violence, and respondents who were open about their sexuality in public were five times more likely to face any violence than those who were not. Muslim respondents were 2.6 times more likely to face sexual violence compared with Hindu respondents.

It shows that among those who fell under the general category, 48.8% had reported facing violence, while this was much higher among those in the OBC category (84.1%) and SC/ST category (71.6%). The most violent city for gay and bisexual men was Kolkata, where 80% reported facing violence of any kind, followed by Delhi (72%) and Mumbai (58%).

No legal provision

Anas Tanwir, a Supreme Court lawyer, said, “With the IPC gone, there is no law protecting men, be it gay, bisexual or heterosexual men, from rape.” He added that under other Sections, men can still complain about grievous hurt, but dealing with rape is not the purpose of those provisions. Praveen K. Pathak, JNU professor who co-authored the research, said, “We are working in the right direction and hope that such a provision will be implemented.”

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SC SLAMS BULLDOZER ACTION, LIST DEMOLITION RULES, WARNS OFFICIAL

The Supreme Court on Wednesday held that demolishing the properties of citizens without following due process for the sole reason that they may be involved in some crime is contrary to the rule of law and directed that officials indulging in such “high-handed actions” be made accountable. The court also issued certain directions that have to be complied with before properties are demolished.

- A bench of Justices B R Gavai and K V Viswanathan ruled that “the executive cannot become a judge and decide that a person accused is guilty and, therefore, punish him by demolishing his residential/commercial property/properties. Such an act of the executive would be transgressing its limits”.
- The bench added that “if the executive acts as a judge and inflicts penalty of demolition on the citizen on the ground that he is an accused, it violates the principle of separation of powers”.
- The Supreme Court said, “Right to shelter is one of the facets of Article 21. Depriving such innocent people of their right to life by removing shelter from their hands, their heads in our considered view would be wholly unconstitutional...”.
- It said that before embarking on demolition, “the concerned authorities must satisfy themselves that such an extreme step of demolition is the only available [option] and the other options including compounding and demolition of only part of the house property are not available.”
- The verdict came just days after then Chief Justice of India D Y Chandrachud, while hearing a case regarding a man whose home was illegally demolished by the UP government as a part of a road widening project, referred to such demolitions “bulldozer justice”.
- The case pertained to a set of pleas that challenged the “extra-legal” practice of demolishing houses of people accused of criminal activities. The practice has been observed in recent years in BJP-ruled states such as Uttar Pradesh, Madhya Pradesh, and Uttarakhand. It was also seen in Rajasthan, during Congress rule in 2022.
- The guidelines laid down by the SC place emphasis on transparency and giving the accused and their family sufficient time to handle their affairs. The SC clarified that the guidelines will not apply to “an unauthorised structure in any public place...”
- **PROVIDING NOTICE:** The SC said a minimum of 15 days prior notice must be given for a person to respond to before demolition is carried out, starting from the date that the owner or the occupier receives the notice.
- **HEARING & FINAL ORDER:** After conducting a hearing where the minutes are properly recorded, the SC said the final order must mandatorily contain certain information. This includes the arguments made by the owner or the occupier, why the authority (such as the local municipal corporation) believes the case cannot be settled, and whether the entire construction or only a part is to be demolished.
- **THE AFTERMATH:** If the authority passes a final order for demolition, and after the property owner or the occupier receives the order, the SC said, “the order will not be implemented for a period of 15 days”. This allows the owner or the occupier to either remove the construction or challenge the final order in court and seek a stay order.



- At the end of this second 15-day period, if the final demolition order has not been stayed and the construction has not been removed, demolition can be carried out.
- The SC relied on several fundamental constitutional and legal principles that are violated when the illegal demolition of an accused person's property takes place.
- **SEPARATION OF POWERS:** The verdict stresses that the judiciary is entrusted with "adjudicatory" (decision-making) powers to decide if an accused person is guilty, and whether any of the organs of the state have "transgressed" their limits.
- **PUBLIC TRUST & TRANSPARENCY:** The SC said public officials must be held accountable for both their actions and inactions. Officials who "take the law in their hands" and pass demolition orders on the ground that the owner or occupier of the property is an accused "should be made accountable for such high-handed actions," according to the court.
- **RIGHT TO SHELTER:** The SC noted that the accused is not the only one who lives or owns such properties. It highlighted that the right to life with dignity under Article 21 of the Constitution includes the right to shelter. Depriving this right of the other innocent people living in the same house as the accused would be "wholly unconstitutional", according to the SC.

Do You Know:

- In essence, the Court has confirmed that justice cannot be found at the end of a bulldozer, that punishment without due process violates fundamental rights.
- The apex court's reiteration and defence of the basic principles of natural justice is welcome and necessary. However, for those who have lost their homes and businesses already, it is already too late.
- For the Court's eloquent defence of rights and legal principles to have substance it must percolate to every judicial officer in the country. More importantly, it is up against a political logic that is becoming increasingly widespread.
- Those who have been at the receiving end of the bulldozer's excesses cannot knock, in most instances, at the doors of the apex court. For them, it is the local councillor and the local thana that is the visible arm of the state, that so often strong-arms them. It is here that a change in attitude must occur.
- The SC's verdict must resonate outside the portals of the judiciary, amongst politicians and administrators who represent the face of the state to common people.

'BATENGE TO KATENGE' TO EATERY ORDERS, YOGI ADITYANATH DIALS UP HINDUTVA PITCH AFTER LOK SABHA SETBACK

Days after an uprising in Bangladesh forced Sheikh Hasina to resign as the Prime Minister and escape from her country in early August, Uttar Pradesh Chief Minister Yogi Adityanath coined a slogan – "Batenge to katenge (divided we fall)" – amid reports of attacks on Hindus in the neighbouring country.

"Nothing is greater than the nation. Our strength lies in our unity. If we allow ourselves to be divided, we will fall. The situation in Bangladesh serves as a warning — those mistakes must not



be repeated here. We must stay united, uphold our noble values, ensure our safety and strive for the pinnacle of prosperity,” Adityanath had then said while addressing a public meeting in Agra.

The CM had earlier slammed the Opposition in the country for its “silence” over attacks on the minority Hindu community in Bangladesh. “While the Opposition is quick to speak out on global issues, it has remained silent about the persecution of Hindus and the demolition of temples in Bangladesh. They see Palestine but turn a blind eye to Bangladesh because of their fear of losing their vote bank,” Adityanath said in Mathura.

In September, as a response to some incidents in UP involving food adulteration, including alleged spitting or mixing of urine in eatables, the CM issued a series of directions, including a mandatory display of name and address of operators, proprietors and managers at eateries across the state.

Later, a meeting chaired by Adityanath discussed the provisions of his government’s proposal for two ordinances in this regard, including the “Prevention of Pseudo and Anti-Harmony Activities and Prohibition of Spitting Ordinance 2024” and “Uttar Pradesh Prevention of Contamination in Food (Consumer Right to know) Ordinance 2024”.

This meeting decided that the new provisions would also allow strict action in case an employee of a food establishment is confirmed to be an “illegal foreign citizen”. “It has been decided to make provisions of imprisonment and fine against those who violate the law and that action should be taken under the proposed law by considering such crime as cognisable and non-bailable,” an official told The Indian Express at the time.

The CM also directed that the new provisions should ensure that no anti-social element is able to “hide identity” and contaminate food items and beverages with human waste or any other inedible thing. Other proposed provisions included making it mandatory for every food establishment to install CCTV cameras to monitor the kitchen and dining area, and preserve the footage for at least a month. It was also decided that eatery workers must wear head covers, masks and gloves while cooking and serving.

Earlier, on July 19, the UP police had issued orders that all restaurants, roadside dhabas and food carts on the route of the Kanwar Yatra in the state display the names of the owners outside their shops or carts. This was done on the ground that it was necessary to maintain the “purity” and “sanctity” of the Kanwar pilgrims. UP minister Kapil Dev Agarwal had even alleged that Muslim vendors were posing as Hindus and selling non-vegetarian food to them.

The UP dispensation’s order drew fire from the Opposition, with Samajwadi Party chief Akhilesh Yadav terming it a “social crime” and Congress leader Pawan Khera calling it “state-sponsored bigotry”. AIMIM president Asaduddin Owaisi called it “discriminatory”, comparing it with South Africa’s apartheid regime and the boycott of Jewish businesses in Nazi Germany.

Even the BJP’s NDA allies expressed concern over the order. LJP (Ram Vilas) chief Chirag Paswan said he did not agree with “divides” in the name of caste or religion. The Jayant Chaudhary-led RLD said it would take up the matter with both the central and state governments. JD(U) leader KC Tyagi cautioned that no message should be sent out that could create a communal discord.

The Supreme Court soon stepped in to stay UP’s order, which defused the row.

In the recent Lok Sabha polls, the ruling BJP failed to secure a majority of its own, stalling at 240 seats, which was attributed to, among other factors, the blow the party got in UP, where its tally plunged to 33 out of 80 seats from its 2019 figure of 62. Soon afterwards, senior UP BJP leader

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and Deputy CM Keshav Prasad Maurya made various moves which were seen to be tacitly critical of the CM.

On July 17, Maurya had posted a cryptic message on X, saying that the “organisation is bigger than the government” and that he felt the “pain of party workers”. This was read in the state political circles as a veiled criticism of the CM for purportedly running the state through bureaucracy where the party workers were not being heard.

In the wake of the Lok Sabha poll results, Adityanath appears to have increasingly hardened his Hindutva stance. Some observers have said this “shift” has come after months of UP being pitched as a global investment destination and talks of new airports and expressways in the state.

The CM’s “Batenge to katenge” slogan has gained currency and has been endorsed by the RSS too.

On October 27, after the RSS’ two-day meet held at Mathura, its general secretary Dattatreya Hosabale said in reply to a direct question on Adityanath’s slogan, “Hindu samaj ekta mein nahin rahega to aaj kal ki bhasha mein batenge to katenge ho sakta hai (if Hindu society does not stay united, we could fall).” He said the slogan was “in the right spirit” as it aimed at uniting Hindus who, he added, were being divided on the lines of caste as part of a “conspiracy”.

In the run-up to the November 20 Maharashtra Assembly elections, posters featuring Adityanath and the slogan have come up in several parts of Mumbai.

Mumbai BJP chief Ashish Shelar said the party had not officially put up the posters, but added that a sizeable section of society feels that it would suffer if there is a division of votes.

Earlier this month, Akhilesh said the UP CM’s “negative slogan” was a sign of the BJP’s “disappointment and failure”, as their voters, he claimed, were “leaving” them.

DECODE POLITICS: WHY YOGI HAS LAUNCHED A RAZAKAR OFFENSIVE AGAINST MALLIKARJUN KHARGE IN MAHARASHTRA

AT HIS RALLIES in poll-bound Maharashtra, Uttar Pradesh Chief Minister Yogi Adityanath has been making repeated references to the Razakar militia of the erstwhile Hyderabad State to target Congress president Mallikarjun Kharge. On Tuesday, Adityanath said Kharge purposely keeps mum on the death of his mother and sister “in an attack by Razakars” as he fears losing Muslim votes.

*** Who were the Razakars?**

Ruled by the Nizams, Hyderabad was one of the 500 princely states in India at the time of Independence. Though Hyderabad’s Hindu-majority population was in favour of integration with India, the Nizam refused.

The Nizam’s militia, the Razakars, the armed wing of the Majlis-e-Itthadul Muslimeen, was then tasked with crushing dissent among the people who wanted to join India. The Indian government led by Jawaharlal Nehru had initially promised not to intervene in the State’s affairs but Hyderabad was eventually integrated into India on September 17, 1948, after “Operation Polo”, a three-day action by the Indian Army.

Following reports of police atrocities by the Nizam, Nehru had commissioned an inquiry into the issue but its findings report was never made public.



*** What did Adityanath say?**

Responding to Kharge's remark that those who wear saffron robes and shave their heads must leave politics, hinting at him, Adityanath said the Congress president was getting angry at him unnecessarily. "Don't get angry with me. Get angry with those Nizams of Hyderabad, or with those Razakars of the Nizams, who burned down your village and killed your respected mother, sister and other members of the family," he said.

The UP CM also alleged that Kharge does not want to tell the truth as blaming the Nizam would lead to the Congress losing Muslim votes. "The Congress is distorting history. Nizam's Razakars brutally massacred Hindus in Hyderabad State. Kharge does not want to accept that truth and has forgotten his family's sacrifice for the sake of votes," Adityanath said.

He also claimed that B R Ambedkar had advised Hindus and Scheduled Castes to move to Maharashtra for their safety (from the Nizam-ruled territory).

*** Is there any truth to Adityanath's claims?**

Kharge was born into a Dalit family in Bidar (which falls in present-day Karnataka), which was targeted by the Razakars as part of their crackdown against civil uprising of the people of Hyderabad State.

In previous interviews, Kharge has spoken about how his father was working in the fields and he was playing outside his house when the Razakars struck and set fire to his house, in which his mother, sister and other family members were killed.

*** Has the Kharge family reacted?**

Karnataka Minister and son of Mallikarjun Kharge, Priyank took to social media to slam Adityanath saying though his father narrowly escaped the attack, he rose to become a nine-time MLA, two-time Rajya Sabha and Lok Sabha MP and Leader of the Opposition in the Lok Sabha.

Priyank also said every community had bad apples and individuals who do wrong but that does not make the entire community bad while urging the UP CM to "try and win elections on Prime Minister Modi's achievements rather than trying to sow seeds of hatred in society for political gains".

"Despite the tragedy, he never exploited it for political gain, never played the victim card and never let hatred define him. It was the Razakars who committed this act—not the entire Muslim community. At 82, Kharge Ji is fighting tirelessly to uphold the values of Buddha-Basavanna-Ambedkar and to protect the Constitution... So, Yogi Ji, take your hate elsewhere. You cannot bulldoze his principles or his ideology," Priyank said in a post on X on Wednesday.

*** Has the Razakar issue been brought up by other leaders?**

Maharashtra Deputy Chief Minister Devendra Fadnavis too has raked up the Razakars during his campaign. In a retort to AIMIM chief Asaduddin Owaisi, who while slamming the BJP's terms like "love jihad" and "vote jihad" said that his ancestors had done actual jihad against the Britishers, the Deputy CM said: "They are the descendants of Razakars, who tortured the people of Marathwada, looted their lands, tried to rape women, and destroyed families. How can they talk to us?"



*** Have Razakars found space in the political discourse earlier?**

Ahead of the Telangana Assembly polls last year, a movie titled Razakar produced by a Telangana BJP leader, courted controversy and triggered reactions from the AIMIM and Bharat Rashtra Samithi (BRS).

While Owaisi said the Razakars had long gone and it was time to drive away the “children of Godse”, BRS working president K T Rama Rao said at the time, “Some intellectually bankrupt jokers of the BJP are doing their best to instigate communal violence and polarisation for their political propaganda in Telangana. We will take up the matter with the Censor Board and also the Telangana Police to ensure that the law & order situation of Telangana is not affected.”

*** Why does the history of Hyderabad State resonate in Maharashtra?**

The present-day Marathwada region of Maharashtra, which is the epicentre of the Maratha quota protests and comprises the districts of Aurangabad, Beed, Hingoli, Jalna, Latur, Nanded, Osmanabad and Parbhani, fell in the erstwhile Hyderabad State. Kharge’s village of Varawatti in Karnataka also fell under Hyderabad State along with Kalaburagi, Yadgir, Raichur, Koppal, and Ballari.

Apart from the communal aspect of the Razakar agitation, this issue is also resonating now due to the Maratha quota demand. The Nizams had through a gazette notification recognised the Marathas as Kunbis. Following the agitation by Maratha quota activist Manoj Jarange-Patil, the state government allowed Kunbis to avail reservation under the OBC category and granted the non-Kunbi Marathas an additional 10% quota in jobs and education.

To get recognition as Kunbi, however, people had to produce Nizam-era documents showing the same.

JOB SCAM IN UTTAR PRADESH: CORRUPTION AND A BETRAYAL

A minister’s nephew; the son of the Legislative Council secretariat-in-charge; the son and daughter of the Department of Parliamentary Affairs-in-charge; the son of a Deputy Lokayukta. These are some of the candidates who were selected to fill administrative positions in the Uttar Pradesh Assembly and Legislative Council after at least two rounds of tests in 2020-21. An Indian Express investigation has revealed that a fifth of the 186 vacancies for which approximately 2.5 lakh people had applied went to relatives of officials, with at least five successful candidates connected to owners of the two private firms that had conducted the recruitment test. For young aspirants competing for the security and mobility afforded by a few hundred government jobs, these revelations would be further evidence of the odds being stacked against them.

As the Allahabad High Court observed on September 18, 2023, when hearing a plea by three unsuccessful candidates, the process is “not less than a recruitment scam”. The CBI probe it ordered was stayed by the Supreme Court, following an appeal by the Legislative Council, with the next hearing scheduled for January 6, 2025. Delays will add to the anxiety and frustration of the youth, at a time when public trust in education and recruitment exams is already low. Earlier this year, controversies over irregularities in NEET and NET severely dented the credibility of the National Testing Agency, while an investigation by this newspaper in February revealed 41 documented instances of paper leaks in recruitment exams, across 15 states in five years, and affecting 1.4 crore job seekers. These instances, taken together, point to a deeper crisis that needs urgent attention. At a time when jobs that number in the mere hundreds attract lakhs of



applications, it is all the more important that a level playing-field is ensured. When the integrity of such a system is compromised, as seen in the NEET-NET episode, it can be extremely dispiriting for young people, who have spent years preparing for an examination that they believe will change their lives for the better.

A probe into these irregularities must be conducted urgently, else the erosion of already diminishing public trust in the system will not be easy to overcome. Consider the protests this week against the Uttar Pradesh Public Service Commission's decision to conduct exams in different shifts and using a normalisation system for evaluation to obviate unfair advantage to candidates at any one shift. Applicants alleged that these complicated procedures would expand the scope for corruption of the process. Of course, the demand-supply mismatch is so large that it is open to constant exploitation. For a country hoping to reap the dividend of a large working-age population, expanding opportunities should be top priority.

IDENTITY CARD

With campaigning for the Jharkhand election in its final leg, the Bharatiya Janata Party (BJP) and the ruling INDIA bloc led by the Jharkhand Mukti Morcha (JMM), are locked in a debate on the State's Adivasi identity. The BJP's sharp focus has been on the rhetoric of "Bangladeshi infiltration", which it is linking not only to the State's demographic changes but also to crimes against tribal women, land alienation, and what some Adivasi communities perceive as a gradual dilution of their indigenous cultural practices. The party accuses the JMM-Congress-RJD alliance of encouraging "infiltrators" to bolster the alliance's voter base. This campaign has been running alongside the BJP's efforts to stress the importance of unity among SC, ST and OBC groups using the messaging of "ek hai to safe hai (safe when united)", suggesting that the BJP's campaign is targeted at having a coalition with more place for Adivasis alongside the party's existing base of non-Adivasi Hindu voters. Amidst the blitz of campaign speeches by the BJP's star campaigners, the ruling alliance's campaign led by Chief Minister Hemant Soren and his wife Kalpana Soren, has squarely put the onus of checking alleged "infiltrators" on the Centre, without explicitly negating the claim of the BJP. The INDIA campaign also tries to drive home the point that as Jharkhand has no international borders, the onus of checking alleged infiltrators should be on the Union, where the BJP is in power.

Another central theme in the INDIA bloc's campaign strategy has been the promise of implementing land registries as they had been surveyed in 1932 for the purpose of determining domicile. But the JMM and its allies are careful here too, as Jharkhand has had a history of settlement with migration from neighbouring States in waves ever since. Some senior BJP leaders have suggested a National Register of Citizens in the State, though the party does not mention this in its manifesto. The BJP is talking up charges of corruption that sent leaders such as Mr. Soren and the Congress's Alamgir Alam to jail. The JMM has been questioning the announcement of the election in the State a month before the term of the current Assembly ends, calling it as a BJP ploy to disrupt the welfare schemes of the Soren government. While the BJP is going all out to attack the popularity of these schemes by questioning their implementation at the fag end of the alliance government's term, its manifesto has tried to outdo the JMM's in terms of sops being promised for the youth, women and farmers in the State.



AJIT PAWAR'S CLAIM OF ADANI'S PRESENCE AT A HIGH-LEVEL MEETING SPARKS A FIRESTORM

Maharashtra Deputy Chief Minister Ajit Pawar's disclosure that billionaire-industrialist Gautam Adani was present at a high-level meeting in 2019, involving leaders from the then Sharad Pawar-led Nationalist Congress Party (NCP) and the Bharatiya Janata Party (BJP), has intensified the Opposition's accusations of undue influence by Mr. Adani within the Narendra Modi government. The revelation has placed the ruling coalition in Maharashtra in a tight spot.

In an interview with a news portal, Mr. Ajit Pawar, who is also the national president of the NCP, recounted his brief 2019 alliance with the BJP, which was ultimately shortlived as he returned to the NCP. He named the high-profile attendees of the meeting, which included Union Home Minister Amit Shah, Mr. Adani, Maharashtra Deputy Chief Minister Devendra Fadnavis, and others. "Everybody knows where the meeting took place... Amit Shah, Gautam Adani, Praful Patel, Devendra Fadnavis, Ajit Pawar, and Pawar saheb [Sharad Pawar] were there," Mr. Ajit Pawar said.

The Opposition quickly seized upon Mr. Adani's alleged presence, with Shiv Sena (UBT) MP Priyanka Chaturvedi expressing concern. She posted on X, "As per an interview given to a digital platform by a senior minister in the Cabinet, Gautam Adani has sat through in meetings to decide how to get BJP to power in Maharashtra by trying to fix unlikely alliances. It raises some serious questions: Is he a BJP authorised negotiator? Has he been given the responsibility to fix alliances? Why is a businessman so keenly and closely working to bring BJP to power at any cost in Maharashtra?"

Questions locus standi

Mumbai Congress president Varsha Gaikwad added her voice to the criticism, questioning Mr. Adani's locus standi in government formation matters. In a post on X, she said, "What was Gautam Adani's locus standi? Why was he sitting in meetings regarding the formation of the government? I reiterate, the MVA govt was destabilised only for Adani, so that he could get Dharavi and other projects he wanted. This is why we say, this is not Maharashtra sarkar but Adani sarkar. Now, the truth is there for everyone to see."

Ms. Gaikwad's statement underscores the Opposition's narrative that the fall of the Uddhav Thackeray-led Maha Vikas Aghadi (MVA) government benefited Mr. Adani's business ventures in Maharashtra, including the redevelopment of Dharavi.

Asked about the meeting, Baramati MP and Mr. Sharad Pawar's daughter, Supriya Sule, stated she had no knowledge of such a gathering. "Let me be very clear that I have absolutely no knowledge of any such meeting of the attendees which he [Ajit Pawar] has mentioned in the interview," she said.

The ruling coalition has not yet responded to the allegations raised by Mr. Ajit Pawar.

HISTORY OF MAHARASHTRA

Maharashtra, India's richest state in per capita GDP, and home to big business, Bollywood, and large sugar cooperatives, was a Congress bastion once. Today, its political landscape is a complex patchwork of parties and factions, whose shifting allegiances determine the shape and composition of its governments.



The birth of Maharashtra

The old Bombay province sprawled from Sindh (now in Pakistan) to northwestern Karnataka, and covered all of present-day Gujarat and about two-thirds of present-day Maharashtra (excluding a few princely states). Two Marathi-speaking regions — Vidarbha, a part of Central Provinces (later Madhya Pradesh), and Marathwada, a part of the princely state of Hyderabad — lay outside the province.

The demand for a united Marathi-speaking state emerged in the 1920s, and gained momentum after Independence. In 1953, Marathi leaders signed the Nagpur Pact seeking to unite Bombay State, Vidarbha, and Marathwada, even as the State's Gujarati community led its own agitation for statehood.

The city of Bombay was caught between these two movements. Gujaratis had played the preeminent role in its rise as the country's economic nerve centre, but it was surrounded by Marathi-speaking districts. As the linguistic division of the state became increasingly likely, many believed that Bombay would be made a Union Territory. Prime Minister Jawaharlal Nehru even made announcements to this effect.

However, the States Reorganisation Commission recommended in 1956 that Bombay State should remain bilingual, since it was to the "mutual advantage" of the Gujarati and Marathi communities "to be partners in a great co-operative venture". It recommended granting Vidarbha statehood, but the Centre rejected this, making it a part of Bombay State, along with Marathwada, instead.

Neither the Marathi nor the Gujarati side was happy with this outcome, and the agitation for statehood continued. The Centre finally agreed, and on May 1, 1960, Bombay State was bifurcated. The new states of Maharashtra and Gujarat got 264 and 132 of the erstwhile Bombay State's 396 seats.

COUNTING RIGHT

Last week's launch of a caste survey in Telangana by the Congress government is a step towards fulfilling its 2023 Assembly poll promise. The survey may form the basis for enhancing the quantum of reservation for Backward Classes (BCs), going by the party's election manifesto. At present, 112 communities under five categories of BCs enjoy a 29% quota in education and employment, including 4% for socially and educationally Muslim BCs. The survey is being undertaken at a time when demand for such an exercise at the all-India level is growing louder. In Tamil Nadu, an early mover in the area of affirmative action for BCs, political parties have been raising the issue though divided on whether the State or the Centre should conduct the exercise. In poll-bound Maharashtra, the Opposition Maha Vikas Aghadi has promised a caste-based census. The Rashtriya Swayamsevak Sangh had stated that a caste census undertaken for the welfare of the downtrodden was fine but the BJP is cold to the idea. The Union government had also said that it had no proposal to make caste data of the Socio Economic and Caste Census 2011 public. In fact, in Karnataka, where most of the work on a socio-economic and educational survey was done about 10 years ago, the survey report has yet to be made public despite the submission of the final report to Chief Minister Siddaramaiah.

The idea of a caste-based survey is being floated as a prelude to the automatic lifting of the Supreme Court's ceiling of 50% in reservation for OBCs, SCs and STs. In June, the Patna High Court struck down two Acts in Bihar, envisaging enhanced quantum in quota for BCs, Extremely BCs,



SCs and STs in education and government jobs. The Nitish Kumar government had carried out a caste survey prior to enacting the laws. The High Court had emphasised the principle of adequate representation while striking down the laws. In the case on 10.5% internal quota for Vanniyars within the Most BCs of Tamil Nadu, the Supreme Court had upheld the Madras High Court's conclusion that the reservation to the community under the 2021 Act was based on "antiquated data". Compilation and presentation of data would not mechanically pave the way for any increase in the quantum, let alone breaching the 50% cap. Analysis of features such as poverty, caste, occupation and location of residence should justify any move to increase the quantum. Besides, as in Article 16(4), only those communities inadequately represented in the public services can be given job quota. No political party should create an impression that a caste census will lead to increased OBC reservation. The Centre should also limit the ceiling of annual parental income in determining the creamy layer among OBCs. Else, only the most advanced sections among BCs will continue to corner the benefits of reservation.

MANIPUR'S MISERY

Ten armed militants were killed in an encounter with the Central Reserve Police Force (CRPF) and the police on November 11 in Manipur's Jiribam district, as ethnic conflict continues to pulverise the State. Officials said the deaths took place in retaliatory firing after the militia attacked security personnel and internally displaced people sheltered in the vicinity. Women, children and the elderly have been facing the brunt of the violence that began in May 2023. More than 250 people have been killed and 60,000 displaced since the conflict between Meitei and Kuki-Zo communities began. Three women and three children, including an eight-month-old infant, were allegedly abducted and two elderly persons were burnt to death on Monday in Jiribam. The victims were among the 13 Meitei people who were already displaced from their homes in June. Two of the 10 weapons found at the encounter site had been looted from the police, an indication of the serious governance crisis in the State. The Kuki Students' Organisation has called for 'non-cooperation' with the CRPF, claiming that the militia men were on a security patrol.

The Bharatiya Janata Party State government led by Chief Minister N. Biren Singh has been unable to quell the violence or reassure the Kuki communities that consider him to be partisan. That leaves the entire responsibility of managing the conflict on the shoulders of the Centre. In October, the Ministry of Home Affairs organised a meeting with political representatives of both the Kuki and Meitei communities but no meaningful progress towards peace could be achieved. Kuki outfits are demanding the creation of a Union Territory with legislature which will require a division of Manipur. Ethnic relations in India's northeast are extremely complex, and violence, once it erupts, can continue for a long spell. Kuki representatives continue to express hope in intervention by the Centre to resolve the conflict and that is an opportunity which the Centre must vigorously utilise. Central police forces and the Indian Army are also largely trusted by the Kuki, notwithstanding the incident involving the CRPF this week. In a porous border region populated by numerous armed militia groups, policing alone cannot restore peace and order. A lasting end to the violence can be brought about only through a political arrangement of accommodation and the coexistence of communities. Only the Centre has the resources and the capacity to attempt that. The fresh surge in violence is a setback, but the Centre must step up its efforts to nudge the Meitei and the Kuki communities towards peace.



IN MANIPUR, AFSPA REIMPOSED IN 6 POLICE STATION AREAS, CENTRE SAYS SITUATION THERE STILL VOLATILE

A year and a half after the start of ethnic violence in Manipur, the Centre Thursday reimposed the Disturbed Areas status under the Armed Forces (Special Powers) Act (AFSPA) in the jurisdiction of six police stations in the state's valley areas, including violence-hit Jiribam.

- The Disturbed Areas status, which was in place for all of Manipur except 19 police stations in the Meitei-dominated valley areas from where it was withdrawn between April 2022 and April 2023, has now been extended to the jurisdictions of Sekmai and Lamsang police stations in Imphal West, Lamlai in Imphal East, Moirang in Bishnupur, Leimakhong in Kangpokpi and Jiribam police station in Jiribam.
- Manipur has had the Disturbed Area status under the AFSPA since 1980, and it was only withdrawn from some parts of Imphal in 2004 following strong protests after the killing of 32-year-old Thangjam Manorama earlier that year.
- Since 2022, areas notified as Disturbed Areas have been incrementally reduced. It had been removed from 15 police stations in six districts in April 2022, and with its removal from another four police stations on April 1, 2023, it had been withdrawn from the jurisdiction of 19 police stations in total, all located in the Meitei-dominated valley.
- The Disturbed Areas notification is applicable for a period of six months, following which it can be periodically extended by the MHA after assessing the situation. Just a few weeks ago, on September 30, the MHA had extended the Disturbed Areas notification for the parts of Manipur where it was already in place.

Do You Know:

- What is AFSPA: The Act in its original form was promulgated by the British in response to the Quit India movement in 1942. After Independence, Prime Minister Jawaharlal Nehru decided to retain the Act, which was first brought in as an ordinance and then notified as an Act in 1958.
- AFSPA provides for special powers for the armed forces that can be imposed by the Centre or the Governor of a state, on the state or parts of it, after it is declared "disturbed" under Section 3. The Act defines these as areas that are "disturbed or dangerous condition that the use of armed forces in aid of the civil power is necessary". AFSPA has been used in areas where militancy has been prevalent.
- The Act, which has been called draconian, gives sweeping powers to the armed forces. It allows them to open fire, even causing death, against any person in contravention to the law or carrying arms and ammunition. It gives them powers to arrest individuals without warrants, on the basis of "reasonable suspicion", and also search premises without warrants.
- The Act further provides blanket impunity to security personnel involved in such operations: There can be no prosecution or legal proceedings against them without the prior approval of the Centre.



GOVT: NGOS TO LOSE FCRA LICENCE OVER CONVERSIONS, ANTI-DEVELOPMENT ACTS

The Centre on Monday announced that any NGO involved in anti-developmental activities and forced religious conversions will face cancellation of their registration under Foreign Contribution (Regulation) Act (FCRA), 2010.

- A notice issued on November 8 by Director (FCRA) K Sanjayan said that any NGO whose acceptance of foreign funding may affect social or religious harmony will face cancellation of its FCRA registration.
- “...If an NGO has diverted foreign contribution for carrying out anti-development activities or inciting malicious protests, field inquiry has revealed the likelihood of personal gain by the organisation or by the office-bearers, or the foreign contribution is likely to have been utilised for undesirable activities, linkage with terrorist organisations or anti-national organisations, key functionaries have links with terrorist or radical organisations, their FCRA registration would be cancelled,” the notice said.
- According to the notice, not utilising any foreign funding for projects as per the aims and objectives of the NGO would also invite FCRA cancellation.

Do You Know:

- Foreign funding in India is regulated under FCRA act. It is implemented by the Ministry of Home Affairs.
- The FCRA was enacted during the Emergency in 1976 amid apprehensions that foreign powers were interfering in India’s affairs by pumping money into the country through independent organisations.
- The law sought to regulate foreign donations to individuals and associations so that they functioned “in a manner consistent with the values of a sovereign democratic republic”.

NEW GUIDELINES ASK COACHING CENTRES NOT TO MAKE TALL CLAIMS

The Union Consumer Affairs Ministry has issued guidelines prohibiting coaching institutes from publishing misleading advertisements that make false claims on courses offered, faculty qualifications, fees and refunds.

Union Consumer Affairs Secretary Nidhi Khare told presspersons here on Wednesday that she had written to the Personnel Affairs Ministry against officers endorsing coaching centres after being selected to the civil services.

Ms. Khare said the Ministry had issued notices to 45 coaching centres and had imposed penalties of ₹54.6 lakh on 18 of them for misleading advertisements. The Guidelines for Prevention of Misleading Advertisement in Coaching Sector, 2024 aimed to safeguard students and the public from deceptive marketing practices.

“These guidelines are drafted in the wake of growing concerns about false/misleading claims, exaggerated success rates, and unfair contracts that coaching institutes often impose on students. Such practices have been found to mislead students, influencing their decisions by concealing important information, giving false guarantee, etc.,” she said.



The guidelines prohibit claims of assured admissions, high exam scores, guaranteed selections or promotions. “Misleading representations about the quality or standard of their services are strictly prohibited,” the guidelines said.

The coaching centres should not use students’ names, photos, or testimonials in advertisements without their written consent. “This provision is intended to reduce the pressure students face when enrolling, as they are often pushed into signing such agreements,” she said.

Coaching centres will have to disclose the name, rank, and course details alongside the student’s photo in an advertisement. “Whether the course was paid for by the student too must be clearly stated. Any disclaimers will need to be prominently displayed, with the same font size as other important details, ensuring that consumers are not misled by fine print,” the guidelines said.

TEAM AT KOLKATA INSTITUTE ENGINEERS BACTERIA TO SOLVE MATHS PROBLEMS

At the Saha Institute of Nuclear Physics, Kolkata, synthetic biologist Sangram Bagh has a major and somewhat unusual goal: to build intelligent bacteria.

Despite being single-celled, bacteria are very sensitive and responsive to their environments. Organisms that are generally called intelligent — including dolphins, chimpanzees, octopuses, crows, and humans — are on the other hand multicellular, with brains composed of billions of specialised cells called neurons.

But in a major breakthrough, Bagh’s lab has engineered bacteria that can decide whether a given number is prime and whether an alphabet is a vowel. These could earlier be done only “by humans or computers,” Bagh said, “but now genetically engineered bacteria are doing the same. Such observations raise new questions about the meaning of intelligence.”

Bagh’s team introduced ‘genetic circuits’ in bacteria that could be activated by a combination of chemical inducers. Then they combined bacteria with different engineered circuits in a solution to build bacterial ‘computers’ that behaved like artificial neural networks. In this setting, each type of engineered bacteria was a “bactoneuron” and the combination of bactoneurons behaved like a multicellular organism capable of abstract mathematics.

The team reported its findings in Nature Chemical Biology in September. The paper’s publication has stirred significant interest among synthetic biologists — experts who engineer new abilities in organisms. For example Pawan Dhar, executive director of the C.V.J. Centre for Synthetic Biology and Biomanufacturing, Kochi, said, “We’ve entered a new era where bacteria can be programmed to solve mathematical problems through chemical conversations”.

The creation of these bacterial computers could herald significant advances in the pharmaceutical industry and medical sciences and in the biomanufacturing sector, Dhar added.

In an artificial neural network (ANN), processing units called nodes are connected to each other in layers. Each node takes in an input (or inputs), performs a computation on it, and produces an output — which can be the ANN’s output or the input for another node. ANNs with more layers can perform more complex computational tasks.



SAVING DOCTORS

Violence, like poetry, is often the spontaneous overflow of powerful feelings; but, unlike poetry, it is always ugly and, in most cases, self-destructive. While violence against members of the medical community is not new, more recently, cases have been rising with an eerie regularity. The recent case from Tamil Nadu where a doctor was stabbed multiple times by a patient's relative was dastardly and chilling. Balaji Jegannathan, an oncologist at the State-run Kalaignar Centenary Super Specialty Hospital (KCSSH), was stabbed by Vignesh, a young man whose mother was undergoing treatment for Hodgkin lymphoma, in the hospital. Contrary to initial media reports that the attack was perpetrated in a fit of rage, the fact that Vignesh brought a knife to a hospital makes it clear that it was premeditated. Notably, the patient, his mother, and her family had been counselled about the possible side effects of the chemotherapy that she was undergoing. She had also been admitted in a couple of private hospitals, but Vignesh had discharged her against medical advice, bringing her back to the KCSSH. He was furious about the treatment given to his mother, since her lungs had been affected as a result of the chemotherapy, and lashed out at the doctor, holding him responsible for his mother's suffering. The life of Dr. Balaji, who was on blood thinners for a previous cardiac condition, was saved only because he was in a super specialty medical institution where top surgeons serve, and therefore with access to the best care.

Violence on health-care professionals is as abhorrent as is negligence on their part. In a question of life and death, inflamed passions are possible, but it cannot be tolerated when frustration and fear of an impending decline in health or death lead to acts of violence against those who implement the treatment. It is important for doctors to display a good bedside manner, explaining to the patients and their family about the possible outcomes of treating a disease. In this case, notably, even this was communicated at all hospitals the patient had been in. While doctors struck work for a day in protest in the State, memories of the recent R.G. Kar rape and murder of a young doctor have compounded unrest among them. While human emotions under stress fall in the zone of the unpredictable, the presence of deterrence in health-care institutions — baggage scanners, CCTV monitoring, security checks, the obvious presence of security personnel — is the only way of ensuring that doctors remain safe.

INDIA WILL FAIL TO MEET 2025 TB 'ELIMINATION' TARGET

In March 2018, Prime Minister Narendra Modi set an ambitious goal of "eliminating" TB by 2025, five years ahead of the United Nations Sustainable Development Goals (SDG) deadline set for 2030. Mr. Modi reiterated the government's goal of "eliminating" TB by 2025 even in March 2023 while inaugurating the One World TB Summit 2023 in Varanasi.

The SDG targets for 2030 is 90% reduction in TB deaths compared with 2015 and 80% reduction in TB incidence compared with 2015. As per WHO's post-2015 End TB Strategy, compared with 2015, countries are required to meet the 2025 milestones of reducing TB deaths by 75%, and reducing TB incidence rate by 50%. But as per the WHO Global TB Report 2024 and the India TB Report 2024 released a few days ago, India will not be able to even meet the 2025 milestones set by the WHO End TB Strategy, let alone achieving the ambitious goal of "eliminating" TB by 2025.

According to the India TB Report 2024, the TB incidence rate in India in 2015 was 237 per 1,00,000 population and the mortality rate was 28 per 1,00,000 population in 2015. According to the WHO global TB report 2024, the TB incidence rate for India in 2023 was 195 per 1,00,000 population. It was 199 per 1,00,000 in 2022. In the case of TB mortality, the rate was 22 per



1,00,000 population in 2023, down from 23 per one lakh in 2022. As per the WHO report, the TB incidence rate in India had reduced by 18% between 2015 and 2023, while the reduction in the total number of TB deaths between 2015 and 2023 was only 24%. Since the End TB Strategy 2025 milestone requires 75% reduction in the total number of TB deaths and 50% reduction in TB incidence, India has to reduce the TB death rate from 28 per 1,00,000 in 2015 to seven per 1,00,000 by 2025 and the TB incidence rate from 237 per 1,00,000 in 2015 to 118.5 per 1,00,000 by 2025. Not only will India fail to “eliminate” TB by 2025, it will not even be able to meet even the End TB Strategy 2025 milestones for TB incidence and the total number of TB deaths.

Worse, even in 2023, India has not met the 2020 milestones of the End TB Strategy for both TB incidence and deaths. As per the End TB Strategy target for 2020, there should have been a 35% reduction in the number of TB deaths compared with 2015 and 20% reduction in TB incidence rate compared with 2015. With only 24% reduction in the total number of TB deaths and 18% reduction in TB incidence between 2015 and 2023, India has not even met the 2020 milestones for TB deaths and TB incidence even three years after the 2020 target date.

India did not meet the ‘elimination’ targets set for 2023 by the India’s National Strategic Plan for TB elimination: 2017-2025 report published in 2017 — reducing the estimated TB incidence rate per lakh population to 77, and reducing the estimated TB deaths per 1,00,000 population to six.

Despite the very slow progress in reducing TB incidence and deaths and far from “eliminating” TB by 2025, a November 5 PIB release says India achieved a “noteworthy 17.7% decline in TB incidence from 2015 to 2023, a rate that is over twice the global average decline of 8.3%”, as reported by the WHO Global TB Report 2024.

PHARMACISTS ISSUE CAUTION OVER ONLINE PLATFORM FOR DRUG DELIVERY

A recent move to deliver medicines through a food delivery platform in Bengaluru has raised concerns of patient safety. While pharmacists are vociferously objecting to the move, even doctors are cautious.

The announcement has been met with stiff resistance from chemists and druggists’ associations. They are flagging several issues, including violation of laws governing their trade. Chemists and doctors say the government must take a call on policies to govern operation of online pharmacies.

The Tamil Nadu Chemists and Druggists Association president S. A. Ramesh says such a move violates the Drugs and Cosmetics Act 1940. As per the Rules, medicine should be dispensed by a qualified pharmacist after verification of the prescription, he points out.

Abul Hassan, president of the Tamil Nadu chapter of the Indian Medical Association, says a drawback is lack of quality control of online pharmacies. “At present the drug controller can pick up samples randomly from a pharmacy for quality checks, preventing chances of spurious drugs entering the market,” he explains. He flags concerns such as displacement of thousands of people employed in medical shops and abuse and misuse of prescription drugs without consulting a doctor.

On the flip side, online pharmacies would make drugs cheaper as the medicine will be directly distributed from the company. Also, drugs that are not available in the city can be procured online, helping patients, he points out.



He cites the United Kingdom's model that requires a patient to upload the prescription to a centralised system. "Once the drugs are issued the prescription becomes invalid. A similar policy guideline would help in our country," he says.

LANCET STUDY: ABOUT A QUARTER OF DIABETICS GLOBALLY ARE INDIANS

A quarter of adults living with diabetes globally are in India (212 million of the 828 million) according to a Lancet report, published on World Diabetes Day. Based on data till 2022, the other nations with the most diabetics are China (148 million), US (42 million), Pakistan (36 million), Indonesia (25 million) and Brazil (22 million).

- The study, conducted by the NCD Risk Factor Collaboration (NCD-RisC) in collaboration with WHO, is the first global analysis of trends in both diabetes rates and treatment. Researchers used data from over 140 million 18-plus people available in more than 1,000 studies.
- They used the two most commonly used diagnostic criteria — a fasting plasma glucose (FPG) level of 7.0 mmol/L or 126 mg/dL and HbA1c (average blood sugar count of three months) count of 6.5 percent or higher.
- Top diabetologist Dr C S Yajnik says his paper in 2012 had highlighted how anaemia and iron deficiency elevated HbA1c levels, leading to potential misdiagnosis of diabetes/pre-diabetes in people who have normal glucose tolerance but are anaemic. "Hence glucose measurements are preferred in countries where anaemia and iron deficiency are prevalent," he says.
- Accordingly, without the inclusion of HbA1c, the prevalence of diabetes in India in 2022 was 14.4 per cent (69 million) among women and 12.2 per cent for men (62 million) — 131 million in total — in the ICMR-INDIAB study.
- Obesity and poor diets are risk factors globally. "India needs ambitious policies in lower-income regions on restricting unhealthy foods, making healthy foods affordable and even free in school meals, promoting safe places for walking and exercising, including free entrance to public parks and fitness centres," says Dr Anjana.
- Worldwide three out of five 30-plus people (59 per cent or 445 million) did not receive medication for diabetes in 2022, three-and-a-half times the number in 1990 (129 million). In 2022, almost 64 million men and 69 million women with untreated diabetes lived in India.

Do You Know:

- Diabetes mellitus is a group of conditions that arise when the levels of glucose (sugar) in our blood are higher than normal. There are actually more than ten types of diabetes, but the most common are type 1 and type 2.
- Type 1 diabetes is an autoimmune condition where the body's immune system attacks and destroys the cells in the pancreas that make the hormone insulin. This leads to **very little or no insulin production**.
- Insulin is important for moving glucose from the blood into our cells to be used for energy, which is why people with type 1 diabetes need insulin medication daily. Type 1 diabetes usually appears in children or young adults.



- AGEs, or Advanced Glycation End Products, are harmful compounds that form when proteins and sugars combine under high heat or prolonged exposure, said consultant dietician and diabetes educator Kanikka Malhotra
- “This process, called glycation, occurs naturally in the body, but it can also be accelerated by consuming certain foods like processed meat, baked goods, fried and canned foods. While the exact mechanisms are still being researched, studies suggest that AGEs can contribute to diabetes in several ways,”...
- AGEs can interfere with the body’s ability to use insulin, a hormone that regulates blood sugar levels. This can lead to insulin resistance, a condition where cells become less responsive to insulin. Over time, insulin resistance can contribute to the development of type 2 diabetes.

DELHI’S CONTINUING SEVERE AIR POLLUTION CHALLENGE

On Wednesday, the temperature in Delhi dipped below normal for the first time this winter. The onset of the cold weather was accompanied by a deterioration in the city’s air quality. The city’s air quality index (AQI) registered as “severe” for the first time this season — the most delayed arrival of the extreme polluting condition in the past 10 years. That, however, is no respite for the city’s residents. Analysis by the Centre for Science and Environment has shown that while the peak particulate matter (PM) levels have fallen this season, the city’s average pollution has risen. In other words, pollutant concentration remains a cause for worry. The average PM 2.5 levels, this year, are the highest in five years. Also, the fact that Delhi continues to experience bad air way past the crop residue burning season points to an imperative long highlighted by experts — a policy focus beyond a seasonal approach.

In recent years, Delhi’s AAP government has experimented with smog towers and water sprinklers. Smog towers are supposed to act as giant air purifiers. However, by all accounts, their efficacy is restricted to the immediate vicinity, leaving the broader cityscape unaffected. There has also been no audit of the emissions from these machines. Similarly, the jury is out on cloud seeding and the use of drones, two measures that have found prominence in the Delhi government’s recent list of solutions. Excessive emphasis on such questionable responses has detracted from building the institutional capacities required to clean up the city’s air. This task, of course, cannot be undertaken in an emergency mode. But in the three years since it replaced the Supreme Court-mandated EPCA as Delhi’s nodal pollution control agency, the Commission for Air Quality Management (CAQM) has invested very little in data-driven, science-based solutions.

Farm fire incidents in Haryana and Punjab have been coming down in the past few years. However, reports continue to indicate high pollution levels in the two states. On Tuesday, Chandigarh recorded the second-worst air quality in the country. The city municipality’s response to the crisis is similar to its counterpart’s in Delhi — sprinkling water and using fogging machines. Joining the dots between local and regional pollution could be beyond the capacities and mandate of municipalities. This is where an agency such as the CAQM should step in. Solutions such as airshed pollution management — which zeros in pollution hotspots in regions — require coordination between local and state-level agencies. The CAQM has largely been operating as a regulatory agency. The central government agency needs to step up and join the dots between local and regional pollution, beyond seasonal issues such as stubble burning.



WHAT WE BURN IS WHAT POLLUTES

A quarter-century ago, over 200 scientists from the US, Europe, the Maldives, and India came together to study the haze over the Indian Ocean. Led by atmospheric scientist V Ramanathan of the Scripps Institution of Oceanography in California, the Indian Ocean Experiment (INDOEX) undertook intensive field observations using aircraft, ships, surface stations, and satellites. They discovered a giant brown layer of cloud hanging over much of the Indian Subcontinent and the Indian Ocean between October and February, which they termed the Indian Ocean Brown Cloud or Asian Brown Cloud

— INDOEX revealed that this layer was primarily created by the burning of biomass in fields and homes, as well as fossil fuels like coal in industries, and that it traveled thousands of kilometres. The study also found that the haze significantly affected regional temperatures, precipitation patterns, and ground-level pollution, reducing agricultural productivity and causing widespread respiratory and cardiovascular diseases.

— When the UN Environment Programme published the INDOEX report in 2002, some prominent Indian scientists called it sensationalist and argued that the “Indian Ocean” or “Asian” Brown Cloud was not unique to India or Asia and should, therefore, be renamed. Because of their opposition, the name was changed to “Atmospheric Brown Cloud with a Focus on Asia”. Governments in South Asia ignored the report.

— This episode underscores two key points: First, the causes of air pollution have been known for at least 25 years and second, we have been avoiding the issue for just as long.

— The result of this obfuscation is that today, from Amritsar in Punjab to Agartala in Tripura, an arc of brown haze, up to 3 km thick, has engulfed the Indo-Gangetic plains (IGP), impacting lives, livelihoods, and the economy.

— India emits about 52 lakh tonnes of PM_{2.5} (particulate matter less than 2.5 microns in size, which has high health impacts) annually, excluding dust from natural and manmade sources.

— Around 48 per cent of these emissions come from biomass use — such as agricultural residue, fuelwood, and dung cakes — for cooking and heating in homes. Stubble burning contributes an additional 6.5 per cent, making biomass burning responsible for 55 per cent of total PM_{2.5} emissions.

— Industry and power plants are the second-largest emitters, contributing about 37 per cent, primarily from coal burning. The transport sector, a major focus of air pollution mitigation, contributes about 7 per cent of the emissions, while the remainder comes from sources such as open garbage burning.

— These findings are not surprising if we follow the dictum: What we burn the most, pollutes the most. In India, we burn about 220 crore tonnes of fuel and waste. Of this, 85 per cent is coal and biomass, while 15 per cent comprises other fuels such as petrol, diesel, and natural gas. Naturally, most of our pollution is due to burning biomass and coal. Additionally, dust from roads, construction sites, and barren land contributes to particulate pollution, especially PM 10.

— To address air pollution decisively, we must follow a scientific approach, and move beyond optics like odd-even, construction bans and artificial rain, and instead focus on the real solution –



energy transition. Shifting households to LPG, biogas, or electricity for cooking and heating will eliminate a significant proportion of PM 2.5 emissions.

— Though challenging, this is achievable through targeted policy initiatives like a new PM Ujjwala Yojana that provides sufficient incentives to encourage low-income households to move away from traditional biomass.

— Similarly, energy transition in industry, especially in MSMEs, along with rigorous monitoring and enforcement, is necessary to reduce pollution. A programme encouraging MSMEs to adopt cleaner fuel and technologies, such as electric boilers and furnaces, could curb emissions significantly.

— On the other hand, eliminating stubble burning is essential to decrease severe and hazardous pollution days in October and November. Technological interventions along with incentives/disincentives can solve this problem. The simplest technological solution is to modify or mandate combine harvesters that cut closer to the ground, like manual harvesting, leaving minimal stubble behind.

— As far as automobiles are concerned, scaling up electric vehicles and public transport is crucial. This will need clear targets for EV adoption and the promotion of public transport as a lifestyle choice. Lastly, to reduce local sources of pollution — dust from roads and construction, garbage burning, and traffic congestion — local bodies must be strengthened and held accountable.

Do You Know:

— With 'severe' air quality in Delhi on Saturday, and predictions of air quality index (AQI) in the 'very poor' category over the next six days, the government in the national capital has issued anti-pollution measures for the safety of Delhiites.

— It has mandated that primary schools transition to online classes, until further notice. A ban has also been placed on all construction and demolition activities with exceptions made for specific projects related to defense, Metro, railways, airports, and healthcare facilities.

— GRAP, according to a report in The Indian Express, is a set of emergency measures that kick in to prevent further deterioration of air quality once it reaches a certain threshold.

— While Stage 1 is activated when the AQI is in the 'poor' category (201 to 300), the second, third and fourth stages are brought to use as the AQI reaches the 'very poor' category (301 to 400), 'severe' category (401 to 450) and 'severe +' category (above 450) respectively.

— Measures being imposed under the previous categories will continue even when the subsequent category is activated.

WAYANAD LANDSLIDES NOT NATIONAL CALAMITY: CENTRE

The Union government informed Kerala that the Wayanad landslides of July 30 cannot be declared a national calamity, and expressed the view that sufficient funds are available with the state for relief operations.

- The state government had sought assistance of Rs 900 crore from the Centre towards the relief and rehabilitation of the people affected by the tragedy, which killed 231 and left 47 others still



missing. Around 900 families were displaced due to the landslides, leaving three hamlets nearly deserted.

- “Under the existing provisions of SDRF/NDRF, there is no provision to declare any calamity as national disaster,” Union Minister of State for Home Affairs Nityanand Rai said in a letter to Kerala government’s special representative in Delhi, K V Thomas.
- The Union minister said primary responsibility for disaster management rests with the state.

Do You Know:

- The Western Ghats have been classified as an ecologically fragile region. Recent research by experts at the Indian Institute of Science divided the 1.6 lakh sq km of Western Ghats into four ecologically sensitive regions (ESR). Promoting sustainable land-management practices such as reforestation, controlled deforestation, and sustainable agriculture is crucial to maintaining hillside stability and reducing soil erosion, thereby mitigating the effects of heavy rains.
- The Central government on Friday issued the sixth iteration of a draft notification, declaring 56,825.7 sq km of the Western Ghats an ecologically sensitive area (ESA) in the states of Gujarat, Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu.
- The ESAs proposed across these states are spread over 449 sq km in Gujarat, Maharashtra (17,340 sq km), Goa (1,461 sq km), Karnataka (20,668 sq km), Tamil Nadu (6,914 sq km), and Kerala (9,993.7 sq km). The Centre has provided a window of 60 days to submit objections and suggestions on the draft.

CENTRE NOTIFIES NEW WATER ACT RULES

The Union Environment Ministry on Monday notified new rules for holding inquiry and imposing penalties for violations of the Water (Prevention and Control of Pollution) Act. The new Rules – Water (Prevention and Control of Pollution) (Manner of Holding Inquiry and Imposition of Penalty) rules, 2024, will come into effect immediately, as per the government’s notification.

- The Rules come in the backdrop of the amendments made to the Water Act earlier this year, wherein offences and violations of the Act were decriminalised, replacing them with penalties instead.
- Earlier in July, the Union Environment Ministry also notified Rules exempting non-polluting ‘white’ category industries from obtaining prior permissions to establish and operate under the Water Act, to give effect to certain amendments in the Act.
- The amendments had also allowed the Centre to appoint officers to adjudicate offences, and violations and determine penalties.
- These sections relate to contravention of norms on releasing industrial effluents and pollutants.
- According to the Rules, the adjudication officer then has powers to issue notice to persons against whom complaints have been filed, detailing the nature of contravention alleged or committed. An adjudication officer, as per the amended Act, has to be a person not below the rank of a joint secretary or secretary to the state government. The adjudication office then considers the explanation provided and if needed, holds an inquiry into the complaint.



- The alleged violator could defend themselves or through a legal representative. The whole process has to be completed within six months from issuance of notice to the opposite party, the Rules state.

Do You Know:

- India is expected to be the most severely affected as the global urban population facing water scarcity is projected to increase from 933 million in 2016 to 1.7-2.4 billion people in 2050, according to the flagship UN report.
- The government has prioritised providing tap water connections, but the quality of aquifers remains neglected. Historically, the country attempted to solve water deficiencies by focussing on supply-side characteristics.
- There is little cooperation among departments responsible for surface and groundwater, irrigation resources, and drinking water. Despite the fact that floods and droughts occur with alarming frequency in most parts of the country, rainwater harvesting plans remain primarily on paper.

WHAT ARE THE COSTS OF POPULATION DECLINE?**The story so far:**

The Chief Ministers of both Andhra Pradesh and Tamil Nadu expressed concerns about the low fertility rates in their States recently. Andhra Pradesh Chief Minister N. Chandrababu Naidu has said that he planned to introduce legislation to incentivise more children per family.

What is the current demographic situation, especially in the southern States?

After decades of family planning policies seeking to slow population growth, India has been waking up to the fact that the success of such policies is also leading to an increasingly ageing population. This is not a uniform phenomenon — southern States, as well as smaller northern States have seen a much sharper decrease in total fertility rates, defined as the average number of children born to women during their child-bearing years. Tamil Nadu and West Bengal, for instance, recorded fertility rates of 1.4 between 2019 and 2021, according to data from the Office of the Registrar General of India, while Andhra Pradesh, Telangana, Kerala, Punjab, and Himachal Pradesh had fertility rates of 1.5. At the other end of the spectrum are Bihar, with a fertility rate of 3, Uttar Pradesh (2.7), and Madhya Pradesh (2.6). States with lower fertility rates have largely developed faster, but are now faced with the spectre of a rapidly ageing population. The India Ageing report published by UNFPA last year used Health Ministry data to show that while the share of India's elderly population is projected to rise from 10.1% in 2021 to 15% by 2036, the demographic transition is more advanced in some States. In Kerala, senior citizens accounted for 16.5% of the population in 2021, a figure that is set to rise to 22.8% by 2036; T.N.'s elderly will make up 20.8% of its population in 2036, while it will be 19% in Andhra Pradesh. In Bihar, on the other hand, only 7.7% were elderly in 2021, and this is projected to rise to just 11% in 2036.

What is the likely economic impact?

"India's demographic transition is much ahead of its socio-economic transition... To understand the impact of this, the most important indicator is not the proportion of the elderly population, but rather the old age dependency ratio, that is, how many older people are there for every 100



people of working age, between 18 to 59 years,” says Srinivas Goli, an Associate Professor at the International Institute for Population Sciences. “When this ratio goes above 15%, that is when you have the onset of an ageing crisis.” A number of States have already crossed this point, according to projections by the National Commission on Population, with Kerala having an old age dependency ratio of 26.1 in 2021, followed by Tamil Nadu (20.5), Himachal Pradesh (19.6), and Andhra Pradesh (18.5). This means these States’ window of opportunity, to reap the demographic dividend of economic growth from a large number of young workers unburdened by the economic and health demands of a large number of minor or elderly dependents, has already closed.

Health expenses are likely to rise significantly in States with ageing populations. One analysis of NSSO data, in a study on demographic diversity by Tulane University’s K.S. James and IIPS scholar Shubhra Kriti published by The India Forum, shows that the southern States, with just one-fifth of India’s population, spent 32% of the country’s total out-of-pocket expenditure on cardiovascular diseases in 2017-18, while eight Hindi belt States with half the country’s population, spent just 24%.

The solution proposed by the Chief Ministers of increasing the fertility rate is also likely to reduce women’s participation in the labour force, which will also hurt their economies. Southern politicians have also raised concerns with the Finance Commission that while their successful economies have pumped in higher tax revenues to the central pool, they get a diminishing share of the central pie of resources due to their slowing population growth.

What are the political implications?

Uneven population growth is set to shake up the federal structure, with the current freeze on the number of seats in Parliament set to expire in 2026, after which a new delimitation exercise will change the representation that States have in the Lok Sabha. The study by James and Kriti estimated that Uttar Pradesh is likely to gain 12 seats, followed by Bihar (10) and Rajasthan (7), while Tamil Nadu is set to lose nine seats, followed by Kerala (6) and Andhra Pradesh (5), due to their falling share in national population.

What are the solutions being considered?

The southern CMs seem to be advocating pro-natalist policies by incentivising women to have more babies. “This has not been a very successful approach internationally. Educated women know they are not reproductive machines, and forced fertility will not work, nor will incentives that do not recognise what families actually need,” says Dr. Goli. He recommends changes in work-family policies, with paid maternity and paternity leaves, accessible childcare, and employment policies that reduce the “motherhood penalty”. He notes that States and nations with better gender equity are better able to maintain fertility rates at sustainable levels, as women are more likely to have children if they will not be deprived of economic independence while doing so.

Another approach is to increase the working lifespan and thus reduce the old age dependency ratio. The southern States are already magnets for economic migrants. However, Dr. Goli points out that though these migrants make social security demands of their destination States, they continue to be counted in their home States for political and financial distribution purposes, leaving southern States in a difficult tangle.



HOW DO LIGHTNING RODS PREVENT LIGHTNING STRIKES FROM REACHING PEOPLE?

Climate change is making lightning strikes around the world more common and deadlier. Every year, around 24,000 people around the world are killed by such strikes; in India, lightning strikes killed 2,887 people in 2022. There have been petitions to declare this phenomenon a natural disaster in India so that its survivors can access institutional mechanisms for protection. Against this backdrop, lightning rods are important for their ability to keep lightning away from people.

What is lightning?

Lightning is an electrical discharge between charged particles in a cloud and the ground. Objects can be classified as electrical conductors or insulators, but this depends on the electrical energy acting on the object. For example, the air around us is an electrical insulator: it doesn't transport electric charges. But if it is subjected to a high voltage of around 3 million V/m, its insulating properties break down and it can transport a current.

Lightning strikes are possible because electrical charges can build up in a cloud beyond the ability of air to keep resisting their movement.

What is a lightning rod?

While a lightning strike occurs between a cloud and an object on or near the ground, it takes the path of least resistance, which means it moves towards the closest object with the highest electric potential.

"The reason lightning strikes the rod has to do with its shape. Lightning rods are pointy and pointed things create stronger electric fields near them," IIT Kanpur assistant professor of physics Adhip Agarwala said. "It's like saying the flow of water speeds up near a nozzle. The electric field is the force that acts on molecules of air, so it becomes strongest near the lightning rod. This force ionises the air near the rod first and provides a route for the current to flow."

Think of a lightning strike as the extended hand of someone who wants to be pulled out of a pool. If there are many hands offering to help, the lightning's hand will reach for the strongest one. A lightning rod is an electrical conductor that takes advantage of this fact with one addition: engineers install it on building-tops in a way that it's the first hand the lightning encounters on its way down. This is also why it's risky to stand under trees in an otherwise open field, like a farm.

Where does the current in a lightning rod go?

Heat energy always flows from a warmer object to a cooler object. Liquid water flows from a place with a higher gravitational potential to a lower one. Similarly, an electric current flows from a place with higher electric potential to a place with lower electric potential.

Fortunately, we have an abundant source of lower electric potential: the earth. The lightning rod is connected to a wire that drops through the length of the building into the ground, where it dissipates its electric charges into its surroundings. The idea here is that electrifying the earth will need virtually infinite amount of charges, so it's treated as a bucket that will never fill up.

However, some parts of the bucket may still be better at receiving the charges than others.



If a strike induces a large current in a grid-connected electrical system, engineers connect the wire to a line that allows only high currents, thus diverting them away from devices that can handle only low currents. Such setups are called lightning arresters.

Can lightning evade a lightning rod?

A lightning strike may evade a lightning rod if the rod is installed at the wrong height or angle or too close to another structure, isn't properly grounded, if there are multiple thunderstorms in an area, if it has a flawed design, or if it has become misshapen and/or corroded due to lack of maintenance.

It can also fail if an electrical discharge ascends from the ground to meet a descending strike, risking bypassing the rod, or if a strike is more attracted to the side of a tall building than to the top.

Over the years engineers have devised new incentives for lightning to prefer a lightning rod over other structures nearby. Among others, they make sure a lightning rod is available for lightning to strike within the minimum distance the strike travels in each step it takes towards the ground.

PROJECT TO MONITOR ANIMAL HEALTH LAUNCHED: ITS OBJECTIVES, FUNDING

The central government recently launched a project to better monitor animal health for prevention of future pandemics.

The 'Animal Health Security Strengthening in India for Pandemic Preparedness and Response' initiative was launched by the Union Minister of Fisheries, Animal Husbandry and Dairying, Rajiv Ranjan Singh alias Lalan Singh, in New Delhi on October 25.

What is the project?

The project aims to enhance the country's capacity to "prevent, detect, and respond to animal health threats."

The project was approved by the Pandemic Fund, created by G20 countries under Indonesian presidency in 2022.

The basic purpose of the fund is to assist low-and middle-income countries in strengthening their capacities to identify, report and contain future pandemics.

In its first investment round, the fund mobilised \$2 billion. Proposals from various countries were invited for funding, and 350 expressions of interest (EoI) and 180 full proposals were received in the first call. Of these, the governing board of the Fund approved 19 grants in 37 countries. From India, the proposal by the Union animal husbandry department made it to the final list to receive a funding of \$25 million.

What is the timeline for the project?

The project will work with the help of three implementing agencies—Asian Development Bank (ADB), the World Bank, and the Food and Agriculture Organisation (FAO). It is expected to be completed by August 2026.



What are the interventions planned?

In a concept note, the Department of Animal Husbandry and Dairying said, “The major interventions under the project are strengthening and integrating disease surveillance and early warning systems, upgrading and expanding the laboratory network, improving the interoperable data systems, building capacity for data analytics and risk communication, and strengthening health security for transboundary animal diseases and India’s role in regional cooperation through cross-border collaboration.”

“The impact of the project would be to reduce the risk that a pathogen will emerge from animals (domesticated and wildlife) and be transmitted to the human population, endangering the health, nutritional security, and livelihoods of vulnerable populations,” said the note.

Why is it needed?

The WHO declared six public health emergencies of international concern in the past few decades, out of them five were zoonotic (transmitted from animals to humans). The latest example of such a disease was Covid-19, which affected the entire world in 2020-21.

About two-thirds of infectious diseases affecting humans originate from animals. Therefore, it is necessary to focus on animal health security as part of future pandemic preparedness. India, with 536 million livestock and other animals, requires measures to prevent and manage infection outbreaks.

What are the expected outcomes of the project?

According to the ministry, following are the five key outputs expected from the project: augmentation of laboratory systems and vaccine manufacturing facilities; strengthening of surveillance and early warning systems; development of human resources capacity and competency; strengthening of data systems, analytics, risk analysis, and risk communication; and addressing cross-cutting institutional capacity gaps at national and regional levels.

ELEPHANT DEATH IN BANDHAVGARH: WHEN A FUNGUS ATTACK TURNS MILLETS INTO POISON

Ten wild elephants died in Madhya Pradesh’s Bandhavgarh Tiger Reserve recently after consuming a “large quantity” of kodo millet plants, which had been infected with a fungus, a toxicology report released last week by ICAR-Indian Veterinary Research Institute (IVRI), Bareilly, said.

- Traces of cyclopiazonic acid—a toxin produced by fungi known to affect kodo millets – were found in the samples taken from the dead tuskers, according to the report.
- Kodo millet (*Paspalum scrobiculatum*) is a grain believed to have originated in India. It is cultivated in states such as Madhya Pradesh, Gujarat, Karnataka, Chhattisgarh, and parts of Tamil Nadu. It is also grown in other countries, including Pakistan, the Philippines, Indonesia, Vietnam, Thailand, and West Africa.
- Experts suggest that it is rich in vitamins and minerals. Kodo millet is also gluten-free, easy to digest, and a rich source of antioxidants, experts said.



- According to a 2023 study, kodo millet crops are “more prone to fungal infection followed by bacterial and viral; these infections adversely affect the grain and fodder yield. Ergot is a parasitic fungal endophyte that grows in the ear heads of various blades of grass, most frequently on kodo millet... Consumption of such kodo grains is often found to cause poisoning”.
- Cyclopiazonic acid is one of the major mycotoxins – toxic substances produced by certain fungi or moulds that can lead to disease and death in humans and animals – associated with Kodo millet. Upon the consumption of the infected grain, the mycotoxin can cause Kodo poisoning, which was first recognised in the mid-1980s, the study said.
- Kodo poisoning mainly affects the nervous and cardiovascular systems and the symptoms include vomiting, giddiness, unconsciousness, small and rapid pulse, cold extremities, and tremors.
- There have been no reported deaths of human beings due to Kodo poisoning as patients can recover once their stomach is flushed by giving them stimulants, hot tea or milk. Previous cases have shown that patients can take up to three days to recover.

Do You Know:

- Kodo millet crops are best suited for tropical and subtropical regions. They are grown on poor soil and widely distributed in arid and semi-arid regions.
- In India, kodo millet is a staple food for many tribal and economically weaker communities. It is one of the “hardest crops, drought tolerant with high yield potential and excellent storage properties,” according to researchers.

BANDHAVGARH ELEPHANT DEATHS: TOXICOLOGY REPORT RULES OUT INTENTIONAL POISONING, POINTS TO FUNGUS IN KODO MILLET PLANTS

According to the toxicology report of the 10 elephants that died at Bandhavgarh Tiger Reserve, they had consumed a “large quantity” of kodo millet plants that were infected with a fungus.

The toxicological examination report from the Centre for Wildlife Conservation, Management and Disease Surveillance, ICAR-Indian Veterinary Research Institute, Bareilly, also rejected suspicions that the elephants may have been poisoned intentionally. This was after the samples tested negative for several other toxic substances.

The lab had analysed samples of the liver, kidney, spleen, heart, lungs, stomach, and intestinal contents of the elephants.

“Presence cyclopiazonic acid was detected in all pooled samples. Approximate concentration of cyclopiazonic acid detected in the sample was above 100 ppb. Further screening of all the samples is being made to estimate the exact concentration... The results indicate that the elephants might have consumed large quantities of kodo plant/grains,” the report read.

The report advised a “survey and destruction of the fungal infected kodo crop residue as well as avoiding the entry of domestic and wild animals into such fields”.

It also called for raising “awareness among farmers and livestock owners in and around BTR” regarding the fungal infection of the crop. “Detailed study should be conducted on cropping and ambience in and around BTR, etc,” the report said.



According to a 2023 research paper titled ‘Potential Risk of Cyclopiazonic Acid Toxicity in Kodo Millet Poisoning’, published in the Journal of Scientific and Technical Research, the kodo millet is mainly cultivated in dry and semi-arid regions. But sometimes, “environmental conditions like spring and summer strike as being suitable for a certain kind of poisoning, which leads to greater economic crop loss”.

According to the paper, “CPA (cyclopiazonic acid) is one of the major mycotoxins associated with the kodo millet seeds causing kodo poisoning, which was first recognised during the mid-eighties.”

“Millets are more prone to fungal infection, followed by bacterial and viral; these infections adversely affect the grain and fodder yield. Ergot is a parasitic fungal endophyte that grows in the ear heads of various blade grass, most frequently on kodo millet. Consumption of such kodo grains is often found to cause poisoning,” the paper said.

‘NO RELIGION MANDATES USE OF ELEPHANTS IN FESTIVALS’: KERALA HIGH COURT WANTS CURBS ON TUSKERS AT FESTIVALS, POORAM OFFICIALS UPSET

Raising concern about the wellbeing of elephants paraded during festivals, the Kerala High Court has issued guidelines including the regulation of the number of elephants that can be deployed on the basis of the space available, and capping of the time that the animals can be paraded to three hours at a time.

The guidelines, issued on Thursday, have upset the organisers of Kerala’s iconic Thrissur Pooram festival, at which decorated elephants are a major attraction.

The court raised concerns, considering that nearly 33 per cent of captive elephants in the state have died in the last seven years.

In proceedings initiated suo motu on “matters pertaining to inaction of the government in protection of animal rights”, a Division Bench of Justices A K Jayasankaran Nambiar and P Gopinath on Thursday said the state should strictly implement the Kerala Captive Elephants (Management and Maintenance) Rules, 2012 and comply with the Supreme Court’s decision in the Wildlife Rescue and Rehabilitation Centre case.

According to the guidelines issued by the court, elephants must get a rest period, which will not be less than three days, between two exhibitions; the temporary tethering facility for elephants should be clean and spacious; there should be adequate space for exhibition or parading of elephants; the number of elephants paraded should be decided based on the available space; elephants should not be paraded on public roads during day time; and their parading should not last for more than three hours at a time.

The court said that while the extensive use of captive elephants in religious festivals in Kerala is often sought to be justified on the basis of tradition and religious practice, “we do not believe that there is any essential religious practice of any religion that mandates the use of elephants in festivals. We do not, however, propose to say anything more at this stage since our focus now is merely to regulate the practice of parading elephants during festivals.”

Reacting to the court directive, Girish Kumar, the secretary of the Thiruvambadi temple board that organises Thrissur Pooram, said on Friday: “If we follow the restrictions, Pooram will have to be shifted to a vast ground or paddy field. The direction that a particular amount of space (eight metres) should be left between two elephants is meant to destroy madathil varavu and elanjithara



melam (major attractions of the festival involving elephants). Certain NGOs are out to destroy festivals.”

Kerala Forest Minister A K Saseendran said the government would examine the court guidelines and move an appeal if required. “Steps will be taken for the smooth conduct of Pooram and other festivals in the traditional manner,” he said.

BIRSA MUNDA LIVES ON

- On 29th November 2023, the Union Cabinet chaired by Prime Minister Narendra Modi has approved the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN). It was launched by the Prime Minister on the occasion of **Janjatiya Gaurav Divas** on 15th November 2023 at **Khunti, Jharkhand** targeting 75 Particularly Vulnerable Tribal Groups (PVTGs) communities.
- Under this umbrella scheme, nine ministries will implement 11 interventions, including the Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Gramin Awas Yojana, and Jal Jeevan Mission, among others.
- November 15 marks the 150th birth anniversary of the tribal icon Birsa Munda, which is celebrated as “Janjatiya Gaurav Divas” to honour the contributions of the tribal freedom fighters. Known as “Dharti Aba” (“Father of the Earth”), Birsa organised the “Ulgulan” or the Munda Rebellion against British oppression in the late 1890s.

SHORT NEWS

POPE, YUNUS LAUNCH ‘3ZERO CLUB’ IN ROME

Bangladesh Chief Adviser Muhammad Yunus and Pope Francis jointly launched a ‘Pope Francis Yunus 3Zero Club’ in Rome to “usher in a transformative and inclusive future for humanity,” it was announced on Saturday. The three Zs stand for zero poverty, zero unemployment, and zero net carbon emissions.

BHUTAN TO BUILD ‘MINDFULNESS CITY’ TO WOO INVESTMENT, CREATE EMPLOYMENT

Bhutan, The Himalayan kingdom that brought the world the concept of gross national happiness, is set to build a “mindfulness city” and began raising funds on Monday to help start the ambitious project. The “Gelephu Mindfulness City” (GMC) will lie in a special administrative region with separate rules and laws that will aim to be an economic corridor linking South Asia to Southeast Asia, officials said.

BRICS- TURKEY

- Turkey was offered partner country status by the BRICS group of nations.
- Turkey, a NATO member, has in recent months voiced interest in joining the BRICS group of emerging economies.
- The “partner country” category was introduced in the recently concluded BRICS in Kazan.



— BRICS comprises Brazil, Russia, India, China, South Africa, Ethiopia, Iran, Egypt, and the United Arab Emirates.

MOBILITY ARRANGEMENT FOR TALENTED EARLY-PROFESSIONALS SCHEME (MATES)

— Australia has come up with a MATES that allows talented young people from India to work in the country for some time.

— According to the Department of Home Affairs of Australia, MATES gives Indian university graduates and early career professionals a chance to work in Australia for two years.

— MATES has been established under the Migration and Mobility Partnership Arrangement (MMPA) on May 23, 2023.

— The MMPA is a bilateral framework that supports and promotes two-way migration and mobility between the two countries, while addressing issues pertaining to illegal and irregular migration.

PM MODI CONGRATULATES NAVIN RAMGOOLAM ON 'HISTORIC WIN' IN MAURITIUS ELECTIONS

After registering a historic victory in the general election of Mauritius, Prime Minister Narendra Modi congratulated Dr Navin Ramgoolam who is all set to become the new prime minister of Mauritius.

GLOBAL MARITIME CONFERENCE

— The Indian government is hosting a two-day global maritime conference – *Sagarmanthan: The Great Oceans Dialogue* – in the national capital on November 18 and 19.

— The conference, the first-ever being held in India, is being co-hosted by the Ministry of Ports, Shipping and Waterways and Observer Research Foundation.

QUETTA, PAKISTAN

— At least 26 people were killed, and over 60 injured after an explosion tore through at the Quetta railway station in Pakistan's Balochistan.

— The name Quetta is a variation of kwatkot, a Pashto word meaning "fort," and locally, it is known by its ancient name of Shāl or Shālkot.

PUSHED BY EL NINO, 2024 SET TO BECOME WARMEST YEAR: WMO

The year 2024 is set to become the warmest year ever, marked by exceptionally high global mean temperatures, the World Meteorological Organization (WMO) has said in its latest report. It also said that the 2015-2024 decade was on its way to becoming the warmest decade ever on record.

The WMO report, titled 'Statement of Climate 2024', was released at the UN Climate Change Conference (COP29) that got underway at Baku, Azerbaijan, on Monday.



TURRITOPSIS DOHRNII

— *Turritopsis dohrnii* also known as “immortal jellyfish” was discovered by chance in the 1980s by two young scientists, Christian Sommer and Giorgio Bavestrello. They found that when adult *Turritopsis dohrnii* jellyfish were stressed, they reverted to an earlier stage in their life-cycle — rather than die. Two scientists in Norway have discovered that *Turritopsis dohrnii* is not the only jellies who can reverse development but comb jellies from the species *Mnemiopsis leidyi* can also reverse from a mature “lobate”, or adult with lobes, to an early larval-state — also when stressed.

SET UP STATE FINANCE COMMISSION OR LOSE FUNDS: HOW CENTRE’S ULTIMATUM FORCED STATES TO FALL IN LINE

After being nudged by the Fifteenth Finance Commission, all states, except Arunachal Pradesh, have State Finance Commissions (SFCs) in place, the latest being Gujarat, which formed its commission on November 4, according to a note prepared by the Ministry of Panchayati Raj ahead of the Finance Commission’s Conclave on the ‘Devolution to Development 2024’ scheduled to be held on November 14.

CV RAMAKRISHNAN

— Professor Comaralingam V Ramakrishnan, father of Nobel laureate Venki Ramakrishnan, died on Friday in Cambridge, United Kingdom. He was 98 years old.

— Prof CVR, as he was popularly known, founded the Department of Biochemistry at the Maharaja Sayajirao University of Baroda (MSU), in Vadodara in 1955 and was its first head, at a very young age.

VICTORIA KJAER THEILVIG

— 21-year-old Victoria **Kjaer Theilvig of Denmark** was crowned the 73rd Miss Universe, marking Denmark’s first-ever victory in the prestigious beauty pageant’s history.

— Mexico’s María Fernanda Beltrán emerged as the first runner-up, while Nigeria’s Cnidimma Adetshina finished as the second runner-up.

HAREKRUSHNA MAHATAB

— The Odisha government has announced a year of celebrations for the 125th birth anniversary of Dr Harekrushna Mahatab, a former Chief Minister of the state and towering Odia icon.

— He was a freedom fighter, prolific writer, and one of the architects of modern Odisha, who was born on November 21, 1899 at Agarapada in Bhadrak district (then Balasore district).

— He served as the last Prime Minister of Odisha from 1946 to 1950, and then as Chief Minister from 1956 to 1961.

— The Prajatantra, a newspaper founded by him in 1923, continues to be published to this day.



MAULANA ABUL KALAM AZAD

- November 11 is observed as National Education Day, to commemorate the birth anniversary of Maulana Abul Kalam Azad.
- He was the first education minister of independent India. He served as the education minister from August 15, 1947 to February 2, 1958 and passed away in Delhi on February 22, 1958.
- Maulana Azad was posthumously awarded the Bharat Ratna in 1992.

BOOKER PRIZE FOR FICTION

- British writer **Samantha Harvey** won the Booker Prize for fiction on Tuesday with “Orbital,” a short, wonder-filled novel set aboard the International Space Station that ponders the beauty and fragility of Earth.
- Harvey is the first female Booker winner since 2019.
- The prize is open to English-language writers of any nationality and has a reputation for transforming writers’ careers. Previous winners include Ian McEwan, Margaret Atwood, Salman Rushdie and Hilary Mantel.

FIH HOCKEY STARS AWARDS 2024

- The captain of the Indian men’s hockey team **Harmanpreet Singh**, who led the country to its second successive bronze medal at the Paris Olympics, won the **FIH Player of the Year award for 2024** in Oman.
- **PR Sreejesh**, who retired from the game after winning his second Olympic medal, won the Goalkeeper of the Year award.

DreamIAS

**BUSINESS & ECONOMICS****WHAT HAPPENS TO INDIAN FIRMS ON U.S. BLACKLIST?****The story so far:**

The government is still gauging the impact of a decision by the U.S. Treasury department to impose sanctions on 19 Indian entities among nearly 400 companies, mainly for supplying “dual-use” technologies to Russia. In addition, the Bureau of Industry and Security run by the U.S. Commerce Department added 40 companies including five from India for re-exporting goods and parts to Russia that were imported from the U.S.

Why are recent U.S. sanctions significant?

Since April 2021, when U.S. President Joe Biden passed an executive order (E.O. 14024) on “Blocking Property With Respect To Specified Harmful Foreign Activities of the Government of the Russian Federation”, the U.S. has sanctioned hundreds of companies from more than 20 countries worldwide for supplies and sales to Russia, including some from India. But on October 30, the U.S. Department of Treasury invoked the E.O. to sanction 19 Indian entities, including companies and individuals for providing “dual-use” technologies to Russia and other deals with Russian companies calling them “Third-Country Sanctions Evaders”. The companies, mostly based in Delhi, Uttar Pradesh, Bengaluru and Hyderabad, are reputable, well-established companies dealing in technological manufacturing, with some even holding government contracts. These companies will now be on a U.S. “blacklist”, have assets or funds in the U.S. frozen, and face travel bans.

How has the Indian government responded?

The Ministry of External Affairs (MEA) has been fairly muted on the action by the U.S., which is likely to cost Indian companies millions of dollars in contracts and legal appeals. When asked during a briefing, Ministry of External Affairs spokesperson Randhir Jaiswal said that the MEA had “seen reports of U.S. sanctions”, but declined to comment on whether this was discussed between U.S. National Security Adviser Jake Sullivan and NSA Ajit Doval, who spoke a day later. The MEA said the companies were “not in violation of Indian laws”, and pointed out that the government was trying to “clarify issues”. “India has a robust legal and regulatory framework on strategic trade and non-proliferation controls,” Mr. Jaiswal said, referring to India’s membership of key non-proliferation export control regimes such as the Wassenaar Arrangement, Australia Group and the Missile Technology Control Regime.

What else can India do?

India does not recognise unilateral sanctions by the U.S. or any other country, following only those sanctions imposed by the UN. However, as India-U.S. high-tech trade increases, the U.S.’s strictures will have an increasing impact on both Indian companies and the government’s moves. According to the MEA, Indian agencies are already “sensitising” Indian companies on the new measures being implemented by the U.S. that could impact them. The government could also increase measures to sanction-proof those Indian companies doing business with Russia, by building more structural banking mechanisms, and facilitating payments in national currencies, as have been explored for refineries procuring Russian oil, diamond processing units and other sectors where the U.S. and EU sanctions have been the most stringent. Eventually, rejecting any U.S. decision will



come at the cost of bilateral ties, and the government will have to evaluate the cost-benefit calculus on whether to accept U.S.'s moves, or to react more strongly to sanctions.

Will the Trump victory make a difference?

While a new U.S. administration after Donald Trump's electoral win is expected to pursue a softer line on Russia, it is unlikely that these sanctions will be removed anytime soon, say analysts. During his campaign, Mr. Trump has consistently side-stepped any criticism of Russia's war in Ukraine, saying that once he comes to power, he would "end the war within 24 hours". This has been seen as an indication that the Trump administration would not impose further sanctions on Russia. However, the U.S. Congress has frequently taken very tough positions on Russia, and in 2017, virtually forced Mr. Trump's hand during his first tenure into signing the CAATSA law (Countering America's Adversaries Through Sanctions Act) that threatened sanctions against countries for procuring major Russian military hardware, including the S-400 missile defence systems that India has signed a deal for. While Mr. Trump has led the Republican party to a majority in the Senate, it is unlikely that he will reverse any of the sanctions already imposed on Russia.

NITI AAYOG CEO'S COMMENT ON RCEP: CALL FOR A WIDER CONVERSATION

After years of negotiating, in November 2019, India chose to stay out of the Regional Comprehensive Economic Partnership (RCEP) — a trade agreement that includes 15 countries accounting for 30 per cent of global GDP, and around a quarter of world exports. Many had argued, then, that this was a lost opportunity. The argument was that staying out of such trade agreements, not being deeply integrated with the global value chains that run through these regions, was difficult to reconcile with the objective of becoming a global manufacturing hub, capturing export opportunities and foreign capital. There were concerns that the protectionist impulses that seemed to guide policy, tariff and non-tariff barriers, and other country-specific limitations would restrict the gains that could potentially flow from the escalating trade tensions between China and the US, and the China plus one strategy. As per a recent report by Oxford Economics, while India has "benefited from US trade rerouting away from China", the gains have been to "a much lesser extent" when compared to other Asian countries such as Vietnam, Indonesia and Malaysia. Further, the report points out that the country has "not been able to attract a notably greater portion of global foreign direct investment, even as FDI flows to China plummeted". In this context, the recent comments by the CEO of Niti Aayog, BVR Subrahmanyam on trade agreements, are welcome.

As reported in this paper, Subrahmanyam has said that India is missing out on the "China plus one" opportunity and that it should consider joining agreements such as the RCEP and the Comprehensive and Progressive Agreement for Trans Pacific Partnership. In principle, this is the right approach. Even countries like Sri Lanka and Bangladesh are looking to join the trade bloc. However, five years later, the world is a different place. The intervening years have seen a pandemic, the Russia-Ukraine war, and a growing conflict in the Middle East. Supply chain disruptions have been frequent, and western countries, particularly the US, have lurched towards protectionism. Trade policy is now guided, more, by geopolitical and security considerations. Donald Trump's victory in the recent presidential elections has further sparked uncertainty about the direction of US trade policy — Trump has advocated for a 60 per cent tariff on imports from China, and 10-20 per cent tariff on other imports.



In this fast changing milieu, India must reevaluate its trade policy. While the country has since signed some trade agreements with countries such as the UAE and Australia, progress on others, such as the agreements with the EU and UK, has been slow. Subrahmanyam's comments, which perhaps indicate some rethink within the government, are also at odds with arguments being made for looking at agreements such as the ones with ASEAN in light of a growing trade deficit. As India navigates a rapidly evolving geopolitical environment with a second Trump presidency set to unfold, Subrahmanyam's views call for a wider debate.

SURPRISE SPIKE

India's consumer prices have gained fresh momentum over September and October, rendering the tangible softening in inflation to a pace below the official median target of 4% in the two months preceding them, a fleeting reprieve. From 3.65% in August, retail price rise had hit a nine-month high of 5.5% in September. To be clear, the Reserve Bank of India (RBI)'s Monetary Policy Committee (MPC), in its October review, had termed the inflation moderation as slow and uneven, and anticipated a reversal in September. A sharp surge in vegetable prices, particularly tomato, from the onset of the festival-packed month of October, and an uptick in edible oil prices after nearly two years of decline, had stoked anticipation that the inflation may end up a tad higher than September. However, the Consumer Price Index for October beat all economists' projections by a wide margin, to rise 6.2%, the highest since August 2023 when it was up 6.8%.

Food prices remained the key bugbear as they have been through most high inflation periods this year. However, the uptick was alarming at 10.9%, the highest since last July, with urban consumers facing a sharper 11.1% uptick. Within the food basket, vegetable prices boomed 42.2%, the highest surge in almost five years, led by tomato prices that more than doubled year-on-year. Global edible oil price spikes also weighed in along with pricier fruits. The Finance Ministry, in its economic review late last month, had highlighted that the current bout of inflation is driven by a few food items and is not feeding into other items of consumption. Core inflation (excluding food and energy) has been well under the headline inflation rate and continued to be comfortable, and sufficient food grain buffers with a healthy kharif harvest, it said, would alleviate price pressures. These assumptions may need a rethink. The Governor of the RBI, Shaktikanta Das, had noted that core inflation had bottomed out, and is beginning to show — personal care and effects' prices were up 11% in October. Even if food prices cool with fresh crop arrivals in coming months, other components of the price gauge are heating up. A durable decline in inflation that the MPC is waiting for to mull interest rate cuts is now a poor prospect while hopes of a December rate cut are out of the window. That this coincides with a period of slackening growth momentum and notably waning demand in urban India bodes ill for private investments. Policymakers at the Centre must acknowledge the interlinked challenge of inflation and consumption, so that an attempt can be made to fix what they can with the fiscal tools at their disposal — be it tax cuts, or better food management.

DOMESTIC SYSTEMICALLY IMPORTANT BANKS: WHY ARE THESE BANKS 'TOO BIG TO FAIL'?

The Reserve Bank of India (RBI) on Wednesday retained the State Bank of India, HDFC Bank and ICICI Bank as Domestic Systemically Important Banks (D-SIBs).

All three banks continue to be under the same bucketing structure as in the 2023 list of D-SIBs, the regulator said. Systemically Important Banks (SIBs) are perceived as banks that are 'Too Big



To Fail (TBTF)' and their continued functioning is crucial for the uninterrupted availability of essential banking services to the real economy.

Which banks have been classified as D-SIBs by the RBI?

The RBI has continued to identify SBI, HDFC Bank and ICICI Bank as Domestic Systemically Important Banks under the same bucketing structure as in the 2023 list of D-SIBs. The regulator had issued the framework for dealing with D-SIBs in July 2014. Since 2015, the RBI has been disclosing the names of the banks classified as D-SIBs every year.

While the Reserve Bank had announced SBI and ICICI Bank as D-SIBs in 2015 and 2016, HDFC Bank was classified as D-SIB in 2017 along with SBI and ICICI Bank. The current update is based on the data collected from banks as on March 31, 2024.

Why have D-SIBs been created?

Some banks, due to their size, cross-jurisdictional activities, complexity, lack of substitutability and interconnectedness, become systemically important. The disorderly failure of these banks has the potential to cause significant disruption to the essential services they provide to the banking system, and in turn, to the overall economic activity. Therefore, the continued functioning of Systemically Important Banks (SIBs) is critical for the uninterrupted availability of essential banking services to the real economy.

SIBs are perceived as banks that are 'Too Big To Fail (TBTF)'. This perception of TBTF creates an expectation of government support for these banks at the time of distress. Due to this perception, these banks enjoy certain advantages in the funding markets. However, the perceived expectation of government support amplifies risk-taking, reduces market discipline, creates competitive distortions, and increases the probability of distress in the future. These considerations require that SIBs should be subjected to additional policy measures to deal with the systemic risks and moral hazard issues posed by them, according to the RBI.

What are the different buckets under which D-SIBs are placed?

Banks are allocated different buckets based on their systemic importance score. The RBI has placed SBI in bucket 4, HDFC Bank in bucket 3 and ICICI Bank in bucket 1.

What are the capital requirements for D-SIBs?

Based on the bucket in which a D-SIB is placed, an additional common equity requirement has to be applied to it. The additional capital requirement ranges from 0.20 per cent to 0.80 per cent of risk weighted assets, depending upon the bucket D-SIBs are plotted into.

On Wednesday, the RBI said, the additional common equity tier 1 (CET1) requirement as a percentage of Risk Weighted Assets (RWAs) for SBI is 0.80 per cent. The additional fund requirement for HDFC Bank is 0.40 per cent, and that for ICICI Bank is 0.20 per cent.

The higher D-SIB surcharge for SBI and HDFC Bank will be applicable from April 1, 2025. Hence, up to March 31, 2025, the D-SIB surcharge applicable to SBI and HDFC Bank will be 0.60 per cent and 0.20 per cent, respectively.

In case a foreign bank having branch presence in India is a Global Systemically Important Bank (G-SIB), it has to maintain additional CET1 capital surcharge in India as applicable to it as a G-SIB,



proportionate to its Risk Weighted Assets (RWAs) in India, i.e., additional CET1 buffer prescribed by the home regulator (amount) multiplied by India RWA as per consolidated global Group books divided by total consolidated global Group RWA.

How are D-SIBs selected?

The process of assessment of systemic importance of banks by the RBI is a two-step process.

In the first step, a sample of banks to be assessed for their systemic importance are decided. The systemic importance of all the banks need not be computed as many smaller banks would be of lower systemic importance and burdening these banks with onerous data requirements on a regular basis may not be prudent, as per the RBI.

Hence, the sample of banks for identification of D-SIBs excludes many smaller banks. Once the sample of banks is selected, detailed study to compute their systemic importance is initiated. Based on a range of indicators, a composite score of systemic importance for each bank in the sample is computed. The banks having systemic importance above a threshold are designated as D-SIBs. D-SIBs are segregated into different buckets based on their systemic importance scores, and subject to loss absorbency capital surcharge in a graded manner depending on the buckets, in which they are placed. A D-SIB in the lower bucket attracts lower capital charge and a D-SIB in higher bucket attracts a higher capital charge.

Banks are selected for computation of systemic importance based on the analysis of their size (based on Basel III Leverage Ratio Exposure Measure) as a percentage of GDP. Banks having a size beyond 2 per cent of GDP are selected in the sample.

Which are global SIBs?

The Financial Stability Board (FSB), in consultation with Basel Committee on Banking Supervision (BCBS) and national authorities, has identified the 2023 list of global systemically important banks (G-SIBs). The list is based on end-2022 data, based on a methodology agreed upon in July 2018 and implemented for the first time in the end-2021 G-SIB assessment. The list for 2023 includes 29 G-SIBs, one less than the 2022 list. The G-SIBs include JP Morgan Chase, Bank of America, Citigroup, HSBC, Agricultural Bank of China, Bank of China, Barclays and BNP Paribas.

A new list of G-SIBs will be published this month.

CYBER CRIMES: 4.5 LAKH 'MULE' ACCOUNTS FROZEN, MANY IN PUBLIC SECTOR BANKS

The Centre has frozen around 4.5 lakh "mule" bank accounts, typically used for laundering proceeds of cyber crimes, in the past year, The Indian Express has learnt. While such accounts operate across the banking system, the most were found with the State Bank of India, Punjab National Bank, Canara Bank, Kotak Mahindra Bank and Airtel Payments Bank, sources said.

- Officials of the Indian Cyber Crime Coordination Centre (I4C), which reports to the Ministry of Home Affairs, recently conveyed this to the Prime Minister's Office in a meeting, where shortcomings of the banking system were discussed. They also highlighted that fraudsters are nowadays withdrawing payments from such "mule accounts" — which are usually created using KYC documents of another person — through cheques, ATMs, and digitally.
- According to sources, the I4C cited records from the Citizen Financial Cyber Frauds Reporting and Management System, where such complaints are logged.



Do You Know:

- Cybercrime encompasses a wide range of malicious activities, including identity theft, online fraud, financial fraud, hacking, cyberstalking, and the distribution of harmful software, among others. Digital Arrest is a form of online fraud.
- **Indian Cyber Crime Coordination Centre (I4C):** The I4C, established in 2018, is a department under the Ministry of Home Affairs (MHA) tasked with establishing a national-level coordination centre to address cybercrime-related issues.
- In September 2024, four I4C platforms were inaugurated — the Cyber Fraud Mitigation Centre (CFMC), the ‘Samanvaya’ platform, a Cyber Commandos programme and a Suspect Registry.

THE RECLASSIFICATION OF EXCESS FPI STAKE AS FDI: WHAT DOES THIS MEAN FOR FOREIGN INVESTORS?

Giving more operational flexibility to foreign portfolio investors (FPIs), the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (Sebi) have allowed FPIs to classify equity stakes in excess of 10 per cent in Indian companies as foreign direct investment (FDI), paving the way for smoother and greater flow of foreign investments.

The latest RBI directive

The RBI Monday directed FPIs to obtain necessary approvals from the government and concurrence from the investee companies when their equity holdings go beyond the prescribed limits and they reclassify the holdings as FDI.

Under Foreign Exchange Management (Non-debt Instruments) Rules, 2019, investment made by the FPI should be less than 10 per cent of the total paid-up equity capital on a fully diluted basis. Now, any FPI investing in breach of the prescribed limit would have the option of divesting their holdings or reclassifying such holdings as FDI within five trading days from the date of settlement of the trades causing the breach, the RBI notification said.

Approvals needed

The FPI concerned should obtain the necessary approvals from the government, including approvals required in case of investment from land bordering countries and ensure that the acquisition beyond prescribed limit is made in accordance with the provisions applicable for FDI, the RBI said in the notification. This means that investment should be in adherence to entry route, sectoral caps, investment limits, pricing guidelines, and other attendant conditions for FDI under the rules.

According to the RBI, the FPI should have concurrence of the Indian investee company concerned for reclassification of the investment to FDI to enable such company to ensure compliance with conditions pertaining to sectors prohibited for FDI, sectoral caps and government approvals, wherever applicable, under the rules.

Impact on FPI flows, companies

The new framework will allow the FPI to invest in companies beyond the 10 per cent limit. This means if the FPI acquires 22 per cent stake in a company, it can classify 12 per cent as FDI. The only condition is that it should have the approvals from the government and the investee



company. The directive will also benefit Indian companies as it becomes easier to attract more foreign investment. However, the rule won't be applicable in the case sectors with sectoral caps.

FPIs have pulled out over Rs 1.36 lakh crore from the cash market since October 1 this year.

FDI and FPI

FDI involves a foreign investor acquiring stake in a company or project promoted by an investor, institution or the government in India. It's usually a long-term investment and done directly with proper government approvals without routing it through stock markets.

Foreign portfolio investment refers to investments flows into a country's financial assets such as bonds and stocks. FPI, which is usually short-term, is done through the stock markets or IPOs and it can be bought and sold at any time for profits.

COMING SOON, A NEW ASSET CLASS TO CONSIDER

There are investment vehicles, also known as managed portfolios, like Mutual Funds (MFs), Portfolio Management Services (PMS) and Alternative Investment Funds (AIFs).

Fund managers float new investment products within the guidelines framed by the Securities Exchange Board of India (SEBI). Product innovation is desirable as it enables a wider basket for investors; at the same time, SEBI's guardrails are required for risk management and investor protection.

SEBI has proposed an investment product, tentatively known as new asset class or investment strategy. As and when it becomes operational, mutual fund houses will come out with new products under this framework. Here, we look at the profile of this new product or asset class.

Need for new product

As per design, MFs are meant for retail investors. Though HNIs also invest in MFs, the minimum ticket size for investment is kept low at ₹500. Portfolio Management Schemes are meant for HNIs with a minimum investment size of ₹50 lakh. AIFs require a commitment of ₹1 crore.

That leaves a wide space between MFs and PMSs. There are investors who can afford a higher ticket size than required for MF but cannot afford ₹50 lakh. The other perspective is SEBI has defined limited risk levels for MF portfolios and relatively liberal norms for PMSs.

In the space in between the two, there is space for portfolios with relatively higher risk than MFs but conservative compared with PMSs.

At the SEBI board meeting held on September 30, it was mentioned "the new product also aims to curtail the proliferation of unregistered and unauthorised investment schemes/entities, which often promise unrealistic high returns and exploit investors' expectations for better yields, leading to potential financial risks."

To explain, there are 'fund managers' who are not registered with SEBI but can offer services informally. However, strictly or ethically speaking, this is not desirable, at least from the regulator's view point. At minimum ticket size of ₹10 lakh, the new product / asset class opens up the space for regulated products with portfolio risks higher than MFs.



Proposed product

At the SEBI board meeting, it was mentioned “the new product aims to provide investors with a professionally managed and well-regulated product that offers greater flexibility, higher risk-taking capabilities for higher ticket size, while ensuring that appropriate safeguards and risk mitigation measures are in place.”

Existing MFs will offer new products under the new framework. Those will be different from existing MF products.

The investor will have the flexibility to build a minimum ticket size of ₹10 lakh across the AMC.

Product profile

On July 16, SEBI floated a consultation paper, outlining the proposed details of the products. It says, only ‘investment strategies’ specified by SEBI can be launched under the new asset class. Some of the investment strategies that may be permitted are:

*Long-short equity fund: A fund that seeks to deliver returns by taking long and short positions in equity and equity-related instruments.

*Inverse ETF/Fund: A fund that seeks to generate returns that are negatively correlated to the returns of the underlying index.

For the clarity of readers, conventional MF products are only long, wherein a fund manager buys stocks in the cash or spot segment of the equity market and stays invested. Short position means taking a position in the derivatives segment of the equity market i.e. options and futures. In conventional MFs, only in a few fund categories it is allowed to take short positions. That apart, fund managers can't take short positions per se to benefit from prices moving down.

In the new asset class, the fund manager will have the flexibility to play out both the views - benefit when stock prices move up (long positions) as well as when stock prices move down (short positions).

Other flexibilities include a higher single issuer limit for debt securities is 20% instead of 10% in conventional MFs products. The exposure cap for equity and equity-related instruments of any firm is 15% rather than 10%. The single issuer limit for debt securities that are AAA-rated is 20% instead of 10%.

Conclusion

When SEBI comes out with the final operational circular, the product will be launched. Investors with the requisite size i.e. ₹10 lakh for one AMC, will have a SEBI-regulated product option with a relatively higher risk-return profile.

MUNICIPAL CORPORATIONS' TAX REVENUE SHARE RISE IN RECENT YEARS

In FY24, municipal corporations in India are estimated to generate 50% of their revenue from their own taxes, fees, and user charges. A further 25% comes from revenue grants provided by the Central and State governments. The remaining portion comprises rental income, compensations, and investment income, according to a recent Reserve Bank of India (RBI) report.



The Report on Municipal Finances shows significant improvement since the first edition released two years ago. The latest report examines the fiscal position of 232 municipal corporations from 2019-20 to 2023-24 (Budget Estimates or BE), focusing on the theme 'Own Sources of Revenue Generation in Municipal Corporations: Opportunities and Challenges'. The scope of the report has been expanded to include more municipal corporations. It is further enriched by findings from a primary survey on property taxes.

During this period, the share of revenue from own taxes increased from 27.3% to 30%, fees and user charges rose from 18.7% to 20.2%, while the share of revenue grants, contributions, and subsidies declined from 27.9% to 24.9%.

The share of compensations and rental incomes stayed the same (13% and 6% of the revenue receipts, respectively). Interest earned on loans and income from investments formed 1-2% of the overall revenue in both periods.

Overall, in the post-GST period (from FY18 onwards), own tax revenue as a share of total revenue has declined for municipal corporations. Conversely, the share of transfers from Central and State governments has increased. In FY17, 43% of municipal corporations' revenue receipts came from their own tax revenue compared to only 30% in FY24. So, while there has been a short-term improvement in the revenue-raising capabilities of municipal corporations, the long-term decline in this potential has been substantial.

In FY24, own tax revenue which includes property tax, water tax, electricity tax, education tax, and other local taxes was highest in Karnataka (53.8%), followed by Telangana (50.3%), Tamil Nadu (44.3%), and Jharkhand (44.0%). Among major States, Rajasthan, Odisha, and Uttarakhand had the lowest ratios. Chart 3 shows the State-wise split.

The quality of municipal corporations' expenditure is improving. The share of revenue expenditure in their total expenditure has declined from 43.9% in 2019-20 to 38.5% in 2023-24 (BE), with a corresponding increase in capital expenditure from 56.1% to 61.5% (Chart 4).

RESOURCE-SPENDING GAP 42% IN URBAN LOCAL BODIES; 37% STAFF CRUNCH: CAG

Flagging concerns on the health of urban local bodies, the Comptroller and Auditor General of India (CAG) has found that city self-governments in 18 states that cater to 241 million residents are facing a 42 per cent gap between their resources and expenditure and that only 29 per cent of their expenditure goes towards programmatic and development work.

— The CAG found that 31 years after the 74th Constitutional Amendment to empower urban local bodies came into effect in 1993, these 18 states were yet to fully implement the law in spirit.

— On Monday, the CAG released a compendium of audit reports into the implementation of the 74th amendment in 18 states.

— The CAG found that on average, 32 per cent of the revenue of the urban bodies was their own, with the rest coming from the Union and state governments. The urban local bodies were able to realise 56 per cent of their property tax demand.

— Only 29 per cent of the current expenditure of the urban local bodies was directed towards programmatic and development work. There was an average vacancy of 37 per cent against the



sanctioned staff strength. On the other hand, urban bodies of 16 states had limited or no power over recruitment.

— As per the 74th Amendment, states were meant to devolve 18 functions, including urban planning, regulation of land use and construction, water supply, planning for economic and social development and public health, to the urban local bodies. The CAG found that on average, 17 out of the 18 functions had been devolved.

— The CAG said that the states had shown weak compliance with the “in-spirit reading” of the 74th amendment. Only four of the functions devolved to urban local bodies were with “complete autonomy”. The CAG recommended that states involve urban local bodies in critical functions like planning.

— “Considering that 50 per cent of India will be residing in cities by 2050, robust ULSGs are pertinent, for they are critical players in delivering good quality of life to their citizens...”

Do You Know:

— Urban local bodies (ULBs), i.e. Municipal Corporations, Municipalities, or Nagar Panchayats are the fundamental unit of urban governance in our cities. They are the first point of contact for citizens and are responsible for providing essential services such as waste management, sanitation, and urban planning.

— Municipal bodies are stretched thin, managing everything from waste collection to city planning. ULBs have insufficient resources and limited personnel to address a wide variety of complex urban problems. The main challenges that hamper the effectiveness of ULBs are their limited financial resources, constrained political autonomy and low state capacity.

— ULBs struggle with their finances. A major source of municipal revenue is property taxes, with remaining funds coming from the state government. While ULBs can raise revenue through bonds or other securities (such as the Ahmedabad Municipal Bonds in 1994), lack of administrative and technical expertise remains a problem.

— They also charge low user fees such as parking charges or commercial taxes, especially when many of these activities happen in the prime areas of the city.

FOR FARMERS, DAILY PURSUIT OF SCARCE DAP IN SOWING SEASON

At the Pradhan Mantri Kisan Samridhhi Kendra (PMKSK) at Bunna village of Kaithal district in Haryana, farmers keep coming on bicycles and motorcycles to enquire if diammonium phosphate (DAP), a chief fertilizer used while sowing wheat, is available, but they return home empty-handed.

“We don’t have a single sack of DAP left, but everyone wants DAP,” said a worker at the centre.

Farmers told The Hindu that while they were struggling to procure DAP, private shops were selling it either at a premium or forcing them to buy fertilizers or pesticides that they did not need along with it. Farmers in Punnawal village of Punjab also echoed similar views.

Farmers’ unions have been protesting over the shortage of DAP and tardy procurement of paddy in both the States. Farmers are also worried that both the factors will delay sowing of wheat, which will negatively impact the produce.



Harbans Singh said the Union government is selling nano DAP and nano urea to farmers along with the DAP. “The department (Punjab government) is telling farmers that if you do not need them, then do not buy them. The Punjab Agricultural University has not recommended it,” he added.

He also said that the shortage is a planned and deliberate move by the government to increase prices. “Ultimately, the government wants to open up the fertilizer industry completely to the private sector,” he said.

NO DUAL ECO-CLEARANCE FOR 39 CATEGORIES OF INDUSTRY

Saying that it has met a “long-standing demand by industry”, the Union Environment Ministry has exempted 39 categories of industries from the mandatory requirement of approaching State pollution control Boards for permission to run their industries.

These include manufacturing units of solar cells and modules, wind and hydel power units; fly ash bricks or block manufacturing; and leather cutting and stitching; and those assembling, repairing and servicing air-coolers and air-conditioners. All of these sectors are in the “white category” of industries, meaning they are the least polluting in nature, by a 2016 classification by the Central Pollution Control Board.

Dual compliance

In a press statement on Thursday, the Centre said the move would reduce the “compliance burden” of industries. “The government has accepted the long-standing demand of industry to remove dual compliance of environmental clearance (EC) and consent to establish (CTE) for setting up of new industries. Now, non-polluting white category industries will not be required to take CTE or Consent to Operate (CTO) at all. The industries which have taken EC will not be required to take CTE. This will not only reduce compliance burden but also prevent duplication of approvals,” the Environment Ministry noted.

An official in the Ministry told The Hindu that even prior to the notification, “white category” industries were given permits by the State departments responsible for industry. “These are the least polluting category but this notification formalises an existing practice where such industries got consent to operate without much trouble.”

The easing of this norms also flows from amendments to the Water Act earlier this year in Parliament.

The Water (Prevention and Control of Pollution) Act, 1974, was the first piece of legislation in Independent India that identified the need to have an institutional structure to address contamination of waterbodies.

This led to the creation, in September 1974, of the Central Pollution Control Board and State Pollution Control Boards (SPCBs) that were charged with monitoring and preventing public water resources from getting contaminated by sewage and industrial effluents.

Some of the amendments give the Centre greater authority to override the SPCBs in some instances. As per the original Act, the SPCB’s permission is needed for establishing any industry or treatment plant which could discharge sewage into a waterbody, sewer, or land.



Environment Minister Bhupender Yadav, who steered the Bill, had earlier said that the outdated rules and regulations caused a “trust deficit.” The imprisonment provisions for minor violations, which are simple infringements and did not lead to any injury to humans or damage to the environment, often caused “harassment” to businesses and citizens and was not in consonance with the spirit of “ease of living and ease of doing business”, he had said.

IN ‘LIFE CERTIFICATE’ MONTH, HOW GOVT’S JEEVAN PRAMAAN HAS BEEN FARING

Every November, retirees, including from the government, Defence services, Railways, public sector undertakings, and many higher education institutions, etc. have to submit a “life certificate” to continue to receive their pensions for another year.

Since 2014, the government has been issuing Digital Life Certificates (DLCs), or Jeevan Pramaan, so the pensioner does not have to physically appear before the pension-disbursing authorities – which include banks and post offices – or deliver a paper life certificate to them in the prescribed format.

Jeevan Pramaan can be generated online anywhere, and is made available directly to the relevant pension-disbursing authority.

The third annual DLC Campaign began on November 1, and will continue until November 30. The Department of Pension and Pensioners’ Welfare (DoPPW) under the Ministry of Personnel, Public Grievances and Pensions, is holding 1,900 camps to help pensioners generate their DLCs.

However, pensioners who prefer to physically go to post offices or banks to submit their life certificates can continue to do so.

Number of pensioners

As of March 31 this year, there were 64.88 lakh central government pensioners, including 10.09 lakh civilian pensioners, 31.92 lakh Defence pensioners, 15.25 lakh Railways pensioners, 4.56 lakh telecom pensioners, and 3.04 lakh postal pensioners, DoPPW data show.

AN UNREALISED GENDER DIVIDEND

As economists struggle to explain the stagnation in women’s participation in wage work in India, conservative social norms have emerged as a handy target to explain why rising economic prosperity has not translated into greater employment for women. However, this assumption of social stagnation has little basis in reality.

- The India Human Development Survey (IHDS), organised by the University of Maryland and the National Council of Applied Economic Research, has tracked changes in the lives of Indian households between 2004 and 2024.
- Over this decade, Indian parents have increased their investments in developing their daughters’ capabilities. Parental aspiration for their children — both sons and daughters — has grown rapidly, resulting in a massive increase in education.
- Today, the gender gap in education has virtually disappeared, and girls seem poised to outdistance boys. In 2011-12, IHDS found that 27 per cent of 20-29 year-old women had completed class 12 and only 12 per cent had a college degree.



- This expansion of girlhood allowed women to expand control over their own lives. Marriage remains a family affair, but whereas only 42 per cent of young women in 2012 had any input in selecting their partners, by 2022, 52 per cent did. Premarital contact between spouses has historically been low, but is increasing sharply.
- Young women also began to expand their connection with the world around them. The proportion of women who felt comfortable travelling a short distance alone by bus or train grew from 42 per cent to 54 per cent, and membership in Self Help Groups increased from 10 per cent to 18 per cent for women in their 20s.
- These are not revolutionary changes; women continue to negotiate their lives within various constraints. But the sum total of these changes reflects the ongoing transformation in the social and normative climate in which Indian women live their lives.
- However, the one area where a transformation has not even begun relates to economic opportunities. Women continue to contribute to the economy by working on family farms, and the Periodic Labour Force Survey has documented a substantial increase in this work. However, participation by women in wage labour has stagnated.
- The IHDS shows that the proportion of 20-29 year old women in wage labour was 18 per cent in 2012, falling to 14 per cent in 2022. Some of it may be due to increased college enrollment, but even for women in their 30s, participation in wage labour stagnated.
- The new economic orthodoxy tells us that women's low levels of employment are because of restrictive social norms that look down on families where women work.
- Of the four key areas that define women's empowerment, personal efficacy, power in intra-household negotiations, societal engagement, and access to income-generating activities, we see improvements in the first three domains.
- In contrast, the fourth — access to employment — has stagnated. It is time to invite India's daughters to partake in the fruits of economic development; they have clearly shown that they are ready and willing to help harvest the gender dividend.

Do You Know:

- India has 53 per cent of women outside the labour force due to care responsibilities and needs further investment in the care economy, the International Labour Organization (ILO) said in its latest report 'The impact of care responsibilities of women's labour participation' released last week. According to the Periodic Labour Force Survey (PLFS) for 2023-24, 36.7 per cent of females and 19.4 per cent of the workforce in India is engaged in unpaid work in household enterprises as against 37.5 per cent females and 18.3 per cent of total workers in 2022-23.

AS SENIOR LIVING PICKS UP IN INDIA, A 25-YEAR OLD POLICY SET TO GET A REFRESH

The Ministry of Social Justice and Empowerment is working on amending the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 and updating the National Policy for Older Persons, 1999 to promote India's senior care economy, including the senior living sector.

— Both the 1999 policy and the 2007 act, which was amended in 2019, include clauses dealing with protection of property rights and old age homes. The changes are likely to address the



evolving landscape of senior care, now characterised by active participation from private service providers, developers, and operators.

— In their current form, both policy and legislation deal primarily with old age homes supported by state or local governments. However, the senior living market now encompasses a much broader array of players, services, unit types, and a new dynamic between buyers, developers, and operators.

— The share of citizens aged 60-plus is set to increase from 157 million in 2024 (11 per cent of total population) to 260 million in 2040 (16 per cent) and 346 million in 2050 (21 per cent).

— Since 2022, senior living launches in India have averaged 2,000 units per year, almost double of around 1,100 units launched annually between 2014 and 2021, according to a new JLL report launched at the event. The report added that 60 per cent of India's senior living market is concentrated in the south, followed by 20 per cent in the north, 16 per cent in western India, and 4 per cent in east India.

— “By 2050, one in every five Indians will be a senior. That represents about 70 per cent of the world's population of seniors. It's a very large and staggering number.”

— In terms of government support, Mehta suggested there should be one nodal agency that deals with senior care, which deals with issues of social justice, health, housing, and infrastructure. He added that a taskforce can also be created to study best practices followed in countries like Japan and Switzerland, where senior care is very developed.

— In its report on elderly-friendly living/housing sector reforms, NITI has recommended the development of a regulatory framework “to support the development of the private sector and provide necessary market stewardship while ensuring the highest quality of service delivery”.

Do You Know:

— Once limited to the southern states, India's senior living market is rapidly expanding nationwide, driven by evolving societal norms and the increasing nuclearisation of families. Seniors are no longer waiting for medical needs to consider a move to specialised housing—many in their early 60s are opting for independent units to enhance their quality of life. Project developers, too, are targeting growth in temple towns like Varanasi, where more seniors are choosing to spend their later years in a culturally and spiritually rich environment.

— Despite its projected fivefold growth over the next six years, the market will remain undersupplied, with penetration expected to reach just 3 per cent by 2030—still far behind the 10 per cent in some developed countries. Unlike markets like the US, where leasing dominates, Indian seniors overwhelmingly prefer to purchase their homes.

— While demand for senior living is rising across the country, roughly 60 per cent of the market continues to be concentrated in South India. “In the South, there has traditionally been a higher acceptance of independent senior living and senior care facilities due to evolving family structures, higher levels of urbanisation, and growing population of seniors. In contrast, north India still has traditional joint family structures, with capabilities to provide family-based care to seniors. Hence, the shift towards independent senior living communities has been slower but is picking up traction,” said Rajit Mehta, MD and CEO of Antara Senior Living, a Max Group company.



LIFE & SCIENCE

SCIENTISTS UNCOVER A MIX-UP ABOUT URANUS

In 1781, German-born British astronomer William Herschel made Uranus the first planet discovered with the aid of a telescope. This frigid planet, our solar system's third largest, remains a bit of an enigma 243 years later. And some of what we thought we knew about it turns out to be off the mark.

Much of the knowledge about Uranus was gleaned when NASA's robotic spacecraft Voyager 2 conducted a five-day flyby in 1986. But scientists have now discovered that the probe visited at a time of unusual conditions — an intense solar wind event — that led to misleading observations about Uranus, and specifically its magnetic field.

The solar wind is a high-speed flow of charged particles emanating from the sun. The researchers took a fresh look at eight months of data from around the time of Voyager 2's visit and found that it encountered Uranus just a few days after the solar wind had squashed its magnetosphere, the planet's protective magnetic bubble, to about 20% of its usual volume. "We found that the solar wind conditions present during the flyby only occur 4% of the time. The flyby occurred during the maximum peak solar wind intensity in that entire eight-month period," said space plasma physicist Jamie Jasinski of NASA's Jet Propulsion Laboratory, lead author of the study published on Monday in the journal *Nature Astronomy*.

Such a visit likely would have shown that the Uranus magnetosphere is similar to those of Jupiter, Saturn, and Neptune, the solar system's other giant planets, the researchers said. A magnetosphere is a region of space surrounding a planet where the planet's magnetic field dominates, creating a protective zone against solar and cosmic particle radiation. The Voyager 2 observations left a misimpression about the magnetosphere of Uranus as lacking in plasma and possessing uncommonly intense belts of highly energetic electrons.

Plasma — the fourth state of matter after solids, liquids, and gases — is a gas whose atoms have been split into high-energy subatomic particles. Plasma is a common feature in the magnetosphere of other planets so its low concentration observed around Uranus was puzzling.

Uranus has 28 known moons and two sets of rings. The Voyager 2 observations had suggested that its two largest moons, Titania and Oberon, often orbit outside the magnetosphere. The new study indicates they tend to stay inside the protective bubble, making it easier for scientists to magnetically detect potential subsurface oceans.

EXPLAINED: THE SIGNIFICANCE OF LIGNOSAT, THE FIRST WOODEN SATELLITE LAUNCHED INTO SPACE

The world's first wood-panelled satellite was launched into space on November 5 to test the reliability of timber as a renewable building material for future space travel.

The tiny Japanese spacecraft named LignoSat, developed by Kyoto University and homebuilder Sumitomo Forestry, arrived at the International Space Station (ISS) on November 5 aboard a SpaceX Dragon cargo capsule. After a month, it will be released into orbit above the Earth, where it will remain in orbit for six months.



What is LignoSat?

LignoSat measures just 4 inches (10 centimetres) on each side, and weighs 900 grams.

The satellite is named after the Latin word for wood, with panels built from a type of magnolia tree, using a traditional Japanese crafts technique without screws or glue to hold it together.

“With timber, a material we can produce by ourselves, we will be able to build houses, live and work in space forever,” said Takao Doi, an astronaut who has previously flown on the Space Shuttle and studies human space activities at Kyoto University.

The satellite will test the durability of wood in the extreme environment of space where temperatures fluctuate from -100 to 100 degrees Celsius every 45 minutes, even as objects traverse through sunlight and darkness. According to Deutsche Welle, the satellite will also gauge timber’s ability to reduce the impact of space radiation on semiconductors.

Testing the durability of wood

The Kyoto University researchers anticipate that wood may come to replace some metals used in space exploration.

The use of wood is not entirely new either. Kyoto University forest science professor Koji Murata told Reuters, “Early 1900s airplanes were made of wood. A wooden satellite should be feasible, too.” This was corroborated by Dr Simeon Baker who told the BBC that wood, specifically cork, is used on the outer shells of spacecraft to help them survive re-entry into Earth’s atmosphere.

“Wood is more durable in space than on Earth because there’s no water or oxygen that would rot or inflame it,” Murata added.

Doi’s team aims to plant trees and build timber houses on the moon and Mars in 50 years. To this end, they have developed a NASA-certified wooden satellite to prove wood is a space-grade material.

However, LignoSat is not entirely made of wood. The satellite uses traditional aluminium structures and electronic components in a wood panel casing. Its sensors will monitor how the wood reacts to the extreme space environment in the six months it will orbit the Earth.

A renewable solution for a long-term problem

Conventional satellites, made primarily of aluminium, tend to burn up in the Earth’s atmosphere at the end of their lives and generate aluminium oxides. These gases can damage the planet’s protective ozone layer.

Add to this the concerns about the growing orbital population, including artificial mega-constellations like SpaceX’s Starlink broadband network, which currently houses 6,500 active satellites.

This is where LignoSat may have an advantage. By substituting magnolia for aluminium, the satellite wouldn’t introduce damaging pollutants into the atmosphere when it falls back to Earth.

“While some of you might think that wood in space seems a little counterintuitive, researchers hope this investigation demonstrates that a wooden satellite can be more sustainable and less polluting for the environment than conventional satellites,” Meghan Everett, the deputy chief



scientist for NASA's International Space Station program said in a press briefing a few hours before the capsule took off.

NOT VOLCANISM

By the 1990s, it was clear that the so-called Yixian Formation contained uniquely well-preserved remains of dinosaurs, birds, mammals, insects, frogs, turtles and other creatures. Unlike the skeletal and often fragmentary fossils unearthed in most other places, many animals came complete with internal organs, feathers, scales, fur and stomach contents. It suggested some kind of sudden, unusual preservation process at work. The leading hypothesis for the perfect fossils up to now has been sudden burial by volcanism, perhaps like the waves of hot ash from Mt. Vesuvius that entombed many citizens of Pompeii in A.D. 79. The Yixian deposits have been popularly dubbed the "Chinese Pompeii". Though the Pompeii idea is highly appealing, a study says it is totally wrong. Instead, the study says the creatures were preserved by more mundane events including collapses of burrows and rainy periods that built up sediments that buried the dead in oxygen-free pockets.

WHY AUSTRALIA IS PLANNING TO BAN SOCIAL MEDIA FOR TEENAGERS

The Australian government announced it will introduce legislation to keep children under the age of 16 off social media platforms such as Instagram, Facebook and TikTok.

Prime Minister Anthony Albanese said last week that a bundle of "world-leading" measures would be introduced in Parliament soon. The proposed law will put the onus on social media platforms to show they take "reasonable steps" to prevent access to children, with no penalties for the users, he said.

While the draft Bill is yet to be released, the announcement set off debates on such a ban's efficacy and need, as well as the larger impact of social media on adolescents.

What could the law propose?

Earlier this year, the state of South Australia undertook an independent study to examine the framework for a restrictive law. Former Chief Justice of Australia's High Court (its apex court) Robert French led the study, which proposed a draft law called the Children (Social Media Safety) Bill 2024. It could provide a basis for the nationwide law.

The draft Bill put the onus on "providers of social media service" to prevent anyone under 14 years from accessing the platforms and allowed access to 14- and 15-year-olds only with parental consent.

A regulator was also proposed for fining providers for non-compliance. The fines will constitute a Children's Online Safety Fund that can help in the implementation of the Act, discretionary payment to children who have suffered mental or physical harm, and other uses.

How can social media users' ages be verified online?

One of the biggest challenges in implementing such bans is age verification. While platforms like Instagram have age limits at present, they simply ask users about their date of birth and do not require verification. As a result, many children enter false information to access platforms.



Country-specific age requirements can also be bypassed through Virtual Private Networks (VPN), which can show the Internet being accessed from a different domicile.

The South Australian report took note of age assurance methods already being used/tested by platforms in Australia. These include requiring details of government-issued IDs or credit cards and using facial recognition technology to identify potential underage users. However, with data related to minors being shared with companies, serious privacy concerns have been raised over these measures.

How does social media impact adolescents?

Studies say problematic social media use — inability to control usage, experiencing withdrawal and neglecting other activities to use social media — has been on the rise. It has been associated with lower mental well-being, higher levels of substance abuse and less sleep.

Dr Yatan Balhara, a professor of psychiatry at AIIMS New Delhi, said, “Social media is not the problem, it allows people to connect with others... The challenge is that adolescents, whose brains are not yet fully developed, may not be interacting with it in the healthiest of ways.” He added: “Many adolescents evaluate their worth based on what people say about them online or how many likes they get.” There is a fear of missing out, with constant social media use also making in-person communication difficult. “In that sense, there is a logic to restricting access and use of social media,” he said.

Do You Know:

- A report by Boston Consulting Group earlier this year found that around 84 per cent Indian smartphone users check their phones within 15 minutes of waking up.
- According to experts, when you wake up in the morning, your brain moves from delta state (restful) to theta state, a kind of dreamy state, and later to alpha state, a stage when you are awake but not fully processing information. Later, the brain moves to the beta state, which is when you are fully alert.
- And, when you use your phone immediately after you wake up, and jump to the beta state from the delta state, this puts stress on the brain. Researchers say this rapid transition could lead to an increase in anxiety, irritation, and make one feel less productive throughout the day.
- The use of smartphones right before bed and immediately after waking up has become increasingly common in the last few years. And these habits have been formed owing to a variety of factors such as the surge of social media apps and short-form video apps that bring a plethora of content.
- There are numerous studies that show how the blue light emitted by your smartphones affects your sleep and impacts overall well-being.

11/11: HOW A DAY FOR ‘SINGLES’ IN CHINA BECAME THE BIGGEST SHOPPING DAY IN THE WORLD

November 11 has been marked as “Singles’ Day” in China for over a decade, with the date (11/11) seen as representing lone figures. Since then, it has become a massive commercial activity, once described as “the biggest shopping day on Earth”. For instance, the total value of goods sold on



November 11, 2022, totalled 1.15 trillion yuan or \$157.97 billion, according to consultancy firm Bain.

Major Chinese retailers began offering shopping deals and sales on the day annually, with a slew of events aimed at marketing and promotions. Globally recognised celebrities, such as James Bond fame actor Daniel Craig and musician Taylor Swift, participated in them.

What is Singles' Day in China?

The idea for Singles Day is believed to have originated at China's Nanjing University in 1993 and was originally called "Bachelor's Day". On the day, single people — particularly men — treated themselves with gifts and presents and organised social gatherings and parties.

US-based podcaster Yue Xu, who has also written on dating culture in China, told Time Magazine in 2014 that the concept of dating was new to China in the 1990s, with marriage being the predominant way people coupled up. Exposure to Western culture resulted in dating, and singledom in conjunction, becoming popular.

For single people, the day became one to celebrate their single identities, in the face of society at large mostly recognising couples and families on festivals.

How did Singles' Day become a commercial juggernaut?

In 2009, e-commerce giant Alibaba turned November 11 into a 24-hour mega-shopping festival with attractive deals. According to a Quartz report, it promoted the event by saying, "Even if you don't have a boyfriend or girlfriend, you can at least shop like crazy."

The day has also been criticised for promoting excess consumption and consumerism. It also represents a dilemma the Chinese state has faced at times — encouraging economic activity versus curbing the rise of ideas which go against communist ideology.

'NO SEX WITH TRUMP VOTERS': THE ABC OF THE 4B MOVEMENT

As Donald Trump returns to the White House, social media in the US is seeing the rise of the '4B' movement, where women swear off sex and marriage with men to protest patriarchal and often misogynist institutions and practices.

Trump has a history of misogynist remarks, and among his more vocal supporters were men with anti-progressive views on women's rights and autonomy — although polling numbers show that a large number of women also voted for him.

While the 4B movement originated in South Korea a few years ago, not having sex with men as a political protest is not a new idea. We take a look at 4B, its history, and criticism.

What is the 4B movement?

4B stands for four bis, or no in the Korean language: bihon, bichulsan, biyeonae, and bisekseu, meaning the refusal of (heterosexual) marriage, childbirth, romance, and sexual relationships, respectively.

The 4B movement belongs to the strain of radical feminism that believes that heterosexual relationships at their heart remain structures of oppression, and women need to break free of them to be truly independent and happy. In the Indian context, consider this — marriage often

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



involves dowry, the burden of running the married home and raising the child is disproportionately on women, many women are penalised at their workplaces for motherhood duties, and intimate partner violence is common. While women are supposed to endure all this for the sake of love and duties, there are very little expectations from men except earning money.

The proponents of the 4B movement believe that unless men work more actively for a gender-just society, women should not reward them with children, love, and emotional and other forms of labour.

The movement started in South Korea around 2016, when a young woman was murdered in a Seoul subway station. Her killer said he had “felt ignored by women”. This was also the time when multiple women in South Korea reported having been filmed by spycams in washrooms or while having sex, by strangers as well as men known to them. In many cases, the police were hostile to the victims. The MeToo movement gave further impetus to women talking about their struggles and their rights more vocally.

4B is largely an online movement and it is difficult to measure its impact. South Korea does have very low birth rates, but that can be attributed to a range of factors.

But how does this help women?

In criticisms and backlash online, 4B is often shown as a deranged movement of women who hate men and want to destroy family life. However, there is more to 4B than just saying “no” to men.

“The 4B movement encompasses not only criticisms of the pro-natalist turn in state policy and protests against it, but also various forms of self-help discussions and practices that are explicitly oriented towards women’s individual futures,” an article by Jieun Lee and Euisol Jeong of Yonsei University, Seoul, says. “...the 4B movement has given young feminists the opportunity to envision the future that they had been discouraged from imagining,” the article adds.

Essentially, the movement wants women to imagine more roles for themselves than just wife and mother. Women not bogged down by domestic duties and not being controlled by a man can focus on their own aims, hobbies, comfort and happiness, the movement’s followers believe. They also advocate women building strong solidarities with other women. This includes, but is not limited to, lesbian relationships. Women can depend on each other for comfort, companionship and emotional support, while working together to achieve common goals.

4B is sometimes expanded to 6B4T, which advocates staying away from firms perceived as misogynist, rejecting the fandom culture, rejecting beauty standards that conform to the male gaze, etc.

Is 4B a new idea?

Not at all. Before 4B and Trump, the American social media had seen a trend called ‘boysobor’, where women were staying away from romantic and sexual relationships with men to prioritise their own happiness, well being, and safety.

In the 1960s to 1980s, strains within second wave feminism had also advocated political lesbianism and ‘separatist feminism’, which basically believed women should stay away from the gender that oppresses them.



Possibly the best-known paper capturing these ideas is 'Love Your Enemy', co-authored by Sheila Jeffreys and others in 1979. The paper in effect said that instead of keeping all women in a giant slave camp, heterosexual marriage has provided each man with his personal assistant, and disguised it as love.

“The heterosexual couple is the basic unit of the political structure of male supremacy. In it each individual woman comes under the control of an individual man. It is more efficient by far than keeping women in ghettos, camps or even sheds at the bottom of the garden. In the couple, love and sex are used to obscure the realities of oppression, to prevent women identifying with each other in order to revolt, and from identifying ‘their’ man as part of the enemy,” the paper said.

Exhorting women to stay away from such relationships, the paper said, “Any woman who takes part in a heterosexual couple helps to shore up male supremacy by making its foundations stronger.”

Needless to say, the paper prompted immense backlash, from both men and women.

Apart from this, there was the Cell 16 movement in the US in the late 1960s and early 1970s, which advocated that women should stay celibate, stay away from men, and learn martial forms of self defence such as karate.

Why do some non-sexist people also oppose 4B?

Apart from sexist and violent comments on social media, 4B and its predecessor movements have seen thoughtful and reasoned criticism too. Some point out that just cutting off contact with men is not a solution — this puts the onus of staying away from men on the woman, instead of demanding change and accountability from men. Believing men as incapable of reform can play into the ‘boys will be boys’ school of thought, it is argued. Meaningful change can come by raising awareness and a sense of responsibility among men, and this can happen by pushing back from within relationships, it is pointed out.

Others point out that such totalising movements can be exclusionary of transgender rights.

Yet others say that these movements rob women of choice: one can be frustrated with inequality but still want children, or in the case of heterosexual women, sexual pleasure.

BAD NEWS FOR SERIAL PROCRASTINATORS: IT’S NOT BETTER LATE THAN NEVER

There are two kinds of people who have only a passing acquaintance with deadlines. For the perfectionists, there’s never enough time to get it right — they tweak and add — and that can be particularly trying for those waiting just to get home to a beer and binge-watching session. Then there are procrastinators. There are many sub-categories to this lot, from those who deal with pressure by avoiding it and the ones who find distractions too hard to resist, to people who have learnt that it’s enough to do just enough at the last minute and sneak past the finish line. As it turns out, it’s the last of these categories that has got it right.

According to a report in Organisational Behaviour and Human Decision Processes, it’s better to hand in passable work on time than strive for perfection and missing the deadline. The study surveyed managers, HR personnel and others and found that they evaluated tasks completed on time more favourably than the same or better quality work given in late. For the perfectionists, the lesson is this: Don’t let the pursuit of the great be an enemy of the good. For the distracted —



don't be, at least till the task is done. And for those who do just enough — well, there's a reason for the Goldilocks tale. They have found the happy middle.

There is another category that has few lessons to learn and little solace to take from the study. They are, in the words of Douglas Adams, people who “love the whooshing noise” deadlines make as “they go by”. These existential savants know the futility of artificial timelines, imposed by the institutional machine that believes that workplace rules are as immutable as physical laws. But since everyone needs a paycheck, they might have to fall in line.

ALARMING RATE OF DECREASE IN AFRICAN ELEPHANT COUNT

African elephants, earth's largest land animals, are remarkable mammals that are very intelligent and highly social. They also are in peril. Fresh evidence of this comes in a study that documents alarming population declines at numerous sites across the African continent over about a half century.

Researchers unveiled on Monday what they called the most comprehensive assessment of the status of the two African elephant species — the savannah elephant and forest elephant — using data on population surveys conducted at 475 sites in 37 countries from 1964 through 2016.

Savannah elephant populations fell by about 70% on average at the surveyed sites and forest elephant populations dropped by about 90% on average at the surveyed sites, with poaching and habitat loss the main drivers. All told, there was a 77% population decrease on average at the various surveyed sites spanning both species. Elephants vanished at some sites while their populations increased in other places thanks to conservation efforts.

The forest elephant population is estimated to be about a third that of savannah elephants. Poaching has affected forest elephants disproportionately and has ravaged populations of both species in northern and eastern Africa.

“We have lost a number of elephant populations across many countries, but the northern Sahel region of Africa - for example in Mali, Chad, and Nigeria - has been particularly hard hit. High pressure and limited protection have culminated in populations being extirpated,” Wittemyer said. But in southern Africa, elephant populations rose at 42% of the surveyed sites. “We have seen real success in a number of places across Africa, but particularly in southern Africa, with strong growth in populations in Botswana, Zimbabwe and Namibia.

The study did not track a continent-wide population tally because the surveys used different methods over different time frames to estimate local elephant population density. Instead, it assessed population trends at each of the surveyed sites. A population estimate by conservationists conducted separately from this study put the two species combined at between 4,15,000 and 5,40,000 elephants as of 2016, the last year of the study period. It remains the most recent comprehensive continent-wide estimate.

WILL FINANCIAL ROADBLOCKS CONTINUE TO HINDER CONSERVATION EFFORTS?

The 16th meeting of the Conference of the Parties (COP16) to the U.N. Convention on Biological Diversity recently concluded in Cali, Colombia. Representatives from U.N. countries tried to negotiate measures to halt and reverse biodiversity loss by 2030, which threatens both human well-being and the stability of human societies. A key sticking point was who'd pay for implementing these measures and how much.

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



A highlight of COP16 was the engagement of Indigenous people and local communities — but otherwise it raised a big red flag: it revealed countries are not on track to meet the “30x30” target, which calls for the world to protect 30% of the world’s land and oceans by 2030.

How much of a setback is this?

The highs of COP16

Inclusive decision-making: Negotiators reached a landmark agreement to establish a permanent body made up of Indigenous people and members of local communities and agreed this body’s inputs would have to be included in decisions about biodiversity conservation. The move is intended to protect traditional knowledge systems and strengthen their representation and participation in policymaking.

At COP16, negotiators also recognised the role of people of African descent in conserving nature and made sure to include them in biodiversity initiatives and help integrate their traditional knowledge and conservation practices into global efforts.

Biodiversity funding: COP16 established a framework called the ‘Cali Fund.’ It obligates major corporations — particularly in the pharmaceutical and biotechnology sectors — to share the financial benefits they derive from using genetic resources with the communities that nurture those resources. Companies have to contribute 0.1% of their revenue or 1% of their profits from products developed using genetic information to the fund. This figure could potentially exceed \$1 billion a year and should help support biodiversity conservation projects and benefit local communities.

Half of the money from this fund will be allocated to Indigenous communities to help conservation efforts and to acknowledge their contributions to biodiversity. Contributions to the fund are voluntary, but it is a critical step towards more equitable benefit-sharing in the realm of biodiversity, especially considering the challenges surrounding global financing for biodiversity initiatives.

Biodiversity defence: COP16 also proposed guidelines to manage invasive alien species, a direct driver of biodiversity loss, by developing new databases, improving cross-border trade regulations, and enhancing coordination with e-commerce platforms. This decision emphasises the need for technical support, capacity building, and international cooperation across developing countries.

Momentum for blue: Negotiators also agreed to a new and upgraded process to identify ‘Ecologically or Biologically Significant Marine Areas’ (EBSAs), which are critical and vulnerable parts of the ocean. This process has faced various political and legal hurdles since its inception in 2008; COP16 revived it by agreeing on mechanisms to update existing ESBAs and identify new ones.

One Health: The Global Action Plan on Biodiversity and Health established at COP16 underscores the need for a holistic “One Health” approach, which calls for a collective focus on ecosystem, animal, and human health. By addressing the common drivers of biodiversity loss and poor health, such as deforestation and climate change, the plan aims to prevent zoonotic diseases, reduce non-communicable diseases, and promote sustainable ecosystems. It also encourages partnerships among health professionals, conservationists, and policymakers to develop tools and measures to track the progress of biodiversity plus health initiatives.



Innovating with caution: Redesigning organisms or creating new biological systems (synthetic biology) was an important topic of discussion at COP16. Applications — including bioengineered species for ecosystem restoration or sustainable materials to reduce resource strain — are promising because they can address environmental challenges. However, researchers have raised concerns over the risks involved and the unintended ecological effects of introducing synthetic organisms that could disrupt ecosystems, affecting natural species.

Countries' representatives also discussed regulatory frameworks to manage these risks and ensure a balance between innovation and conservation.

The lows of COP16

Among the unresolved issues at the meeting, financial commitments and a lack of a monitoring framework are at the forefront.

Uphill battle for finance: A big bone of contention was the mobilisation of financial resources to meet the Kunming-Montreal Global Biodiversity Framework (GBF) target of \$700 billion a year for biodiversity conservation by 2030, including \$30 billion from developed to developing countries. But pledges at the conference totalled only \$163 million.

Disagreements over the governance and distribution of funds led to an impasse, with discussions on financial mechanisms being suspended without resolution. This was because developing nations advocated for a dedicated global nature fund for conservation, whereas wealthy nations blocked the proposal due to concerns over fund structure and the idea that existing frameworks were enough to meet financial needs.

Monitoring and implementation: Implementing the GBF was another key issue at COP16, but progress was limited. Only 44 of the 196 countries submitted an updated National Biodiversity Strategies and Action Plan (NBSAP) review framework for evaluating their progress through a “global stocktake.” Many countries have still not submitted their NBSAPs. The lack of a mandatory enforcement framework could weaken the goal.

India at COP16

India unveiled its updated NBSAP at COP16, outlining a roadmap for biodiversity conservation efforts aligned with the GBF. The updated plan aims to halt and reverse biodiversity loss by 2030 and achieve harmonious coexistence with nature by 2050 through a “Whole-of-Government” and “Whole-of-Society” approach.

India is challenged with balancing conservation with economic growth. So the updated NBSAP outlines 23 national biodiversity targets and emphasises a transformative approach to biodiversity conservation and ecosystem restoration. In particular, it focuses on inter-agency cooperation, financial solutions, and involving community members in restoring degraded ecosystems, protecting wetlands, and sustainably managing marine and coastal areas.

Looking ahead

Establishing inclusive decision-making bodies and frameworks for benefit-sharing shows progress. But without adequate financial commitments and robust monitoring mechanisms, reaching the 2030 targets will be difficult.



While nations reflect on the outcomes of COP16, it is clear that conserving biodiversity is crucial for environmental health, socio-economic resilience, and climate stability. For nations like India, where biodiversity is deeply tied to cultural heritage and economic stability, the stakes are particularly high.

Governments must set ambitious targets and take steps to translate these into actionable, measurable, and time-bound goals. Transparency in reporting and shared knowledge systems are vital for tracking progress and addressing gaps. As the world looks forward to COP17 in Armenia next year, collaborative action and cross-border efforts could make or break our ability to beat the triple planetary crises of pollution, climate change, and biodiversity loss.

COP29 BEGINS IN AZERBAIJAN: EVERYTHING YOU NEED TO KNOW

The 2024 United Nations Climate Change Conference (COP29) kicked off on Monday in Baku, the capital of Azerbaijan. Delegates from about 200 countries, business leaders, climate scientists, Indigenous Peoples, journalists, and various other experts and stakeholders are expected to attend the summit, which will last until November 22.

The primary goal of COP29 is to bring together countries to develop a shared plan for curbing further global warming. It would also focus on scaling up climate finance to help developing nations tackle the adverse effects of climate change.

What is COP?

COP, or Conference of Parties, is the annual meeting of the members of the UN Framework Convention on Climate Change (UNFCCC) — an international agreement, signed in 1992, that has provided a basis for climate negotiations. The UNFCCC commits members or parties to act together to stabilise greenhouse gas concentrations “at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system”. Currently, there are 198 parties (197 countries plus European Union) to the UNFCCC, constituting near universal membership.

Every year since 1995 — except in 2020 due to the COVID-19 pandemic — the parties come together to discuss and agree on international climate policy. One of the significant tasks for COP is to “review the national communications and emission inventories” submitted by member states, according to the UNFCCC’s website. “Based on this information, the COP assesses the effects of the measures taken by Parties and the progress made in achieving the ultimate objective of the Convention,” the website said.

What are some of the milestones of COP?

The first major breakthrough came at COP3 in Kyoto in 1997 when the parties adopted the Kyoto Protocol. The international treaty placed obligations on the set of rich and industrialised countries to cut their greenhouse gas emissions by assigned amounts. “Targets varied by country but averaged at a 4.2% reduction by 2012 below 1990 levels,” according to a report in the London School of Economics and Political Science (LSE).

However, the Kyoto Protocol did not last long as the rich and powerful countries were not happy with its provisions. For example, the United States signed the protocol but never ratified it. At COP15 in Copenhagen in 2009, parties tried to establish a successor to the treaty but the attempt failed.



A second attempt was made at COP21 in Paris in 2015 which led to the landmark Paris Agreement — a legally binding international treaty to limit global temperatures to below 2 degree Celsius, and preferably below 1.5 degree Celsius. The parties also agreed to submit their climate action plans, known as nationally determined contributions (NDCs), by 2020.

The next milestone came during COP26 in Glasgow 2021 in the form of the Glasgow Pact. The parties made a commitment to “phase down” the use of coal (this language was weakened from “phase out” late in the negotiations) and to phase out “inefficient fossil fuel subsidies”. This was the first time that a UN climate agreement explicitly mentioned coal.

At last year’s COP28 in Dubai, a Loss and Damage fund was officially launched. The fund is meant to provide financial help to countries struck by climate disasters.

What are some of the criticisms of COP?

The biggest criticism is that COP has failed to enable enough emission cuts to put the planet on a pathway to meet the 1.5 or 2 degree Celsius targets. Studies have shown that the world must cut its emissions by at least 43% by 2030 relative to 2019 levels to keep alive any hopes of achieving the 1.5 degree Celsius target. However, by 2023, the world had not even begun the downward journey. Emissions are still rising, and not yet peaked. In the best case scenarios, global emissions are projected to be just 2% below 2019 levels in 2030 instead of 43% that is required.

COP has also been unable to provide climate finance to developing nations. For instance, in 2009, the wealthiest countries — which are disproportionately responsible for the climate crisis — promised to raise every year from 2020 for developing nations to help them reduce greenhouse gas emissions and adapt to the impacts of the climate crisis. They failed to deliver on their promise.

What should be expected from COP29?

Climate finance is at the top of the agenda of COP29. The parties are negotiating the New Collective Quantified Goal (NCQG), a new amount that must be mobilised by developed countries every year from 2025 onward to finance climate action in developing countries. It has to be more than the \$100 billion that developed countries, collectively, had promised to raise every year from 2020.

However, talks over the NCQG in recent months have been deeply divided. Parties disagree on almost every element of the fund, including “the amount of money that needs to be raised, who should contribute, what types of finance should feed into it, what it should fund and what period of time it should cover”, according to a report by Carbon Brief. It remains to be seen how member states finalise the NCQG.

A GUIDE TO COP29 CLIMATE SUMMIT JARGON

With U.N. climate talks tackling complex topics from energy policy to global financial aid, the annual summit has developed its own ever-growing lexicon.

Here’s a guide to some of the terms in play at this year’s COP29 discussions.

UNFCCC: This acronym stands for the United Nations Framework Convention on Climate Change, which is the name of both the 1992 treaty committing nearly 200 countries to fighting global warming and the secretariat set up to implement that treaty.



COP: This acronym stands for Conference of Parties, and describes the annual summit of countries that have signed the UNFCCC treaty. This year's COP29 meeting in Baku marks the 29th such gathering since the UNFCCC took effect in 1994.

NCQG: This relatively new acronym will be focal at COP29. It stands for the New Collective Quantified Goal on Climate Finance, an annual target for funding developing country climate efforts.

NDC: Most often, these NDCs or Nationally Determined Contributions are referred to simply as "country pledges" and describe national action plans for reducing its emissions and adapting to climate impacts. The next round of NDCs are due in February, though some countries plan to submit new plans in Baku.

GLOBAL WARMING: The term describes the gradual increase in the global average temperature.

CLIMATE CHANGE: While this term is often used interchangeably with "global warming," it means something different. Climate change describes global warming as well as its consequences, such as extreme weather events.

GREENHOUSE GASES: These gases, sometimes referred to simply as GHGs, are able to trap solar heat in the atmosphere and cause global warming. The most powerful GHGs are methane (CH₄) and carbon dioxide (CO₂), which are also referred to as "carbon emissions" because both molecules contain carbon. The world's excess carbon emissions come mostly from the burning of fossil fuels and other industrial activities.

NET ZERO: This term does not mean releasing zero emissions, but rather releasing no more than the amount being recaptured by CO₂ abatement technologies, tree planting, or other means. Reaching "net zero" would mean atmospheric GHG concentrations stop increasing.

LOSS AND DAMAGE: Governments last year pledged \$800 million toward a new 'loss and damage' fund to help poorer nations being hit by climate-fueled disasters. The fund, which now has a director and a host nation, will now be deciding how the funds should be dispersed and calling for more contributions at COP29.

CARBON OFFSET: Also known as a "carbon credit," these instruments allow a country or company to compensate for some of their carbon emissions by investing in projects to bring emissions down elsewhere.

ARTICLE 6: This term refers to a provision in the Paris Agreement on carbon offsets, and is used as shorthand for UNFCCC efforts to regulate international trading in carbon credits. Governments are hoping to resolve rules for trading carbon offsets at COP29 to allow for these markets to become operational.

FREEZE IN FINANCE DEAL, COP29 LOOKS TO G20 IN BRAZIL FOR HELP

A week of negotiations in Baku so far has done little to move the needle towards a strong and ambitious finance agreement, the main expected outcome from COP29. With countries sticking to their widely-differing positions on climate finance, all eyes are now on the G20 leaders' summit in Brazil for some political signalling that could help in ending the impasse.

The G20 Summit in Rio De Janeiro will begin Monday and conclude on November 19, three days before COP29 is scheduled to end. Though G20 Summits do not take decisions on climate change,

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



it does figure in the topmost agenda and the expectation is that leaders will demonstrate a commitment to raising greater financial resources, which will push to break the COP29 stalemate.

- Countries in Baku are trying to negotiate an agreement — New Cumulative Quantitative Goal or NCQG on climate finance — that will mobilise at least one trillion USD every year for climate action around the world. While there is a general acknowledgement that this much money is needed, everything else about the mobilisation of the amount is uncertain right now.
- Developing countries want a bulk of this money to be publicly-funded, grant-based or concessional, and directed entirely towards their needs. Developed countries have been silent on how much money they themselves are willing to commit, or on the proportion of the total need that should come from publicly-funded sources.
- These are just some of the many intractable differences that have persisted on the finance negotiations at COP29. Four versions of a draft negotiating text have so far appeared, but these have only listed the different demands of countries under various options. The negotiations so far were held among high-level officials representing the countries: respective Ministers are set to take charge from Monday.
- The G77 plus China, a group of about 130 developing countries, has demanded that developed countries must commit to raising at least 1.3 trillion dollars every year as part of their financial obligation under the Paris Agreement.
- Developed countries have so far not revealed their cards on the quantum of money that should be targeted in NCQG.

Do you know:

- In 1992, at the Rio Earth Summit, 154 countries signed a multilateral treaty called the United Nations Framework Convention on Climate Change (UNFCCC). It aimed to stabilise greenhouse gas concentrations “at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.”
- The treaty came into force two years later, and since then, countries which are part of the UNFCCC, meet every year at different venues. Today, there are 198 ‘parties’ or signatories of the Convention.

Developing vs developed nations

- A key issue in finance negotiations is the expansion of contributor base. Right now, only developed countries identified in a list in 1994 UN Framework Convention on Climate Change are obliged to raise finances. These countries argue that the scale of finance required is much higher than the 1990s and therefore others must also contribute.
- They suggest applying some criteria to make others responsible. One suggestion is to include countries with per capita gross national income over USD 52,000. That would bring countries like the UAE, Qatar and Singapore, not part of original list, into the fold. Developing countries reject this idea.



ONLY 16% OF PAST CARBON CREDITS REPRESENTED ACTUAL REDUCTION IN EMISSION LEVELS: STUDY

Carbon trade, being relied upon to accelerate emission cuts around the world, has been largely ineffective till now, and only a very small number of projects have resulted in real emissions reductions, a new study published in Nature journal has found.

- The study by a group of researchers from several European and American institutions looked at thousands of projects that together generated carbon credits worth one billion tonnes of carbon dioxide equivalent, and found that only 16 per cent of these credits represented actual reductions in emissions.

- These credits were generated mostly by a mechanism created under the Kyoto Protocol, the 1997 climate agreement that was replaced by the Paris Agreement in 2015. Those mechanisms have died with the Kyoto Protocol. Under the Paris Agreement, new, more robust, mechanisms for carbon trade are being created, with some progress expected to happen at the ongoing COP29 meeting in Baku.

- Carbon markets allow for trade in carbon credits by incentivising emissions reductions. An industrial unit which outperforms its emission standards, meaning that it produces less emissions than it is mandated to, can earn carbon credits. Another unit, which is struggling to meet its emissions standards, can buy these credits.

- Credits can be generated by any activity that can show an additional reduction or avoidance of emissions beyond what is prescribed or would have happened in business-as-usual scenario. Additionality is the key. The project must be able to establish that the emissions reduction could not have happened in the absence of the revenue generated through the sale of carbon credits.

- The creation of a carbon market is the last remaining part of the 2015 Paris Agreement yet to be operationalised. This time, rules and procedures are being prepared meticulously to ensure that the integrity of credits is maintained. Two such rules were approved on the opening day of COP29 but much more work remains to be done, and are being negotiated.

- Two kinds of mechanisms for carbon trade are being created. One would facilitate bilateral trade at the country level. A country that reduces its emissions beyond its target can generate credits and sell it to another country through a bilaterally negotiated mechanism and price.

- The other mechanism would create an international carbon market in which anyone can participate. Several institutions need to be set up to regulate, verify and authenticate the trade in carbon credits.

Do You Know:

- Carbon credits generated under the Kyoto Protocol mechanisms were often criticised for not being robust enough. In many cases, the credits did not result in the amount of emissions reductions that they claimed to have been representing. The carbon market mechanism being created under the Paris Agreement seeks to address those weaknesses.



UN RAISES ALARM AS CLIMATE TALKS BEGIN IN AZERBAIJAN

The 29th Conference of the Parties, or COP-29, began in Baku, Azerbaijan, on Monday perhaps with more headwinds than ever before.

As talks opened, the United Nations warned that the Paris climate agreement's goals "are in great peril" and 2024 is on track to break new temperature records. The period from 2015 to 2024 will also be the warmest decade ever recorded, the UN's World Meteorological Organization (WMO) said in a new report.

The re-election of Donald Trump as U.S. President has already cast a shadow over the meet where the main focus is on agreeing on climate financing — who pays, how much is needed, and how the funds would be used to address climate adaptation, mitigation and loss/damage.

New WMO data showed that current global warming is about 1.3 degrees Celsius higher than the average of the previous 10 years, compared to 1.2 degrees Celsius a year ago, and the current year is hotter by 1.54 degrees Celsius, compared to 1.45 degrees Celsius a year ago.

While Mr. Trump, who is president-elect of the world's biggest economy, has repeatedly cast doubts on climate change, wars in West Asia and Ukraine, among other crises, have strained climate diplomacy. These could impact the chances of increasing climate finance and agreeing on rules around it, which are among the primary goals of COP-29, which is being labelled "finance COP". Mr. Trump has threatened to pull the U.S. out of the 2015 Paris Agreement, which he did during his first term, but the move was later reversed by President Joseph Biden.

IN BAKU BREAKTHROUGH, COP CLEARS CARBON CREDIT TRADE

Countries assembled in Baku for the annual climate conference, COP29, voted on Tuesday to clear a much-delayed agreement to finalise a global carbon market. Such a market will allow countries to trade carbon credits — certified reductions of carbon emissions — among themselves, and the prices of these instruments are determined as a consequence of emission caps imposed by countries.

The market itself follows from Article 6 in the Paris Agreement. Sub-sections of the Article spell out how countries can bilaterally trade carbon among themselves (Article 6.2) and participate in a global carbon market (6.4).

Though most of the nuts and bolts to make operational such a carbon market supervised by a United Nations body have been in place since 2022, there were several niggles, particularly in ensuring that the carbon credits generated are genuine and its antecedents are transparent.

There have been several rounds of talks involving the parties (country signatories to the Paris Agreement) on these outstanding concerns that are raised. Last month, a UN supervisory body, which will be the ultimate arbitrator of the market, set out a draft text that laid out the standards for carbon removal and assessing projects.

A senior official who is part of the Indian delegation told The Hindu days before COP29 commenced that even this version was not "entirely acceptable", but was something that could be ironed out.



A key issue surrounding carbon markets is accounting. Say, a company in a developed country finances an afforestation project in a developing country and this theoretically prevents 1,000 tonnes of carbon from being released into the atmosphere. Will this saved carbon be part of the developed country's ledger of saved credits when the actual prevention is happening elsewhere? At what stage of a renewable energy project's life-cycle will a generated credit be considered eligible for trade? Can countries claim credits generated in their own borders, financed by foreign companies, and count them towards their Nationally Determined Contributions (NDC)?

"This will be a game-changing tool to direct resources to the developing world," Mukhtar Babayev, COP29 president, said. "Following years of stalemate, the breakthroughs in Baku have now begun. But there is much more to deliver," he added.

Finalising Article 6 negotiations could reduce the cost of implementing national climate plans by \$250 billion per year by enabling cooperation across borders.

"The decision on Article 6.4 is a major step forward. There is still some time till the rubber hits the road as now the methodologies for implementing have to be finalised but this should be fairly soon. However, this should not take the focus away from the New Collective Quantified Goal (NCQG) as carbon markets are one of the ways to deliver on the NCQG," Vaibhav Chaturvedi, an expert on carbon markets, Council on Energy Environment and Water, Delhi, told The Hindu.

BASIC COUNTRIES ASK NATIONS AT COP29 TO HONOUR COMMITMENTS FOR CLIMATE FINANCE

BASIC countries, including India, have asked developed countries to honour their commitments to provide climate finance rather than "diluting obligations", and rejected attempts by rich nations to shift their financial responsibilities during negotiations at the ongoing COP29 here.

As the annual climate change summit entered the fourth day on Thursday, Brazil, South Africa, India and China (BASIC) also reiterated the need for full and effective implementation of the Paris Agreement 2015, a legally binding international treaty.

The Paris Agreement aims at substantially reducing global greenhouse gas emissions to hold global temperature increase to well below 2 degrees Celsius and pursue efforts to limit it to 1.5 degrees Celsius above pre-industrial levels.

The developed countries have emphasised the importance of increasing global climate ambition and have called for all nations, including emerging economies, to enhance their net-zero targets and implementation efforts.

CO2 EMISSIONS SET TO RISE 0.8% THIS YEAR, INDIA'S CONTRIBUTION TO GO UP BY 4.6%

While countries have congregated in Baku, Azerbaijan to deliberate on the ways to cut carbon emissions, a peer-reviewed report by a scientist collective has found that carbon emissions are set to rise 0.8% in 2024 over last year's. This is lower than the 1.2% rise in 2023, over that of 2022.

In 2023, the largest absolute contributions to global fossil CO₂ (carbon dioxide) emissions were from China (31%), the United States (13%), India (8%), and the EU-27 (7%). These four regions account for 59% of global fossil CO₂ emissions, while the rest of the world contributed 41%. EU-27 represents 27 of the most economically developed European countries.



The global per-capita fossil CO₂ emissions in 2023 were 1.3 tonnes of carbon per person per year. They were 3.9 in the U.S., 2.3 for China, 1.5 for the EU-27 and 0.6 for India.

Fossil emissions by the end of the year are expected to increase by 4.6% in India and 0.2% in China — though these are strictly not comparable in absolute terms and the bases are incomparable. By the year-end, China is expected to emit 12 billion tonnes of carbon dioxide, compared with India's 3.2 billion tonnes and the United State's 4.9 billion tonnes, which is a 0.6% decrease over the previous year.

The Global Carbon Budget (GCB), as this collective of approximately 120 scientists is called, publishes annual peer-reviewed estimates of changes in atmospheric carbon and the broad causes driving those changes.

Emissions from coal, oil and gas in 2024 are expected to be slightly above their 2023 levels (by 0.2%, 0.9% and 2.4%, respectively). Global CO₂ emissions from land-use, land-use change, and forestry (LULUCF) averaged 1.1 billion tonnes of carbon per year, the report noted.

The concentration of CO₂ in the atmosphere is set to reach 422.5 ppm (parts per million) in 2024, which is 52% above pre-industrial levels.

Do You Know:

- India's current climate policies are projected to reduce carbon dioxide emissions by around four billion tonnes between 2020 and 2030, and drive a 24-per cent reduction in coal-based power generation, according to a new report.
- This is significant considering the fast-developing South Asian country, now the fifth-largest economy in the world, had committed to reducing emissions by one billion tonnes by 2030 at COP26 in Glasgow.
- The study by Delhi-based independent think tank Council on Energy, Environment and Water (CEEW) said policies for India's power, residential and transport sectors have already saved 440 million tonnes of carbon dioxide (MtCO₂) between 2015 and 2020.
- According to the report, in the power sector alone, policies promoting renewable energy are expected to drive a 24-per cent decline in coal-based electricity generation by 2030, relative to a no-policy scenario.
- This is equivalent to avoiding 80 GW of coal-based power plants that would have otherwise been installed to meet India's burgeoning power demand, CEEW said. At present, India generates around 71 per cent of its electricity using coal.
- India has been pushing for a higher share of renewables in its energy mix, increased adoption of electric vehicles and improved energy efficiency in domestic air-conditioning and lighting. It has also launched programmes like the National Solar Mission, the FAME I and II schemes, the Standards and Labelling scheme and the UJALA programme, which will continue to affect future energy demand and supply.



STUDY: INDIA'S FOSSIL FUEL CO2 EMISSIONS SET TO RISE 4.6% IN 2024

India's carbon dioxide (CO₂) emissions from burning fossil fuels are expected to rise 4.6% in 2024, the highest among major economies, according to a Global Carbon Project study. Last year, it was 8.2%.

- Globally, fossil-based CO₂ emissions are set to touch a record high of 37.4 billion tonnes this year, a rise of 0.8% from 2023, the study said, adding that at this rate there was "a 50% chance global warming will exceed 1.5 degree Celsius (°C) consistently in about six years".
- According to the study, released at COP29 in Baku, India's carbon emissions are projected to rise with an increase in emissions from coal (4.5%), oil (3.6%), natural gas (11.8%, but from a low base) and cement (4%).
- Compared with India, China's emissions are projected to rise by 0.2% in 2024 while that of the United States and the European Union by 0.6% and 3.8%, respectively. India's contribution to global CO₂ emissions stands at 8% while China, the US and EU contribute 32%, 13% and 7%, respectively.
- In terms of carbon sinks, the study showed that land and oceans combined absorbed around half of the CO₂ emitted due to human activity even while facing negative impacts of climate change.
- Oceans took up 10.5 billion tonnes — or 26% of the total CO₂ emissions — on average each year in the past decade. This, even as climate conditions reduced the ocean sink by an estimated 5.9% in the past decade, likely dominated by altered winds that perturb the ocean circulation with a smaller contribution from the reduced solubility of CO₂ in warming waters.
- El Nino reduced land CO₂ sink in 2023 due to warmer temperatures, but it is projected to recover as El Nino ended by the second quarter of 2024. Land and ocean CO₂ sinks fluctuate annually due to natural climate variability.

INACTIVATED COVID-19 VACCINE CORONAVAC ASSOCIATED WITH TTP

A study published in the journal *Frontiers of Medicine* has found an association between the inactivated COVID-19 vaccine CoronaVac from Sinovac Biotech and immune thrombotic thrombocytopenic purpura (TTP). The study presents two cases of TTP occurring after the administration of the vaccine, highlighting the potential association between this type of vaccine and TTP. The article also provides an analysis of TTP incidence in the Nanjing area of China, suggesting a possible correlation between COVID-19 vaccination and the occurrence of TTP.

The first case details a 23-year-old female who developed symptoms of TTP three days after receiving her second dose of CoronaVac. Initially presenting with dizziness and weakness, her condition progressed to include thrombocytopenia, anaemia, elevated lactate dehydrogenase (LDH), and hydroxybutyrate dehydrogenase (-HBDH) levels, with further deterioration indicated by decreased platelet count, haemoglobin levels, and the presence of schistocytes in peripheral blood smears. Her condition improved following the introduction of glucocorticoids, plasma exchange, and rituximab, with a gradual return to normal values for ADAMTS13 antigen and inhibitory antibodies.

The second case involves a 45-year-old female who experienced fever and muscle soreness five days after her second dose of CoronaVac. She presented with high fever, haematological



abnormalities, acute renal failure, and thrombocytopenia. She was finally diagnosed with TTP based on the presence of schistocytes in peripheral blood smears and significantly low ADAMTS13 levels. Treatment with plasma exchange and glucocorticoids led to her recovery.

Incidence rates

The study also examines a series of TTP cases from 14 hospitals in the Nanjing area, showing an increase in TTP incidence from 2019 to 2022 that may be related to COVID-19 vaccination. The data suggests that while TTP is rare — about one new case per million — the incidence rates increased in years following the initiation of COVID-19 vaccination campaigns. It is hypothesised that the increase in TTP cases could be associated with the vaccines, although a direct causal link is not established.

The report delves into the potential mechanisms by which COVID-19 vaccines could trigger TTP, focusing on the autoimmune response that may cross-react with ADAMTS13, leading to its deficiency and subsequent TTP development.

RISE IN DRINKING ALCOHOL DURING LOCKDOWN MAY SPARK HEALTH CRISIS, SUGGESTS RESEARCH

In the light of the current pandemic, all of us are restricted to our homes. And according to a report in *The Independent*, researchers have warned that excess consumption of alcohol during this time could even lead to a “second health crisis”.

The report quotes researchers at the University of Portsmouth who apprehend that a rise in drinking during the lockdown might give rise to another health emergency. A research is being conducted to understand the dependency of people on alcohol. “This period of isolation might lead to a spike in alcohol misuse and, potentially, development of addiction in at-risk individuals or relapse in recovered addicted patients, therefore placing further strain on drug and alcohol services, and the health service in general, during and after the pandemic,” Dr Matt Park of Portsmouth University was quoted as saying.

“It is unprecedented to have so many millions of people across the world effectively locked away from their jobs, friends and families. How people cope with this is varied, but there is a lot of anecdotal evidence of people responding by drinking more alcohol worldwide,” the doctor added.

The same report also confirms that one in three of the 2000 participants in the survey are trying to reduce or stop drinking.

“Cutting down on alcohol will not only improve our own health but it will help to protect the NHS long term, and so it is important that these healthy trends continue,” Professor Sir Ian Gilmore, chair of the Alcohol Health Alliance UK commented. “That said, lockdown will be a difficult experience for many dependent drinkers, those in recovery, or those whose alcohol consumption has risen sharply in the last few weeks.”

WHY CAMBODIA’S H5N1 REASSORTANT VIRUS NEEDS CLOSE MONITORING

More than 10 years without any H5N1 case, Cambodia suddenly witnessed a spurt of H5N1 cases in humans, with 16 cases reported between February 2023 and August 2024 caused by A/H5 clade 2.3.2.1c viruses. If the sudden spurt in cases was already concerning, 14 cases were caused by a novel mixing or reassortment of A/H5N1 virus. The reassortment was due to mixing of the



gene segments from clade 2.3.2.1c known to circulate in Southeast Asia with the newer 2.3.4.4b clade that has spread globally.

Investigations found that three human cases were in contact with sick poultry or bird droppings. Till date, three deaths caused by the reassortant virus have been reported. However, no human-to-human spread has been reported till date.

MPOX CLADE IA HAS EVOLVED TO JUMP FROM HUMANS-TO-HUMANS: NEW STUDY

Since the world eradicated smallpox in 1980, scientists have known that the battle against poxviruses was far from over. Of the multiple types that exist, scientists have been wary of one in particular: mpox. In fact, one of the points in the World Health Assembly's post-eradication policies was the "continuation of monkeypox surveillance in West and Central Africa, at least until 1985."

In 2022-2023, the World Health Organisation (WHO) declared the then global outbreak of mpox a "public health emergency of international concern." In August this year, the WHO declared mpox to be a public health emergency for the second time in two years.

(Note: In 2022, the WHO designated "mpox" as a preferred synonym for "monkeypox" disease. The virus is still called "monkeypox," according to the International Committee on the Taxonomy of Viruses. For uniformity's sake, this article will use "mpox" to refer to both the disease and the virus clades.)

New cause for worry

The declaration ensured multiple countries would pledge vaccines to the 15 African nations affected by the outbreak, six of which had never reported a single case of mpox before. But the paucity of doses has forced countries to prioritise their campaigns. Barely two months since these countries started their targeted vaccinations, scientists have a new cause for worry. A preprint paper uploaded on Virologica, a scientists' discussion forum online, on October 24 reported evidence that yet another strain of the mpox virus appeared to have achieved human-to-human transmission.

There are two clades of mpox: I and II. Clade I viruses have been shown to cause more severe disease in the mouse model, but that doesn't mean the same may be true for humans. Both clades are classified into two subclades, making a total of four known variants: Ia, Ib, IIa, and IIb. Of these, clade IIb was responsible for the 2022 outbreak, which is still continuing in certain parts of Africa.

Clade Ib, discovered towards the end of 2023, is the primary cause of infection in central Africa.

Researchers believed these two clades to be the primary contributors to the present mpox problem. They know very little about clade IIa except that it causes infections in western Africa.

When viruses make 'mistakes'

Clade Ia, on the other hand, is the oldest known variant of the mpox virus. It has been known to cause sporadic infections in humans, mostly children, since 1970. But these infections were always limited to a few families or communities, and the transmission was always from animals to humans. There was no proof of sustained human-to-human transmission until recently.



The preprint posted on Virologica reported evidence that the DNA of clade Ia viruses sequenced from the present outbreak bears clear signs of human-to-human transmission.

Viruses evolve by introducing changes to their genetic material. Each time a virus infects a new host, an enzyme known as a polymerase makes multiple copies of the virus's genetic material (DNA or RNA), which is then packed into new viruses. But sometimes the polymerases make a mistake. These mistakes, called mutations, could have a positive, negative, or no impact on the virus, meaning the virus can get better or worse or be the same at its job.

The rate at which the polymerases make mutations is different for different viruses. Generally, viruses that have RNA as their genetic material, such as the human immunodeficiency virus (HIV) and influenza, make mistakes much more frequently than those that have DNA, like the human papillomavirus (HPV) and adenoviruses.

This error rate is even lower in some DNA viruses, like the members of the pox family, which also have an error-correction mechanism built into them. This mechanism, called proof-reading, ensures few mistakes are made: around one mistake every three years in a circulating viral strain.

The APOBEC family

However, viral polymerases are not the only source of mistakes in a virus's genetic material.

The immune system also has a mechanism to introduce random changes in foreign DNA. A family of proteins called APOBEC — short for 'apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like' — can introduce changes to the viral DNA while it is being copied in the cells.

By doing so, APOBEC proteins force mistakes, some of which can be lethal to the virus. Importantly, of the four bases that DNA is made of, namely adenine, guanine, cytosine, and thymine, viral DNA polymerases can make a mistake anywhere, but APOBEC's activity is usually limited to changing a cytosine to a thymine.

In a 2023 paper that appeared in Science, researchers showed that since the mutations made by APOBEC are more numerous than those by the viral polymerase, a sudden surge in the prevalence of mutations in circulating mpox viral DNA can be attributed to the activity of APOBEC. That is, the virus came from human cells, and APOBEC must have acted on it. Otherwise, those mutations couldn't have arisen so quickly.

The researchers also estimated that, on average, APOBEC activity would introduce around six mutations every year. Based on how many mutations the researchers observed and the nature of those mutations, they predicted mpox clade IIb had been circulating in Africa from humans to humans since 2016.

The new study described in the preprint used the same method to show clade Ia viruses have achieved human-to-human transmission as well. This is because 63% of mutations they observed in the clade Ia infections were consistent with changes that could be introduced by APOBEC.

Viruses' responses to antivirals

The news that clade Ia viruses can spread from humans to humans is not likely to affect the vaccination strategies of the affected countries. However, it is certainly cause for worry because researchers know that the different mpox clades respond differently to certain antiviral drugs



used to treat them. For now, Africa has pinned its hopes on the few doses of vaccines it has and is hoping against odds that its targeted campaign will suffice to stem the rising tide of mpox cases.

GLUTEN: ANIMATOR OF THE DOUGH

WHAT IS IT?

Many cereal grains — but in particular barley, wheat, and rye — contain specific proteins that, when mixed with water and kneaded, create an elastic mass. This mass is called gluten. Two important types of these proteins are gliadins and glutenins. At the microscopic level, gluten is an elastic mesh of the protein molecules.

It allows the dough to rise and gives it its chewy character. The ability of gliadins and glutenins to create gluten makes them prized ingredients in the food industry.

This said, gluten is equally infamous for the allergic reaction it induces in some people. An enzyme called protease helps digest proteins, but it doesn't do a good job of breaking down gluten. When such gluten reaches the small intestine, the body can develop gastrointestinal problems.

The most well-known of these problems is coeliac disease (pronounced "see-lee-ack"). It's characterised by a severe allergic reaction in the small intestine, prompting the immune system to produce a large number of antibodies that attack the body's own proteins. The disease is present in around 2% of the general population.

Its primary symptoms are severe loose diarrhoea and anaemia, but there are other symptoms too. In fact, while doctors can diagnose coeliac disease using a blood test, an endoscopy, and/or a test looking for genetic predisposition to the condition, diagnosis is often delayed, and the symptoms are often misattributed to a different cause.

Maintaining a diet very low in gluten is the only effective way to treat coeliac disease at present.

THE SCIENCE BEHIND HEALTH BENEFITS OF HEAVY LIFTING

Weightlifting is not just for bodybuilders or athletes; it is a powerful form of exercise for everyone. From strengthening bones and muscles to preventing chronic diseases and improving mental health, weightlifting offers benefits that reach far beyond the gym.

For years, exercise was almost synonymous with cardiovascular activities like running, cycling, and swimming. But in recent decades, weightlifting or strength training has gained popularity, not only as a path to muscle strength but also as a powerful tool for long-term health.

Beyond muscles

Weightlifting has long been associated with building muscles, but its benefits reach far beyond aesthetics or physical strength. According to research from the journal Preventive Medicine, weightlifting improves multiple aspects of physical health, making it a top contender for long-term wellness.

Here is how it impacts the human body: bone and muscle health. One of the most impressive benefits of weightlifting is its effect on bone health. With age, there tends to be a decline in bone mineral density (BMD), leading to osteoporosis, higher risk of fractures, and related mobility issues. Weightlifting could provide a powerful solution for this. Mechanical stress through weight

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



lifting is said to increase BMD. This process is particularly valuable for older adults, to avoid the natural decline in bone density and strength. Furthermore, there is also a decline in muscle mass with age, termed as sarcopenia. Sarcopenia can have detrimental effects on metabolic health and physical fitness. Weightlifting helps to build muscle mass and prevent sarcopenia, even in the elderly.

It also has metabolic benefits, helping with weight management. While aerobic exercise is known to burn calories during the activity, weightlifting offers a unique metabolic advantage. After a weightlifting session, the body continues to burn calories even at rest, a phenomenon known as “excess post-exercise oxygen consumption”. Building muscle also supports a higher resting metabolic rate. This effect helps with long-term weight management as well.

Believe it or not, weightlifting actually prevents joint injury, by strengthening the muscles around the joints. When muscle strength improves, it stabilises joints, reducing the likelihood of strains, sprains, and other injuries that often occur due to weak muscles and poor joint support. For athletes, people with physically-demanding jobs, or anyone looking to stay active even in later life, the joint-protective benefits of weightlifting are invaluable.

THE DISCOVERY OF INSULIN AND THE ‘FLAME OF HOPE’

In human physiology, the endocrine glands act by releasing chemical messengers called hormones. They are produced in extraordinarily small quantities, ranging from 10⁻⁹ to 10⁻¹² grams. They travel through the bloodstream to influence distant organs and tissues guiding bodily functions. Nervous and endocrine systems carry out a common mandate: to transmit the brain’s instructions to peripheral organs and tissues. Unlike the nervous system, which operates through a network of neurons, the endocrine system executes the brain’s orders across the body without an anatomical network.

The pancreas holds a unique position as both an endocrine and exocrine organ. It plays an important role in managing blood sugar levels through insulin.

Sir Fredrick Banting’s birth anniversary is observed as World Diabetes Day on November 14 every year as a tribute to the history behind the discovery of insulin — one of medicine’s greatest breakthroughs.

Type 1 DM

Type 1 diabetes mellitus (T1DM) is an autoimmune disease where the immune system attacks insulin-beta cells in the pancreas, leading to high blood sugar resulting from insulin deficiency. Unlike type 2 DM, which is common in adults, T1DM often affects children and young adults. Globally, around 9 million people have T1DM. The incidence in India is 4.9 per 1,00,00 annually, per the information from PIB in 2022. The exact cause remains unknown, but genetic and environmental factors, including viral infections, are suspected.

Humans were fighting this illness till the last century without a clue. Symptoms of diabetes like, excessive thirst, frequent urination, and “sweet urine”, were found in all major civilisations. It was not until the mid-19th century that meaningful progress began to decrypt the mystery. In 1869, Paul Langerhans discovered specialised clusters of cells within the pancreas — later known as the “islets of Langerhans” — and discovered the endocrine role in this organ.



In 1889, German physiologists Oskar Minkowski and Joseph von Merin experimented by surgically removing the pancreas from a healthy dog to investigate its role in digestion. Post-surgery, they observed that the dog developed symptoms characteristic of diabetes, notably, elevated blood sugar levels and the presence of sugar in the urine. This experiment established a direct link between the pancreas and blood sugar regulation. Despite these insights, between 1890 and 1920, several researchers tried, with many unsuccessful attempts, to discover the pancreas's role in diabetes.

Climax at the University of Toronto

After serving as an orthopaedic surgeon in the First World War, Frederick Banting returned to Canada as a war veteran. Driven to pursue research, he approached John Macleod, head of the physiology department at the University of Toronto, in 1920, with the idea of identifying the pancreatic secretion responsible for carbohydrate metabolism. Macleod, though hesitant, provided laboratory space and assigned Charles Best, a medical student, to assist him. Together, Banting and Best conducted experiments on dogs, leading to the successful isolation of insulin from the islets of Langerhans.

James Collip, a biochemist, played another important role in the practical application of insulin therapy. In 1921, he joined Banting and Best at the university. While Banting and Best had successfully extracted insulin, their preparations were impure and caused adverse reactions in patients. Collip developed a method for purifying insulin, removing toxic impurities, and ensuring its safety and efficacy, as the insulin was prepared mostly from dogs and cows. This was crucial as without Collip's efforts, insulin could not have been administered to patients, and Banting's discovery might have remained theoretical.

On January 11, 1922, Leonard Thompson, a 14-year-old boy with diabetes, became the first person to receive an injection of insulin. Unfortunately, the initial extract was impure, leading to an allergic reaction and minimal reduction in blood glucose levels. Recognising the need for improvement, Collip refined the purification process, producing a more potent and safer insulin extract. A second injection on January 23, 1922, resulted in a significant drop in blood glucose without adverse effects, marking a milestone for humanity. In 1923, the Nobel Prize in Physiology or Medicine was awarded to Frederick Banting and John Macleod for discovering insulin, in a rare instance of the prize being granted so soon after discovery. Macleod provided Banting with laboratory space and assigned an assistant. However, the award sparked controversy as Banting felt that Best, who had been instrumental in the research, deserved recognition instead of Macleod. Conversely, Macleod believed Collip, who refined the insulin extraction process, deserved credit. In response, Banting shared half of his Nobel Prize money with Best, and Macleod did the same with Collip. Decades later, the Nobel Committee acknowledged the oversight in not including Best, expressing regret for his exclusion from the original award.

Despite these conflicts, Banting, Best, Macleod, and Collip got to share their prize money among themselves. In a remarkable gesture, Banting sold the patent rights to the University of Toronto for just \$1, ensuring that insulin could be produced widely and remain affordable.

Collip's extraction techniques to purify insulin were viable for human use but not scalable for mass production. As diabetes cases increased since then, it became clear that a more efficient method was essential. Enter recombinant DNA technology in the 1980s: scientists developed a method to insert the human insulin gene into *Escherichia coli* bacteria using plasmids — small DNA molecules capable of self-replication. This approach enabled bacteria to produce large quantities



of insulin identical to that made by human bodies. The recombinant process allowed for mass production to keep up with the demand.

Flame of Hope

In 1989, Queen Elizabeth kindled the Flame of Hope in Sir Frederick G. Banting Square, London, Ontario, Canada, to honour Banting's discovery of insulin. This eternal flame stands as a hope for millions affected by diabetes worldwide, representing the commitment to continue research until a definitive cure is found. The flame will remain lit until a cure is discovered. As we consider Banting's legacy, we realise that insulin is not a cure but a treatment, allowing people with diabetes to live near-normal lives. His spirits might be happier when the flame of hope is extinguished after discovering a cure.

HOPE FOR BRAIN STROKE PATIENTS: HOW A STENT CAN CLEAR BLOOD CLOTS IN 24 HOURS

For sometime now, brain stroke patients in the West could avert brain damage as neurosurgeons used a sophisticated retriever stent to clear the blood clot from blocked arteries and restore blood flow within 24 hours. However, this device is out of reach for most Indians despite brain strokes increasing among them. That's all set to change with the All India Institute of Medical Sciences (AIIMS), Delhi, now conducting a trial with an upgraded device that's equipped to remove all kinds of blood clots, is better at opening blocked arteries and may cost one-fourth the original price.

The clinical trial, GRASSROOT (Gravity Stent-Retriever System for Reperfusion of Large Vessel Occlusion Stroke Trial), is looking at the effectiveness and accessibility of a new generation of advanced stent-retriever devices that can be used in mechanical thrombectomy, a minimally invasive stroke surgery to clear artery blockage in the brain. According to Dr Shailesh Gaikwad, professor and head, Department of Neuroimaging and Interventional Neuroradiology, Neurosciences Centre, AIIMS, and one of the investigators of the trial, "We are finding out how the device works on the Indian population. The new stent-retriever has been designed specifically to tackle the unique features of a stroke clot in the Indian population, given that our arteries are narrower." The new device was first used on August 25. The patient is doing well.

What's a stent-retriever?

A stent-retriever is a thin, cylindrical mesh tube that is inserted through a catheter and expanded within the artery to widen the vessel walls. Once the clot gets trapped in the stent's mesh, it is pulled out by the catheter. It doesn't need permanent deployment. The removal can be done within 10 minutes and the blood flow to the brain can be restored rapidly.

Is it better than existing protocols?

It achieves faster and complete restoration of blood flow to the brain compared to IV infusions, where 50 per cent of the dose is given immediately and 50 per cent is spread over 12 hours. "During these hours, the artery is supposed to open up but one cannot predict how soon. It can happen within 10 or 12 hours. Within this intervening period, there is no way to monitor whether the drug is effective or not, the clot is breaking or not. The stent-retriever has immediate results," says Dr Gaikwad.

Besides, the IV infusion works only if the patient manages to reach within six hours of the brain stroke. After this, mechanical thrombectomy is the only effective means of care. But it is an



expensive procedure and currently costs Rs 5-7 lakh as the devices are imported from the US. It is because of the high cost that only about 4,000 patients of the 17 lakh brain stroke cases reported in India get mechanical thrombectomy.

stent, brain stroke Why a stent?

Why is the study important for India?

According to Dr Deepti Vibha, additional professor, Department of Neurology, and one of the investigators, the primary aim of the trial is to evaluate the safety and efficacy of an advanced stent-retriever in the Indian population. The second priority is to see to what extent patients regain their functionality.

“We are generating clinical data for approval of the device in India. It is already approved in Southeast Asia and more than 120 patients have been successfully treated over the last six months,” she adds.

If successful, it could help India meet its critical stroke care challenge. “With only 4,500 of the estimated 3,75,000 eligible stroke patients receiving life-saving mechanical thrombectomy treatment each year, the need for accessible stroke intervention has never been greater,” Dr Vibha adds.

Why are our brain clots different from Western populations?

Dr Gaikwad explains that the blood vessels of Indians are not of the same size as their Western counterparts. “They have an average height of 6 ft, ours is 5 ft 6 inches. Their average age of developing a brain stroke is 60-70 years. Indians experience such strokes 10 years ahead, in the 40-50 age group. So if we are 10 years ahead in getting a stroke, we need to understand the long-term efficacy of the device. Our eating habits, sedentary lifestyle, early diabetes and hypertension as well as deranged lipid profiles mean that the nature of stroke is different from the Western population,” he says.

Which hospitals are part of the trial?

The trial spans 16 hospitals across India, including AIIMS, Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER) and Zydus Hospital, Ahmedabad. “More and more people will get hands-on training and this will help in capacity building,” says Dr Gaikwad.

If approved, can the stent be manufactured in India?

Dr Gaikwad says if approved for use, AIIMS would approach the government and regulatory authorities to give permission for domestic manufacture of this device. “We have the technology and we have a research and development wing. This way we can reduce the cost by one-fourth,” he says.

IS OZEMPIC THE MAGIC PILL FOR AGEING? HERE'S WHY IT COULD WORK

“New diabetes drugs may delay ageing” made headlines across the media. The reference was to a study using glucagon-like peptide receptor agonist (GLP1RA), which mimics the hormone incretin to regulate appetite and blood glucose levels. Semaglutide, popularly known as Ozempic, belongs to this class of drugs and is known for controlling blood sugar, suppressing hunger and reducing weight. Are they truly anti-ageing, too?



What is ageing?

Ageing is a highly complex biological process. Our DNA is constantly being broken down and repaired. An imbalance in this process, leading to poor repair of DNA, is one of the hallmarks of ageing. Telomere shortening, deranged protein metabolism and altered sensing of nutrients are other features. These changes lead to cellular senescence (cells lose their power to grow and multiply), reduced tissue regeneration and reduced communication between cells.

What's the link between weight loss drugs and ageing?

GLP1RAs have been shown to protect against oxidative stress, cellular senescence and chronic inflammation, which are widely accepted as the major risk factors of ageing. This is characterised by memory loss, cognitive impairment and coordination deficits. Recent studies suggest that GLP1RAs could have beneficial neuroprotective effects. A large study from Sweden showed that in people with Type 2 diabetes, the use of GLP-1RA was associated with 23-30 per cent lower risk of dementia, compared with other anti-diabetic agents.

There are several common pathological processes in Alzheimer's Disease, a brain disorder that causes a gradual decline in memory and thinking skills, and Type 2 diabetes. These include impaired glucose metabolism, insulin resistance, increased oxidative stress and increased inflammation. Alzheimer's Disease has been referred to as diabetes of the brain.

What's their efficacy in managing diseases?

GLP1RAs have shown great promise in treating Alzheimer's and have also shown some efficacy in treating Parkinson's disease. Definitive, larger studies are ongoing on this subject. Some of the "anti-ageing" benefits seen with GLP1RAs may simply be the result of their weight-loss inducing properties. Obesity promotes the development of Type 2 diabetes, heart disease and early death. Reduction in body weight can prevent, delay or reduce the development of these conditions with advancing age.

GLP-1RAs, including semaglutide, have been shown to reduce the risk of cardiac complications in people with Type 2 diabetes. The SELECT trial tracked more than 17,600 people, aged 45 or older, as they were given either 2.4 mg of semaglutide or a placebo for more than three years. Participants were obese or overweight and had cardiovascular disease but were not diabetic. Men and women who took the drug died at a lower rate from all causes, including cardiovascular issues and Covid-19. People using the weight-loss drug were less likely to die from Covid (2.6 per cent vs 3.1 per cent). Heart failure, too, was lower in the semaglutide group.

Results of the FLOW trial published earlier this year showed that semaglutide slowed the progression of kidney disease in people with diabetes by 24 per cent. Studies have further shown a reduction in fatty liver disease with GLP-1RAs. Reduction in liver fat could reduce chances of chronic liver disease and its serious, at times fatal consequences.

One concern with the use of GLP1RAs is the muscle loss that accompanies profound weight loss — such muscle loss can potentially lead to frailty, falls and fractures, and prove to be a negative impact of this class of drugs in the elderly.

If we compile all data, it would suggest that semaglutide has the ability to protect various organs and could potentially delay ageing.



WHY MAKER OF 'MAGIC' WEIGHT-LOSS DRUG SEMAGLUTIDE WANTS COPIES BANNED

Novo Nordisk, the Danish pharmaceutical company that manufactures the popular weight-loss drug Wegovy and diabetes medication Ozempic, has asked authorities in the United States to stop the compounding of these products saying that this could pose safety risks.

US Food and Drug Administration (FDA) regulations allow human drug compounding — in which licensed pharmacists or physicians can combine, mix, or adjust the ingredients of a medication — to meet patient needs when popular branded formulations are in short supply.

Wegovy and Ozempic, both of which contain semaglutide, have been in heavy demand for months, and many compounding pharmacies in the US have created their own versions to cope with this.

Previously, American drugmaker Eli Lilly had sought to stop compounded versions of its diabetes and obesity medications Mounjaro and Zepbound. The FDA is yet to make a decision on the applications.

Concerns over semaglutide

Over the past year, Novo Nordisk has filed at least 50 lawsuits against clinics and pharmacies that have produced compounded versions of its drugs. These copies could be dangerous, the company fears — Chief Financial Officer Karsten Munk Knudsen said last week that reports had linked at least 10 deaths and more than 100 hospitalisations to compounded versions of Wegovy and Ozempic.

Why maker of 'magic' weight-loss drug semaglutide wants copies banned

On October 22, Novo Nordisk asked USFDA to put semaglutide on the Demonstrable Difficulties for Compounding (DDC) list, which restricts pharmacies from compounding a drug, especially when commercial versions are available.

The FDA considers a drug for the DDC list if factors such as its stability, dosage requirements, bioavailability, or necessary sterile handling make it difficult to create a safe and effective compounded version.

In its application for DDC listing, Novo Nordisk has flagged four specific concerns to the FDA.

Complex formulation: The complex structure of semaglutide is hard to replicate accurately. The drug is manufactured using yeast and recombinant DNA technology, which gives it specific properties essential for its performance and safety. Replicating it synthetically can result in differences in purity, stability, and overall effectiveness.

The FDA-approved version of semaglutide includes specific components — such as the fatty acid — that determine how long it stays effective in the body, and synthetic versions may not perform similarly.

It has also flagged that compounded versions have led to reported adverse effects, which have been recorded in the FDA's Adverse Event Reporting System (FAERS).

Delivery mechanism: The delivery mechanism of a drug refers to the way it is sent and released into the body so that it works effectively.



According to the company, the FDA-approved semaglutide uses sophisticated delivery methods, the precision of which helps the drug work effectively and safely. Compounded versions often lack these advanced delivery mechanisms, which can lead to the drug not being released in the proper dose, and reduce its effectiveness and put patient safety at risk.

A safe and effective delivery mechanism is especially important because patients administer the drug themselves. The FDA-approved version of semaglutide, made by Novo Nordisk, comes in a single-use pen injector, which provides the exact dose, and includes clear instructions that ensure against patients accidentally taking too much of the drug. The compounded versions, on the other hand, often come in multi-dose vials or prefilled syringes, with inconsistent instructions that increase the risk of dosing errors.

Novo Nordisk has cited examples of patients who overdosed on compounded semaglutide. In one case a man accidentally took 10 times the dose, resulting in severe nausea and vomiting.

Bioavailability: This refers to the degree to which the active ingredient in a drug reaches the bloodstream and becomes usable by the body.

The company has said that semaglutide has naturally low bioavailability — and a compounded version that is not absorbed properly may not produce the intended effects. Ineffective treatment of obesity and diabetes can result in heart attacks, strokes, nerve damage, kidney disease, and may even require amputations.

Compounded semaglutide may not meet the requirements for effective bioavailability, the company has told the FDA.

Contamination, stability risk: The company has underlined that compounding semaglutide requires specialised facilities and equipment, and that the risk of contamination is a major concern. Contamination with other ingredients can potentially occur if the equipment is not sanitised thoroughly.

According to the company, in March 2022, the FDA found issues with sterility at a compounding pharmacy that had had five sterility failures with injectable drugs in one year, and had released products before confirming they were sterile. More than 15,000 injectable semaglutide units were recalled, the company said — and another recall had followed in August 2023 for the same reasons.

Novo Nordisk has also said that semaglutide is a temperature-sensitive drug and storing it at temperatures higher than 30 degrees Celsius can compromise its stability.

The company has flagged an instance of a pharmacy instructing patients to keep a sublingual (under-the-tongue) solution at room temperature, and another advising them to freeze semaglutide products.

Do You Know:

- India is a pioneer in the global biosimilar market. It was the first country to approve a biosimilar product for Hepatitis B. Today, there are 98 approved biosimilars in India, with at least 50 in the market, the most in any country. Many India-made biosimilars have been approved in markets like the US.

- The Indian biosimilar market was valued at \$349 million in 2022 and is estimated to expand at a growth rate of 25.2 per cent per annum from 2022 to 2030 to reach \$2,108 million by 2030.
- Under the Make in India Initiative, the Centre has launched the **National Biopharma Mission** (NBM) — an industry-academia collaborative mission managed by the Biotechnology Industry Research Assistance Council. This \$250 million mission, co-funded by the World Bank, aims to accelerate biopharmaceutical development.
- Despite these efforts, India has a mere 3 per cent share of the global biosimilar market. One of the biggest barriers faced by Indian biosimilar manufacturers is patent evergreening.



DreamIAS