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INTERNATIONAL

TRUMP OFFERS $5-MN 'GOLD CARD' VISAS FOR US CITIZENSHIP

US PRESIDENT Donald Trump has announced plans to offer a "gold card" visa that can be bought for $5 million (Rs 43.5 crore approximately) as a route to American citizenship.

• The proposed visa will replace the existing EB-5 visa for foreign investors, which grants residency to those who invest $800,000 (Rs 7 crore) to $1 million dollars (Rs 8.71 crore) and create at least 10 jobs. The EB-5 programme is popular among Indians with sizeable investment potential.

• "We are going to be selling a gold card… We are going to be putting a price on that card of about $5 million," Trump told reporters in the Oval Office on Tuesday.

• "It's going to give you green card privileges, plus it's going to be a route to (American) citizenship, and wealthy people would be coming into our country by buying this card," he said, adding that details of the scheme would come out in two weeks.

• "It's somewhat like a green card, but at a higher level of sophistication, it's a road to citizenship for people, and essentially people of wealth or people of great talent, where people of wealth pay for those people of talent to get in, meaning companies will pay for people to get in and to have long-term status in the country," he said.

• "They'll be wealthy and they'll be successful, and they'll be spending a lot of money and paying a lot of taxes and employing a lot of people, and we think it's going to be extremely successful," Trump said.

• Trump said Russian oligarchs could qualify for the gold cards, when asked by a journalist if they would be eligible. "Yeah, possibly… I know some Russian oligarchs that are very nice people," he said.

Do You Know:

• The existing EB-5 visa program, established in 1990, allows foreign investors to gain US residency if they create or preserve jobs through capital investments. Minimum investments are set at $1,050,000, or $800,000 for economically distressed areas. The program has drawn criticism over concerns of abuse and fraud, with businesses, including those linked to Trump family members, using it to fund property developments.

THROWING UKRAINE UNDER THE BUS

C. Uday Bhaskar Writes: In reaching out to Russia, Trump has abandoned Europe. In it lies a reminder for India to not neglect core military capabilities.

C. Uday Bhaskar Writes—

• When Russia invaded Ukraine on February 24, 2022, one of the tenets of post-World War II European security lay in tatters. The 1975 Helsinki agreement had led to a certitude that national borders were now inviolable and that force, much less war, would not be an option to alter them in any manner.

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• The US and Europe rallied around a dazed Ukraine and the war began in earnest with a clear political objective. Russian aggression had to be resisted and this war was framed as being critical for the US and the Western alliance to defend freedom and sovereignty as symbolised by a resolute Ukrainian President Volodymyr Zelenskyy.

• As the war dragged on, in March 2023, the International Criminal Court (ICC) issued an arrest warrant for President Putin accusing him of war crimes. Russia was placed under US led sanctions and its assets were frozen. Moscow was shunned by the US and its allies while war-related death and destruction mounted.

• Europe and Ukraine have been thrown under the bus even as a Trump-Putin "deal" is being negotiated to end the war. It may be recalled that candidate Trump had asserted in his 2024 campaign that if elected, he would end the war in Ukraine quickly, and it is evident that he is moving with visible determination towards that objective.

• A potential US-Russia rapprochement will have definitive implications for Europe that would feel vulnerable sans the American umbrella. Concurrently, both China and India will have to review their relations with a stable US-Russia dyad. For Beijing, the deeper anxiety will be that of a Washington-Moscow compact thereby allowing the US to compel China towards compliance with the kinetic Trump diktat.

• In the current flux, there is one lesson that India can derive from the European strategic discomfiture: Do not neglect core military capabilities and ensure that defence spending is appropriate given perceived threats and challenges. Ekla chalo (walk alone, to borrow from Rabindranath Tagore) in honing military muscle has to be internalised by Delhi with much greater resolve and integrity than has been the case till now.

Do You Know:

Ajay Bisaria Writes in Three years of war in Ukraine—

• Three years ago, Russia launched a fratricidal 'special military operation' against Ukraine, triggering the bloodiest European war since 1945. Planned as a swift reminder of Russia's red lines, the conflict turned into a grinding war of attrition. Ukraine, resilient and armed with Western support, stalled Russia's advances. A thousand days later, no clear winners have emerged — Ukraine is devastated, Russia weakened, Europe fragmented, the US frustrated, and global economies are suffering.

• Trump's moves have left Europe reeling. At the Munich Security Conference, US Vice President JD Vance spoke bluntly of Europe's decline. Two emergency summits in Paris reflected the panic: Europe faces a 'two-front situation,' with Russian aggression on one side and American hostility on the other. France's Emmanuel Macron and Britain's Keir Starmer will soon travel to Washington to plead their case, while Germany's new chancellor could follow as soon as the dust settles on a bruising election.

• In Ukraine, Zelensky faces battlefield losses and Trump's trolling. The US president sent his special envoy, Keith Kellogg, to Kyiv to humour the "modestly successful comedian" before dismissing Zelensky as a "dictator." Even before Zelensky suggested Trump was swayed by Russian disinformation, he had effectively lost any influence over negotiations.

• Adding to Ukraine's woes, Trump wants repayment for the $350 billion the US has allegedly spent on the war. Treasury Secretary Scott Bessent was tasked with negotiating access to

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Ukraine's strategic mineral reserves in return for American support. This aligns with Trump's vision of geopolitics as real estate transactions, like his ideas to buy Greenland or control the Panama Canal or Gaza or even Canada.

US JOINS RUSSIA TO VOTE AGAINST UN RESOLUTION ON UKRAINE WAR; INDIA AND CHINA ABSTAIN

For the first time since Russia invaded Ukraine three years ago, the US voted with the Russians in an attempt to block a draft resolution by Ukraine at the UN that called for a "de-escalation, an early cessation of hostilities and a peaceful resolution" of the war against Ukraine.

• The 193-member UN General Assembly voted Monday on the draft resolution "Advancing a comprehensive, just and lasting peace in Ukraine" tabled by Ukraine and its European allies.

The resolution called for a "de-escalation, an early cessation of hostilities and a peaceful resolution of the war against Ukraine, marked by enormous destruction and human suffering, including among the civilian population, in line with the Charter of the United Nations and international law".

• India was among the 65 UN Member States that abstained on the resolution. Brazil, China, South Africa — four of the BRICS countries abstained. Saudi Arabia, UAE, Qatar, Iran, Iraq, Oman, Kuwait, Syria, Ethiopia, Argentina also abstained.

• Among the 18 who voted against the draft resolution included, Russia, US, North Korea, Belarus, Hungary, Israel, Haiti, Burkina Faso, Burundi, Equatorial Guinea, Eritrea, Mali, Marshall Islands, Nicaragua, Nigeria, Palau, Sudan among others.

• The resolution comes on the third anniversary of the Russia-Ukraine conflict, with UN Secretary General Antonio Guterres stressing that the war in Ukraine stands as a "grave threat" not only to the peace and security of Europe but also to the very foundations and core principles of the United Nations.

• The US also tabled a brief rival resolution, "The path to peace," that mourns the tragic loss of life throughout the "Russian Federation-Ukraine" conflict. A draft amendment tabled by France sought to replace "the Russian Federation-Ukraine conflict" in the US-tabled text with "the full-scale invasion of Ukraine by the Russian Federation". The resolution, as amended, was adopted with 93 votes in favour, 8 against and 73 abstentions. The US abstained in the final vote on its own resolution. India abstained on the US-tabled resolution as well.

HOW US-EUROPE 'BREAK' IS CHANGING THE 'WORLD ORDER'

The United States appears to have reversed its policy on the Russia-Ukraine war – and now seems to be working with the Kremlin to force a settlement in Kyiv. On Monday (February 24), the third anniversary of the war, the US opposed an attempt by its European allies at the UN to condemn Russia for its aggression.

• In both these theatres of ongoing conflict, America seems willing and keen to move forward without the parties that are the worst affected – Palestinians and Ukrainians – being represented.

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• Trump's detractors have argued that the "rules-based order" that the US and its Western allies have championed vis-à-vis China in the Indo-Pacific and Russia in Europe is now under threat from the US itself.

• Benjamin Jensen, a senior fellow for the Futures Lab in the Defense and Security Department at the Washington think tank Center for Strategic and International Studies (CSIS), argued in a paper published last week that Trump aims to strike a "grand bargain" to reshape the world order and recreate the era of "spheres of influence".

• Every act of US interventionism over the past seven decades – in Latin America, Asia, Middle East, or Afghanistan – has provoked cries of "American neo-imperialism". This cry is now being heard as the US appears to move towards a more isolationist stance in Europe – even though there does seem to be less outrage, at least in the West, about the idea of occupying Palestine.

Do You Know:

• Broadly, since the fall of the Berlin Wall in 1989, foreign policies of the western powers have been domestic politics-proof. In the UK, for example, until Brexit, both Labour and Tory governments were broadly predictable in the positions they took on the "big questions" of foreign policy.

• Even in India, the broad direction of foreign policy – the growing closeness to the West, maintaining ties with Russia, and even neighbourhood policy – has not been upended by changes of guard in New Delhi.

• Trump's election, though, is seen as a "great disruption" – it is for some an event that could potentially be as far-reaching as Mikhail Gorbachev's term in the USSR. This appears remarkable because conventional wisdom sees democracies with strong institutions as being more stable and considered than one-party systems ruled by strongmen.

• The US and the UK aren't the only countries where domestic politics has become more consequential than before for foreign policy. The rise of the far right across Europe – from the AfD's dramatic success in Sunday's German federal election to Marine Le Pen's ambition of entering the Élysée Palace – threatens the idea of "Europe" as an economic and geopolitical unit.

• Indeed, changes in domestic politics in several countries are being driven by a new kind of internationalism, what strategic affairs analyst C Raja Mohan has called the "Con-intern" a nascent ideological formation akin to the Comintern or Communist International (founded in Moscow in 1919).

TRUCE UNDER FIRE

As the first phase of the Israel-Hamas ceasefire comes to an end on Saturday, there are growing signs that the already fragile truce is under enormous strain. When the deal was reached in mid-January, the understanding was that it would be implemented in three phases. In the first, Israel was required to reposition some of its troops, letting displaced Palestinians move from the south to the north, and release more than a thousand security prisoners in return for some 32 hostages. In the second phase, both sides are required to bring the war to an end, while the third phase is about the reconstruction of Gaza. In the first 42 days, both sides stuck to their commitments despite challenges — Hamas released 38 hostages and Israel freed hundreds of prisoners. Talks for the second phase were to begin days earlier — Prime Minister Benjamin Netanyahu sent a

delegation to Cairo only on Thursday. And, according to the deal, Israel was to complete the withdrawal of its troops from the Philadelphi corridor, the 14-kilometre stretch along southern Gaza's border with Egypt, by Saturday. But on Thursday, an Israeli soldier ruled out an Israeli pull back from the corridor, casting doubts on the future of the ceasefire.

When Israel launched the war on Gaza, following Hamas's October 7, 2023 cross-border attack in which 1,200 people were killed, Mr. Netanyahu's declared objectives were the dismantling of Hamas and the release of the hostages. But after 15 months of war, in which nearly 48,000 Palestinians have been killed and more than 1,00,000 wounded, Israel achieved neither of the goals, which eventually forced Mr. Netanyahu to strike a deal with Hamas to get the hostages out. For a permanent end of the war, Israel has to leave Gaza. If Mr. Netanyahu withdraws his troops, Hamas will remain in power in the enclave, an outcome that could lead to the collapse of his right-religious government. The proposal by United States President Donald Trump to "own Gaza" and ethnically cleanse the strip's 2.3 million Palestinians seems to have hardened Israel's position further. But by keeping its troops in Gaza, Israel is not only violating the terms of the ceasefire but is also stepping into the abyss. Despite its superior forces and unmatchable fire power, Israel has failed to destroy Hamas, which, in the words of Israel Defense Forces spokesperson Daniel Hagari, is "rooted in the hearts" of Palestinians. After the first phase of the ceasefire, Hamas will still have over 60 hostages. So, if Israel refuses to exit Gaza and extend the ceasefire, what is awaiting the enclave is a war of attrition. Instead, the Jewish state should honour its commitments under the agreement. The U.S., rather than make outlandish statements such as ethnically cleansing Palestinians, should use its leverage over Israel and its Arab neighbours to implement the ceasefire and draw up a plan for post-war Gaza, that includes its governance and reconstruction.

WHAT DO GERMANY'S ELECTION RESULTS MEAN?

The story so far:

On February 23, Germany held its federal elections with a new record of 82.5% turnout. According to the Federal Electoral Committee, the conservative Christian Democratic Union (CDU) along with the Christian Social Union (CSU) won the majority of votes followed by the far-right Alternative for Germany (AfD) leaving the Social Democrats (SPD) and the Greens in third and fourth places. The primary takeaway of the election is not the win of CDU but the rise of the AfD. For CDU to form a coalition, 316 seats are needed and the negotiations between CDU, AfD, and SPD remain a deciding factor for Germany's political landscape.

What are the major electoral issues?

In 2025, a new electoral reform changed the distribution of parliament seats. Voters cannot choose the chancellor directly. A ballot paper has two votes: one to decide the candidate with the most votes in a district, among 630 such seats in parliament. The next decides the proportional representation and vote distribution of the contending political parties. A clause excluded parties winning less than 5% of the vote from parliament. The reform removed "overhang seats," which previously benefitted the SPD, limiting parliament's size. Now, even if a candidate wins in a district, they cannot secure a seat unless their party succeeds in the second ballot.

The second issue was that of immigration. The CDU, FDP, AfD, and BSW have constantly called for tougher immigration regulations over the SPD and Greens' moderate stance. After several attacks in Germany, the public demand for stricter policies increased. CDU leader Friedrich Merz aimed to deport "undocumented foreigners and asylum seekers" from the border. Chancellor, Olaf Scholz

criticised his approach but promised further border controls and faster deportations in a "humane and consistent" way. One of the reasons for AfD's vote gain is its strong stance against illegal migration.

Economic revival was the third issue. The parties stood for increasing economic competitiveness. The most debated issue was the debt brake law, restricting the structural deficit to 0.35% of GDP. CDU and FDP supported it, while the SPD and Greens preferred to relax it. However, with a recession, new investments remain uncertain. Merz pledged to cut bureaucracy, while Scholz called for wealth and high inheritance taxes.

Fourth, Ukraine and NATO dominated foreign policy. Most parties stood for supporting Ukraine and boosting the defences of NATO, except for AfD and BSW, who opposed military aid and favoured closer ties with Russia, including repairing Nord Stream pipelines. Meanwhile, SPD, CDU, and Greens supported increasing military spending above NATO's 2% requirement.

What explains the rise of AfD?

The growing influence of the far-right AfD is due to several reasons, primarily the migrant crisis. The government's lenient approach to refugees led to the rise of security and economic concerns, creating a divide. This was used by the AfD in its favour, showcasing a stricter stance on immigration and border control. Another key reason for AfD's rise was its encashing in on the dissatisfaction of mainstream parties. AfD also targetted young voters through social media and appeals to East Germans, who face high unemployment and feel unrepresented. Beyond domestic factors, the broader right-wing shift in France, Italy, and Hungary further aligned with AfD's agenda.

Will CDU be able to form a stable government?

To form a government, the parties that won must negotiate to form a coalition majority. Germany's election system and the recent reform promote coalition governments, and with CDU and CSU falling 108 seats short of a majority, they need support from either the SPD or AfD. However, with SPD, negotiating on social policy is viewed to be difficult, while the AfD stands secluded as the mainstream parties have vowed not to work with it. CDU leader Merz indicated the same, calling the new government "one of the last chances" to prevent the growth of AfD. According to AfD's leader, Alice Weidel, a political change is already in process but is being delayed. Considering the possibilities of a CDU-SPD coalition, several ideological differences persist on issues such as taxes, social welfare, immigration, employment flexibility, and climate action. But, given the historical relations and the mindset of both parties, despite Scholz's objections, to come together, intense talks are needed to lead to a coalition. One advantage of Germany's political system is that it facilitates negotiations and is well structured to provide opportunities that can prevent a political impasse.

EXPRESS VIEW | MELONI'S RIGHT: WHY LIBERALS NEED TO LISTEN, NOT MELT DOWN

The institutions and values firmed up in Europe and the US — the West — in the last decade of the 20th century are facing a crucial moment of reckoning. Western liberalism and the much-touted "rules-based order" championed by Washington and Brussels arguably reached their pinnacle after the G7 was expanded to include Russia in 1998. The "end of history" moment, though, now seems a thing of the past. The economic vision articulated as the "Washington Consensus" — with a focus on free markets, trade liberalisation, fiscal discipline — began eroding

with the 2008 financial crisis and the rise of China. It is now being challenged by Donald Trump in the very place of its origin. It can be said to be framed by recent political events — the election results in Germany, and the speeches by Italian Prime Minister Giorgia Meloni at the Conservative Political Action Conference in the US and by US V-P J D Vance at the Munich Security Conference. Rather than ignore — or denigrate — the political-ideological frameworks that are being writ large on the global landscape, liberal politics needs to understand and engage with them.

Even as he "bore full responsibility" for the poor showing of the Social Democratic Party (SDP), German Chancellor Olaf Scholz rejected the possibility of even speaking to the AfD: Germany's far-right outfit — riding on an anti-immigrant campaign — is now the second-largest party in the legislature. The upward climb of the AfD is of a piece with the rise and rise of many other parties once thought to be on the fringe. The question, though, is why. Conservative leaders like Meloni have an explanation — it would not do to merely dismiss it as self-serving. While liberal leaders like Bill Clinton and Tony Blair were hailed as statesmen when they worked together, she says, "when Trump, Meloni, … Modi talk, they are called a threat to democracy. This is the Left's double standard… but we are used to it, and the good news is people no longer believe in their lies, despite all the mud they throw at us. Citizens keep voting for us". Vance, for his part, has pointed to issues that have defined the culture wars in the US — free speech vs hate speech, abortion, prayer in public spaces — and urged Europe to look at the hypocrisies and inconsistencies within.

There are now ascendant political parties across Europe and beyond that will echo Meloni and Vance. The despondency shown by Scholz, and the "basket of deplorables" view of those who voted for the right, however, is myopic and self-defeating. It is important to acknowledge that a once-formidable consensus is under siege and that there are several complicities in its apparent breakdown. It is vital to recognise that the challenger also contains multitudes, there is no singular right-wing. Abortion and gun control might be divisive issues in the US, for instance, but they are not a major feature of the political conversation on the right in India. The crisis for liberal politics is also born of its own lack of agility and imagination. Any way out of it must begin with fresh ideas, a much-needed rethink.

MUJIB DOWNSIZED, INDIA'S ROLE IN LIBERATION WAR CUT: DHAKA REWRITES TEXTBOOKS

There has been reports that Bangladesh is making the most drastic changes made to school textbooks in this year by its National Curriculum and Textbook Board (NCTB) — alterations that almost obliterate Prime Minister Sheikh Hasina and curtails her father Mujib's role in the freedom struggle.

• In these changes lie an underlying theme — of playing down the Indian leadership's contribution to the Bangladesh Liberation War in which the combined forces of Indian Army and the Bangladesh freedom fighters had defeated Pakistan's armed forces in December 1971, leading to the creation of the nation.

• A team of over 57 experts set up by the Bangladesh Education Ministry has carried out alterations to 441 school books used by primary, secondary and higher secondary students, sources said, adding that over 40 crore new books have been printed for the current academic session. The Indian Express analysed several of these books — across classes and subjects.

• These changes are among the "reforms" in the education sector that the interim government announced following the toppling of the 16-year regime of Awami League leader Sheikh Hasina, who fled Bangladesh on August 5, 2024, and has been living in India ever since.

• The Indian Express found that two photographs of Mujib with then Indian Prime Minister Indira Gandhi had been dropped from the inside cover of the Class 6 English book — of Mujib making a speech and Gandhi sharing the dais at a rally in Kolkata on February 6, 1972, and the other of March 17, 1972, when the Bangladesh President received the Indian PM at the Dhaka airport. Photographs of Mujib with world leaders have been deleted from other textbooks too.

Do You Know:

• Among the biggest changes in the books is the move to bring in other leaders of the Muktijuddho (Bangladesh's freedom struggle), who, critics of the Awami League say, were overshadowed by Mujib and his daughter Hasina.

• The revised curriculum includes biographies and photographs of other "political stalwarts" such as Maulana Abdul Hamid Khan Bhashani, former Muslim League leader, first president of the Awami League and a prominent figure during the 1971 Muktijuddho; Huseyn Suhrawardy, the former Chief Minister of undivided Bengal and the former Prime Minister of Pakistan; Abul Kasem Fazlul Huq, a former Muslim League leader and Prime Minister of East Pakistan; Tajuddin Ahmed, the Prime Minister of Bangladesh and a Muktijuddho leader; and Khaleda Zia, Hasina's rival, two-time Prime Minister of Bangladesh and wife of former President Ziaur Rahman.

NATION

THE SEC AND HAGUE SERVICE CONVENTION

The story so far:

The U.S. Securities and Exchange Commission (SEC) informed a New York court on February 18 that it has sought assistance from the Indian government under the Hague Service Convention — formally known as the Convention on the Service Abroad of Judicial and Extrajudicial Documents in Civil or Commercial Matters, 1965 — to serve summons on billionaire Gautam Adani and his nephew Sagar Adani in a securities and wire fraud case.

What did the SEC say?

The SEC informed the court that it had invoked Article 5(a) of the Convention to request India's Ministry of Law and Justice to facilitate the service of summons on the defendants. It further stated that it is exploring alternative service methods permitted under Rule 4(f) of the Federal Rules of Civil Procedure, which governs civil litigation in U.S. federal courts.

On February 10, the Trump administration paused enforcement of the Foreign Corrupt Practices Act (FCPA) — one of the laws under which the Adanis have been charged — for 180 days. The FCPA prohibits U.S. entities and individuals from bribing foreign governments, political parties, or officials to secure business.

As per the executive order, the Attorney General must review "all existing FCPA investigations or enforcement actions" and take steps "to restore proper bounds on FCPA enforcement". However, the SEC's latest court filing suggests that the order does not apply retroactively. As a result, the agency's investigation into the Adanis is likely to continue unless the law is amended.

How does the Hague Service Convention operate?

With the rise in cross-border litigation, the need for an effective and reliable mechanism to serve judicial and extrajudicial documents on parties residing in foreign jurisdictions became imperative. As a result, countries adopted the Convention at the Hague Conference on Private International Law in 1965. Building on the 1905 and 1954 Hague Conventions on Civil Procedure, this multilateral treaty ensures that defendants sued in foreign jurisdictions receive timely and actual notice of legal proceedings while facilitating proof of service.

Eighty-four states, including India and the U.S., are parties to the Convention. Its procedures apply only when both the sending and receiving countries are signatories. Each member state must also designate a central authority to process requests and facilitate the service of documents from other signatory states.

Signatory states can select the modes of transmission that apply within their jurisdiction. Under the Convention, the primary mode of service is through designated central authorities. However, alternative channels are also available, including postal service, diplomatic and consular channels, direct communication between judicial officers in both states, direct contact between an interested party and judicial authorities in the receiving state, and direct communication between government authorities.

How is service effectuated on defendants in India?

India acceded to the Convention on November 23, 2006, with certain reservations, expressly opposing all alternative service methods under Article 10. It prohibits the service of judicial documents through diplomatic or consular channels, except when the recipient is a national of the requesting country. For instance, a U.S. court cannot serve documents in India through U.S. diplomatic or consular channels, unless the recipient is a U.S. national residing in India. Additionally, all service requests must be in English or accompanied by an English translation.

As a result, valid service can only be executed through the Ministry of Law and Justice, India's designated central authority. The Ministry is permitted to reject a service request, but must specify the reasons for such refusal. For instance, under Article 13, a request can be denied if the state believes its sovereignty or security would be compromised.

However, a state cannot reject a service request solely because it claims exclusive jurisdiction over the subject matter under its domestic law. Similarly, under Article 29, a request cannot be refused simply because the state's internal law does not recognise a right of action.

If the central authority raises no objections, it proceeds with serving the defendant. The service is then treated as a summons issued by an Indian court under Section 29(c) of the Code of Civil Procedure, 1908. Once completed, the central authority issues an acknowledgement to the requesting party. The entire process typically takes six to eight months.

Can a default verdict be rendered?

A default judgment may be issued under the Convention if a foreign government refuses to cooperate in serving summons on a defendant residing within its jurisdiction. However, Article 15 prescribes specific conditions that must be met before such a judgment can be rendered: (a) the document must have been transmitted through one of the methods outlined in the Convention; (b) at least six months must have elapsed since the transmission, with the court determining this period to be reasonable in the given case; and (c) no certificate of service has been received despite all efforts to obtain it through the competent authorities of the recipient state.

Notably, India has expressly declared that its courts may issue a default judgment in cross-border disputes even if no certificate of service or delivery has been received, provided that all conditions under Article 15 are met.

Recently, in Duong v. DDG BIM Services LLC (2023), American plaintiffs sought permission to serve Indian defendants via email, citing difficulties in effectuating service through India's central authority as prescribed by the Convention. Judge Kathryn Kimball Mizelle underscored that Article 15 functions as a "safety valve," allowing default judgment to be entered if "India's central authority fails to hold up its end of the bargain."

INDIAN PEACEKEEPERS SERVE WITH COMMITMENT: UN

Indian peacekeepers are present in most of our peace keeping missions and they are serving with commitment, the Under-Secretary General for UN Peace Operations, Jean Pierre Lacroix, said on Wednesday. He added that the peacekeeping mission in the Democratic Republic of the Congo is facing restrictions, especially in the areas controlled by the M23 rebels and they are taking all measures to ensure their safety. He called on member states to play a role in brining peace, terming India an important member.

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Mr. Lacroix is in India coinciding with the conference on 'Women in Peacekeeping — A Global South Perspective', organised, on February 24-25, by the Ministry of External Affairs in collaboration with the Ministry of Defence and the Centre for UN Peacekeeping, which brought together women peacekeepers from India and 35 other countries.

Mr. Lacroix stressed on the need for reforms in international governance, including the UN Security Council, to make it representative of today's reality. "It is very important for the UN to have this reform materialise... How that can be done is for member states to decide."

Asked about the possibility of a ceasefire in Ukraine and if there would be a third party, UN type, monitoring mechanism, he said "it is very hypothetical at this stage."

On the situation in the Congo, where the M23 has been gaining territory, he said the situation remains very concerning. The M23 is supported by the armed forces of Rwanda, and the situation is having a very negative impact on the population, he said. . "It is also placing our peacekeeping operations, at least in the M23-controlled areas, in a more challenging position with all sorts of restriction regarding movement, supply, etc." Mr. Lacroix said.

"I don't think peacekeepers are targeted," he said while acknowledging that Indian peacekeepers are present in the M23 areas. "They are monitoring the situation and will do everything to keep peacekeepers safe."

India, has traditionally been among the top troop contributing nations to UN. As on October 2024, India had a total of 5,466 peacekeepers, of which 5,046 were military personnel, making it the fourth largest troop contributing nation after Nepal, Rwanda and Bangladesh.

WHY LNG IS CENTRAL TO THE FUTURE EXPANSION OF INDIA-QATAR TRADE

The India-Qatar trade relationship has predominantly been fueled by New Delhi's heavy imports of liquefied natural gas (LNG), of which Doha is India's largest supplier. With the two countries now aiming to double bilateral trade over the next five years, LNG, or super-chilled gas, is likely to play a pivotal role in that endeavour as well.

— The reason: India's LNG imports are expected to surge over the next five years as the country's natural gas consumption is set to grow significantly. The expected growth in imports would coincide with Qatar expanding its LNG export capacity.

— The recent state visit of Qatar's Amir Sheikh Tamim bin Hamad Al-Thani saw New Delhi and Doha setting a target to double bilateral trade to around $28 billion a year by 2030, apart from elevating the bilateral relationship to a strategic partnership.

— LNG imports accounted for 50 per cent of India's overall imports from Qatar, which totalled $11.49 billion in the first 11 months of 2024. Notably, other major imports were also fossil fuel-linked commodities and products like liquefied petroleum gas (LPG), crude oil, plastics, and other petrochemicals. By contrast, India's exports to Qatar during the 11-month period totalled just $1.61 billion.

— India's largest LNG importer Petronet LNG has a long-term contract with Qatar for 7.5 million tonnes per annum (mtpa) of LNG, which only last year was extended till 2048.

— The Indian government has set an ambitious target to increase the share of natural gas in the country's primary energy mix to 15 per cent by 2030 from a little over 6 per cent at present, which is bound to result in a rapid increase in LNG imports over the next few years.

— According to Paris-based International Energy Agency (IEA), India's natural gas consumption is seen rising nearly 60 per cent over 2023 levels to 103 billion cubic metres (bcm) by 2030, while LNG imports are set to more than double between 2023 and 2030 to 65 bcm a year, driven by steady demand growth and a much slower rise in domestic production.

— Over the coming years, the US is expected to be Qatar's biggest competitor for LNG market share in India. The US, which is the world's largest LNG exporter, is currently India's second-largest source of super-chilled gas.

Do You Know:

— The Cooperation Council for the Arab Gulf States, often called the Gulf Cooperation Council (GCC), is one of the most important regional organisations in the Gulf and the wider Middle East region.

— The six member states of the GCC, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, came together in 1981 to form the regional grouping in the light of the tumultuous politics at the time to develop collective mechanisms to deal with political, security and economic challenges facing the member states.

— The GCC countries are home to one of the largest expatriate Indian communities in the world, estimated at 8.5 million, and this is the largest concentration of its citizens outside India.

— The GCC is also one of the largest trading blocs of India's foreign trade. For example, in 2023-24, the bilateral trade between India and GCC was US$161.82 billion comprising 14.22 percent of India's total foreign trade.

FOREIGN INFLUENCE

The controversy over USAID's presence in India reflects an increasingly unhinged public discourse, undermining the nation's confidence and global standing. The BJP and the Congress have been engaged in a political tug-of-war, attempting to corner each other over USAID-funded projects and foreign connections. However, much of this cacophony that passes for debate is fuelled by misinformation and misinterpretation, often drawing from insinuations made by the Trump administration which views international aid as a waste of American resources. While the U.S. may have its reasons to reassess its aid priorities, it is regrettable that India's major political parties are echoing these arguments without a nuanced understanding. USAID has long supported projects in India, including those in partnership with the government. In the absence of verifiable data on the extent and impact of these initiatives, discussions are bound to be ill-informed and prejudiced. In a globalised world, where countries compete for capital, technology, and talent from across borders, branding political opponents as foreign agents may be an easy propaganda tactic, but poisons the domestic political environment and weakens India's aspirations to emerge as a global power.

It is true that foreign aid can be a tool of soft power, often used by stronger nations to exert influence over domestic affairs of other countries. However, recognising this reality requires a responsible and measured approach, and not an overreaction that borders on self-sabotage. India

itself has evolved into an aid provider, a role it seeks to expand. According to an ORF analysis, since 2000, the Ministry of External Affairs has overseen financial assistance exceeding $48 billion to over 65 countries, through grants, lines of credit, and capacity-building programmes. This growing role, as a donor nation, has coincided with stricter regulations on foreign contributions within India. However, these regulations have been heavily politicised — entities aligned with the ruling establishment often face fewer hurdles, while others, even those engaged in purely apolitical activities, encounter significant restrictions. The American debate over USAID's role in India does raise concerns about foreign influence, but any response must be rooted in clear-headed policy rather than reactionary rhetoric. If the government genuinely suspects that foreign funding is shaping India's political landscape in undesirable ways, it must approach the issue with transparency and a well-defined plan for investigation. Managing national security in an era of increasing global interconnectedness and transnational challenges is a complex task, one that requires a mature, strategic outlook rather than a chaotic, polarised public discourse.

WHAT IS INDIA'S DILEMMA OVER FIGHTER JETS?

The story so far:

The two foremost Fifth Generation Fighter Aircraft (FGFA) of Russia and the U.S., the SU-57 and F-35, got a lot of attention at Aero India, which was held from February 10-14 in Bengaluru, with the former undoubtedly being the showstopper with its manoeuvres. Just as that wound up, U.S. President Donald Trump, addressing a press meet with Prime Minister Narendra Modi, said the U.S. is also paving the way to "ultimately" provide India with F-35 stealth fighters.

What's the F-35?

The F-35 Joint Strike Fighter is a single seat, single-engine strike fighter jet with three variants, F-35A, which has a conventional take-off and landing for the Air Force, F-35B short take-off/vertical landing for the Marine Corps and an F-35C aircraft carrier variant for the Navy and the Marine Corps. In addition to the U.S., the programme has seven international partners, and 10 foreign military sales customers, and the jets are expected to be in service well into the 2080s. As of January 30, 2025, 1,110 F-35s were delivered, according to the lead contractor Lockheed Martin, with 20 participants in the programme.

Noting that it wasn't a firm offer yet and what Mr. Trump meant was that they will look at a roadmap for making the F-35 available, Defence Secretary Rajesh Kumar Singh said recently that India "will look at that offer once it becomes a firm offer." Pointing out that there is a protocol to be followed, he said that first requirements have to be raised by the services, and only then are options on offer studied. "Creating an option of this type is important for us and we will certainly look at it with an open mind," he said.

The U.S. Government Accountability Office (GAO), which is mandated by the U.S. Congress to review the programme, said in a May 2024 report that the Department of Defence estimates that these development efforts — as well as the costs to maintain and operate the 2,470 planned aircraft through 2088 — will exceed $2 trillion. Based on various estimates, the F-35 costs upwards of $100 million per aircraft with armaments and associated costs. India has never operated a U.S. fighter, and an advanced fighter like the F-35 will need new facilities for training and maintenance.

What is the status of the Russian fighter jet?

It is pertinent to note that in 2010, India and Russia signed a preliminary design agreement to jointly produce the FGFA, now the SU-57, for use by both countries after which each had invested $295 million for preliminary design which was completed in 2013. But protracted negotiations followed over the high cost and limited technology transfer. One of the limiting factors was that it was a single seater and the creation of a twin-seat variant, the IAF's preference, would mean a steep rise in costs. India eventually pulled out of the FGFA project and decided to go with its indigenous FGFA, the Advanced Medium Combat Aircraft (AMCA).

What is the IAF's squadron strength?

The IAF has a sanctioned strength of 42.5 fighter squadrons, but, is languishing today at 31 squadrons with a significant proportion of ageing platforms. "Somewhere India got left behind and is stuck in the middle. There is a big gap and major countries have moved forward," noted a senior official. China, Russia and the U.S. have already fielded fifth generation fighter jets, with China recently stealing a march over everyone else as it flew two advanced fifth generation fighters, dubbed by some as a sixth-generation jet, in addition to the two jets already developed and inducted. Reports suggest that Pakistan is looking to acquire 40 J-35 fifth generation jets from China.

In December, the government constituted a high-level committee led by the Defence Secretary to chalk out a roadmap for the IAF and address operational gaps. The report which was scheduled to be submitted by end-January, is still in the works, officials confirmed.

What is in the pipeline?

India has an ambitious plan to acquire over 500 fighter jets, a bulk of them variants of the Light Combat Aircraft (LCA) and the AMCA, that is at least a decade away from induction.

There has been a delay in the deliveries of 83 LCA-Mk1A already contracted, with 97 more to be ordered. The delay in deliveries has been partly due to engine delays from General Electric (GE), and Hindustan Aeronautics Limited (HAL) has now assured that 12 jets will be delivered to the IAF this year; the order for 83 jets will be completed in three-and-a-half years. Officials said that the more capable LCA-Mk2 is expected to make first flight in early 2026. The AMCA prototype is expected to roll out by end-2026 or early-2027, certified by 2032 and ready for induction by 2034. In addition, there is the proposal for 114 Multi-Role Fighter Aircraft (MRFA) to be imported and licence-manufactured locally but has seen no progress for many years, with the Request For Information (RFI) issued in April 2019. However, given the gap in numbers, the MRFA as envisaged may now be too expensive and too late to address the crisis. Last October, IAF chief Air Chief Marshal A. P. Singh said the MRFA was "needed as on yesterday."

While several experts and observers pitched for two F-35 squadrons as a stopgap, given the complex process and timelines, it would be a decade before the jets arrive. The 36 Rafale deal contracted at €7.87 billion from France in 2016 is a case in point. In addition, India had paid over €1 billion in one-time research and development costs for India-specific enhancements on the Rafales. Speeding up the domestic programmes is of critical importance as any new addition to the IAF's already diverse fleet will create a maintenance nightmare and also take away focus and resources from indigenous efforts.

When did diversification begin?

Russian military hardware has constituted a bulk of the Indian military inventory, including the IAF, for decades and diversification began in the early 2000s. However, diversification shouldn't mean moving from one dependency to another. As per the current plan, by early 2040, the IAF will have 220 LCA-Mk1 variants, at least 120 LCA-Mk2s and the initial batch of AMCAs, all powered by the GE F-404 and F-414 jet engines, a significant proportion of the fighter fleet.

The licence manufacture of the F-414 engine or the new 110KN engine, likely to be co-developed and co-produced with France for the AMCA-Mk2, will mean that India would be dependent on others for the most critical systems. The Indian aero engine space for both fixed wing and helicopters will be powered by the U.S. and France for the rest of the century, as French co-developed engines power India's indigenous helicopters.

So adding new fighters, that too of the highest technological threshold of the U.S., would surely come with a lot of riders, some intrusive and some that could stymie operational flexibility and impact plans on indigenous manufacturing.

POWERING AMERICA

Irony lies in the fact that a large number of President Donald Trump's supporters may well come from families that first migrated to the US when they were no different from today's desperately aspirational Indians seeking entry by any means into that land of opportunity.

— The only difference lies in the fact that Europe colonised and populated the Americas when migration was a natural phenomenon.

— The ongoing debate on the legality of migration is shaped by the fact that middle-class India desperately seeks visas for legal migration and worries that the focus on illegal migrants may not only tar the image of the Indian American but also reduce opportunities for legal migration.

— Two facts have been missed in much of the popular response to illegal migration. First, the deportees from the US have not broken any Indian law. Their action of entering the United States without a visa is a crime only…

— A second, and far more important fact is that the Americas are what they are because of human migration, legal and illegal. Over the past half-century, the US economy has been powered by talented and skilled migrants across social classes from across East Asia, South Asia, Europe and Africa.

— With President Trump repeatedly focusing attention on tariff differentials between the US and India and accusing India of unfair trade practices, it is time that Indian economists developed a more comprehensive estimate of the nature of the economic relationship between India and the US.

— India needs to put forward a more robust defence of its trade and industrial policies also in order to push back on the US attempt to use its complaints against India to push for increased defence sales.

Do You Know:

— Prime Minister Narendra Modi and President Donald Trump held a bilateral meeting at the White House last week. Key Takeways:

— Transforming Relationship Utilizing Strategic Technology (TRUST) initiative: Taking forward the Biden administration's Initiative on Critical and Emerging Technologies (iCET), India and the US decided to rename it and launch the US-India TRUST initiative.

— It aims to catalyse collaboration among governments, academia and the private sector to drive innovation in defence, artificial intelligence, semiconductors, quantum computing, biotechnology, energy and space.

— Autonomous Systems Industry Alliance: It refers to India-US cooperation in the area of underwater domain awareness technologies. The US has offered a few co-production and co-development opportunities for UDA technologies, on a commercial basis. India is the very first country with whom US defence industry has offered to work with on these sensitive technologies.

— US-India COMPACT (Catalyzing Opportunities for Military Partnership, Accelerated Commerce & Technology) for the 21st century: Under this initiative, they committed to drive transformative change across key pillars of cooperation – defence, investment and trade, energy security, technology and innovation, multilateral cooperation, people to people connection.

THE HISTORIC TEA HORSE ROAD, CONNECTING INDIA AND CHINA THROUGH TIBET

China's Ambassador to India Xu Feihong on Sunday (February 23) posted on X about the historic Tea Horse Road which spanned more than 2,000 km, and connected China to India via Tibet. "The Ancient Tea-Horse Road witnesses the exchanges and interaction between China and India throughout the long river of history," he wrote.

• The Tea Horse Road does not refer to a single road but a network of branching paths that began in southwest China and ended in the Indian subcontinent.

• The two main pathways passed through cities like Dali and Lijiang in Yunnan province, and reached Lhasa in Tibet, before entering the Indian subcontinent where they branched into present-day India, Nepal, and Bangladesh. These routes were perilous to travel on, passed through difficult terrain, and reached an elevation of up to 10,000 feet.

• The origin of the Tea Horse Road can be traced to the rule of the Tang dynasty in China (618-907 CE). The writings of Buddhist monk Yijing (635-713 CE) — who gave some of the most detailed descriptions of Nalanda university available today — mention products like sugar, textiles, and rice noodles being transported from southwestern China to Tibet and India while horses, leather, Tibetan gold, saffron and other medicine herbs went to China. (Shaochen Wang, 'The Protection, Designation and Management of Cultural Routes: A Case Study of the Tea & Horse Road in China', 2021).

Do You Know:

• The main driver for the road is believed to be the demand for tea among Tibetan nomads. One popular legend says tea became popular when a princess who married a Tibetan king in the 7th century brought the beverage as a dowry to the mountain kingdom.

• A National Geographic article gave more practical reasons: "Tibetan royalty and nomads alike took to tea for good reasons. It was a hot beverage in a cold climate where the only other options were snowmelt, yak or goat milk, barley milk, or chang (barley beer). A cup of yak butter tea—with its distinctive salty, slightly oily, sharp taste—provided a mini-meal for herders warming themselves over yak dung fires in a windswept hinterland."

• With the establishment of the People's Republic in 1949, the Tea Horse Road witnessed a gradual decline. Roads were paved and modern construction was undertaken, with only a few trails surviving now. Most notably, porters who would carry loads of up to 150 kg mostly stopped the backbreaking work following Mao Zedong's land reforms.

US AWAY, INDIA SAYS: WORKED WITH CHINA TO PRESERVE G20

External Affairs Minister S Jaishankar and his Chinese counterpart Wang Yi met Friday and discussed "management of peace and tranquillity in border areas", resumption of the Kailash Mansarovar Yatra, flight connectivity and trans border rivers.

— Meeting on the sidelines of the meeting of G20 Foreign Ministers in Johannesburg Jaishankar and Wang held talks amid diplomatic efforts between the two countries to address bilateral issues and regional challenges.

— The meeting comes at a time when India and China are trying to repair bilateral ties which dived in the wake of Chinese incursions along the LAC in May 2020 and led to a military standoff. The disengagement of troops in eastern Ladakh signalled moves to look at the road ahead.

— "India and China are members of the G20, SCO and BRICS. There are also regional and global issues of mutual interest, where an exchange of perspectives will be to our mutual benefit," he said.

Do You Know:

— Kanti Bajpai writes: Economically, India and China need each other. India's economy is stubbornly stuck on a 30-year growth path of 7 per cent per annum. China's economy is languishing at 5 per cent per annum and could further slow down.

— To grow, Indian businesses desperately need Chinese products including in many key areas like pharmaceuticals, electronics, and also infrastructure. As for Chinese businesses, they need to diversify in a world where Western protectionism against them is growing. Looking ahead, India is a potentially huge market for China.

— Politically, both Delhi and Beijing must constantly worry about Washington. Despite all the bonhomie between India and the US, differences abound: Over immigration, trade, relations with Pakistan and Bangladesh…

— China must also worry about America's "naming and shaming" of Beijing's policies in Tibet and Xinjiang. In short, India and China face a common challenge — how to enhance their bargaining power with the US. One way is to signal to Washington that they have other strategic choices and partners if pushed too hard.

DETAINED FOREIGN WORKERS IN MYANMAR SCAM CENTRES AWAIT REPATRIATION

Hundreds of exhausted young men lie in an open-sided detention centre in a seedy Myanmar border town, sweating through thick tropical heat by day and prey to clouds of mosquitoes by night.

They are among some 7,000 people from more than two dozen countries released from scam compounds who are now enduring a gruelling wait to be sent home through Thailand.

Scam centres have sprung up in Myanmar's lawless border areas in recent years as part of a criminal industry worth billions of dollars a year.

Thousands of foreign workers staff the centres, trawling social media for victims to fleece, often through romance or investment cons.

Many workers say they were trafficked or tricked into taking the work and suffer beatings and abuse, though the government in China — where most come from — regards them as criminal suspects.

Under heavy pressure from Beijing, Myanmar's junta and allied militias have taken action to curb the centres.

The "crackdown" has so far involved armed uniformed men coming to the sites and asking for volunteers to leave and go home, several freed workers said in Myawaddy. But processing the workers for repatriation has been slow, leaving them trapped in limbo, smoking and playing cards to pass the time in the detention facility, which has a roof but no walls to keep the elements and insects out.

Many had their passports confiscated by scam centre bosses.

An Indian man who said he was tricked into working in the scam centres after applying for a data entry job in Thailand, said he had contacted his embassy in Bangkok several times.

Myanmar's raging civil war has complicated efforts to tackle the scam compounds, as most are in areas outside the ruling junta's control.

The United Nations estimates that as many as 120,000 people — many of them Chinese men — may be working in Myanmar scam centres against their will.

Gangs that run the compounds lure people with promises of high-paying jobs, then force them to defraud people from around the world or face severe punishment and abuse.

WHO'S CHAMPAKAM DORAIRAJAN, THE WOMAN IN A NINE-YARD SARI WHO TRIGGERED FIRST AMENDMENT?

Champakam Dorairajan always wanted to be a doctor – an unusual dream for married women in the 1940s. So when a law, in the form of a government General Order got in the way, she decided to challenge it.

• In 1948, the Madras government introduced the Communal General Order, widely referred to as the Communal G.O., which apportioned admissions to educational institutions based on caste —

out of every 14 seats, 6 were to be allotted to non-Brahmin (Hindus); 2 to Backward Hindus; 2 to Brahmins; 2 to Harijans; 1 to Anglo-Indians and Indian Christians, and 1 to Muslims.

• On learning that as a Brahmin woman, "she had little or no chance of being admitted" to a medical college, Champakam moved the Madras High Court. Her case was that the government's policy violated her right to equality. Srimathi Champakam Dorairajan And Anr. v The State of Madras became the first case to test if the Constitution permitted caste-based reservations for admission to educational institutions.

• In July 1950, the Madras HC struck down the G.O. but the State challenged the order in the Supreme Court. On April 9, 1951, a full bench of five judges of the Supreme Court struck down the law as unconstitutional, declaring that the classification in the law "constituted a clear violation of the fundamental rights guaranteed to the citizen".

• The Supreme Court ruling prompted the government to introduce changes in the Constitution through the First Amendment that expressly provided for affirmative action in higher education – until then, the Constitution only provided for reservation in public employment. The case also ignited a lasting debate on merit, equality, and discrimination — one that remains relevant to this day.

Do You Know:

• Born in 1915, Dorairajan, with a Bachelor's degree in Physics and Chemistry from the University of Madras in 1934, hoped to become a doctor, but "financial difficulties" led to her becoming a teacher instead.

• In its ruling, the SC quoted from her affidavit and said that "it does not appear that the petitioner had actually applied for admission in the Medical College" but "that on inquiry, she came to know that she would not be admitted to the College as she belonged to the Brahmin community."

• Perhaps it was this familiarity with lawyers and the legal system that prompted Dorairajan to approach the court. Renowned lawyers V V Srinivasa Iyengar and Alladi Krishnaswamy Iyer, who was also a member of the Constituent Assembly and the provisional Parliament which introduced the First Amendment, argued against the government.

• While Article 14 recognises the right to equality, Article 15 prohibits discrimination on the grounds of religion, race, caste, sex or place of birth, Article 16(4) provides for reservation in public employment in favour of any backward class of citizens, and Article 17 provides for the abolition of untouchability. However, since there was no express provision providing for reservation in educational institutions, the government pleaded with the Court to look at the "letter and spirit of the Constitution".

• Following the setback in the Supreme Court, the government brought in the First Amendment, introducing Article 15(4) to the Constitution to allow the state to make laws or "any special provision for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and the Scheduled Tribes".

• In later years, the court's textual reading of the Constitution was criticised and corrected. In the 2024 ruling allowing sub-classification of quota, then Chief Justice of India D Y Chandrachud termed the approach of the SC in Champakam's case a "formalistic and reservation-limiting approach."

• Dorairajan's case perhaps had more to do with realising her personal goals rather than making a case against affirmative action, but the court's ruling is a stark reminder of the starting point from which the law on equality has evolved.

TOP COURT UPHOLDS ARRESTS UNDER GST AND CUSTOMS ACTS

The Supreme Court Thursday upheld the constitutional validity of arrest provisions under the GST and Customs laws but also extended safeguards against arbitrary arrests to these Acts.

• A bench of CJI Sanjiv Khanna and Justices M M Sundresh and Bela M Trivedi — which was hearing a batch 279 petitions challenging the validity of the arrest provisions under the Customs Act, 1962 and the Central Goods and Services Tax Act, 2017 — said: "Parliament, under Article 246-A of the Constitution, has the power to make laws regarding GST and, as a necessary corollary, enact provisions against tax evasion… Thus penalty or prosecution mechanism for the levy and collection of GST, and for checking its evasion, is a permissible exercise of legislative power."

• The bench agreed with the view laid down in earlier rulings that customs officers are not police officers, but added that provisions of Section 41B of the CrPC, which describes procedure for arrest and the duties of an arresting police officer, would apply to Customs officers too.

• It added that the arrestee under Customs Act as well as GST Act must be informed about their grounds of arrest. The court also said that the fact of the arrest must be communicated to the person nominated or authorised by the arrested person and that it shall be the duty of the Magistrate when an arrested person is produced, to satisfy himself that the requirements have been complied with.

• It held that the safeguards against arbitrary arrest contained in Section 19 of the PMLA would "equally apply" to arrests under the Customs and GST Acts too.

Do You Know:

• On October 3, 2023, a bench of Justices A S Bopanna and P V Sanjay Kumar held that to give true meaning to the constitutional and statutory mandate of ED's power to arrest, informing the grounds on which a person is arrested in writing "would be necessary, henceforth". The court said that a copy be furnished to the arrested person, as a matter of course, without exception.

• The legality of arrest is not just a technical aspect. Since stringent laws such as the PMLA and the Unlawful Activities Prevention Act (UAPA) impose a high bar for bail, the procedural safeguards become the test against arbitrary arrest. Since getting bail is so difficult, due process requires the agency to scrupulously follow the rigours of the law in arresting an individual.

• Section 19 states the "reasons to believe" must be to establish a finding of "guilt" and nothing less, the SC held that the ED must have a higher bar for what it considers reason to believe. Essentially, the reason must virtually be "evidence admissible in court", because that is what is needed to establish guilt — and not just a subjective finding of the ED.

WHAT HAS SC PREVIOUSLY RULED ON GAG ORDERS?

The story so far:

The Supreme Court on February 18, granted interim protection from arrest to podcaster and influencer Ranveer Allahbadia in connection with the First Information Reports (FIRs) registered against him over remarks made on the YouTube show "India Got Latent". A Bench comprising Justices Surya Kant and N. Kotiswar Singh imposed stringent conditions, prohibiting Allahbadia and his associates from posting any content on social media until further orders. The court also directed him to surrender his passport to the police. These conditions contravene prior SC rulings that have cautioned against the imposition of onerous restrictions that unduly curtail personal liberty while granting interim relief.

What was Allahbadia's plea?

Multiple FIRs were registered against Allahbadia in Maharashtra, Assam, and Rajasthan under various provisions of the Bharatiya Nyaya Sanhita (BNS), 2023, the Information Technology Act, 2000, and the Indecent Representation of Women (Prohibition) Act, 1986, for allegedly promoting obscenity and engaging in sexually explicit discussions.

Consequently, he approached the Supreme Court seeking a consolidation of these FIRs and an interim order granting him protection from arrest. Such petitions, akin to anticipatory bail applications, are entertained under Article 32 of the Constitution for the enforcement of fundamental rights and to shield individuals from arbitrary police action. In such cases, courts either club the FIRs or permit the investigation to proceed under a single one while staying the rest. This spares the accused from the hassle of appearing before multiple courts. Ultimately, even if convicted, the accused serves a common sentence rather than consecutive sentences.

In Parteek Bansal versus State of Rajasthan (2022), the Supreme Court denounced the practice of filing multiple FIRs for the same alleged offence, recognising it as a tool for harassment and abuse of state machinery. That same year, a Bench led by Justice L. Nageswara Rao even mooted the establishment of a body akin to the U.S. Judicial Panel on Multidistrict Litigation to centralise the registration of such cases.

How does one get interim relief?

The conditions for granting interim relief in criminal cases are not statutorily prescribed. Instead, judges have the discretion to impose conditions they consider necessary to uphold justice and prevent interference with the investigation or trial.

In exercising this discretion, courts typically assess three key factors: flight risk (the likelihood of the accused absconding); intimidation of witnesses (apprehension that the accused may threaten witnesses); and tampering with evidence (the possibility that interim relief could enable the accused to interfere with the investigation).

For instance, courts often impose bail conditions such as requiring the accused to deposit their passport, setting a high bail bond to ensure their participation in the investigation, and mandating periodic appearances before the concerned police authority. However, the Supreme Court has consistently cautioned against imposing unduly restrictive conditions, such as requiring the accused to share their Google Maps location PIN or reside in a specific locality, deeming them disproportionate and unwarranted.

In Satender Kumar Antil versus Central Bureau of Investigation & Anr (2022), the top court ruled that imposing bail conditions that were "impossible of compliance" would be defeating the very object of release. More recently, in Frank Vitus versus Narcotics Control Bureau (2024), a Bench comprising Justices A.S. Oka and Ujjal Bhuyan ruled that a bail condition requiring the accused to share their Google Maps location PIN was unconstitutional. "The investigating agency cannot be permitted to continuously peep into the private life of the accused enlarged on bail by imposing arbitrary conditions since that will violate the right of privacy of the accused, as guaranteed by Article 21", they observed.

Is this case different?

The condition imposed on Allahbadia and his associates to "not air any show on Youtube or any other audio/video visual mode of communication till further orders" effectively constitutes a gag order. In free speech jurisprudence, this falls under the doctrine of "prior restraint" — state action that prohibits speech or expression before it occurs.

Courts have consistently cautioned against prior restraints on speech, deeming them impermissible except in exceptional circumstances. In 2021, the Supreme Court stayed a Kerala High Court bail condition restricting woman rights activist Rehana Fathima from publishing her views on social media. Notably, while granting interim bail to Alt News co-founder Mohammed Zubair in 2021, a Bench led by Justice D.Y. Chandrachud and also comprising Justices Surya Kant and A.S. Bopanna rejected the Uttar Pradesh government's request to prohibit him from tweeting while on bail. The Bench underscored that such a disproportionate restriction would create a "chilling effect on the freedom of speech." The court further noted that Zubair's profession required him to engage with social media and underscored that a gag order would constitute an "unjustified violation" of the right to practise his profession."

WHAT DID THE HC RULE ABOUT ARRESTING WOMEN AT NIGHT?

The story so far:

The Madurai Bench of the Madras High Court in Deepa versus S. Vijayalakshmi and Others ruled that the legal provision in the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, which restricts the arrest of a woman after sunset and before sunrise, is directory and not mandatory. In this case, a woman was arrested at 8pm. A single Judge of the High Court held that the arrest was in breach of Section 46(4) of the Code of Criminal Procedure (CrPC). However, a two-Judge Bench of the High Court, in an appeal, held that Section 46(4) of the CrPC was directory and not mandatory.

What are the safeguards?

Two safeguards are provided under Section 43(5) of BNSS (which corresponds to Section 46(4) of CrPC) for the arrest of a woman by the police. First, no arrest of a woman shall be made after sunset and before sunrise except in exceptional circumstances. Second, even in exceptional circumstances, the prior permission of the jurisdictional magistrate must be sought by a woman police officer by making a written report. Section 46(4) of the CrPC is a beneficial provision incorporated to ensure the safety of women. However, the provision does not explain what would constitute an exceptional situation. In addition, the proviso to Section 46(1) states that the arresting police officer should not touch the person of the woman, unless it is a woman police offer or if the circumstances otherwise require it.

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What did the Madras HC rule?

The Madras High Court said that Section 46(4) of CrPC does not spell out the consequence of non-compliance of the provision. If the provision was intended to be mandatory, the legislature would definitely have provided for the consequences of non-compliance. A police officer who effects arrest, carries out a public duty. The Court underlined that there could be a situation where a heinous offence is committed by a woman in the night and the magistrate may not be available for obtaining permission. Under such a situation, the accused woman may escape. Therefore, such mechanical adherence to procedure can injure public interest.

What is history of Section 46(4) CrPC?

The 135th report of the Law Commission of India on Women in Custody (1989) recommended that ordinarily no women shall be arrested after sunset and before sunrise. If there are exceptional cases, prior permission of the immediate superior officer shall be obtained, or if the case was of extreme urgency, then an arrest report with reasons shall be made to the immediate superior officer and to the magistrate. Similar recommendations were made in the 154th report of the Law Commission in 1996, and Section 46(4) of CrPC was inserted with some changes in 2005.

What has the Supreme Court said?

In a case, the Nagpur Bench of the Bombay High Court directed the State to issue directions to all police officials that no female persons shall be detained without the presence of a lady constable, and in no case after sunset and before sunrise. Here, the Supreme Court observed that a strict compliance with the said directive in a given circumstance would cause practical difficulties.

Will the ruling dilute the provision?

The Court has clearly said that despite holding Section 46(4) of CrPC/43(5) as directory and not mandatory, the provision cannot be rendered futile by the police. While failure to adhere to the statutory requirement may not lead to the arrest being declared illegal, the officer may have to offer explanation for the inability to comply with the provision. The Court also directed the police to issue guidelines, clarifying as to what constitute exceptional circumstances.

SLOW, UNSTEADY

The adage that 'the wheels of justice grind slowly, but grind exceedingly fine' may be true, but there are times when punishment for crimes comes so late that it is hardly recognisable as justice. The patience of a family's long wait for justice may have been rewarded this week, when Congress leader Sajjan Kumar was sentenced to life imprisonment for the killing of a 50-year-old man and his 18-year-old son by a frenzied mob during the anti-Sikh pogrom in Delhi in 1984, but no justice system ought to be proud of a verdict that comes 40 years after the crime. This is the second case in which Mr. Kumar, then a Congress Member of Parliament, has been found guilty of leading a mob. In 2021, the Delhi High Court reversed a trial court judgment acquitting him of overseeing the killing of five people in the same locality, Raj Nagar, and sentenced him to imprisonment for the rest of his life. His involvement in leading the riotous mob was known to many, witnessed by some, but covered up by all those who mattered. The police had initially failed to carry out any genuine investigation, registered omnibus first information reports for many separate incidents, discouraged complainants and witnesses from naming or describing the assailants, and only recorded the loss of property and belongings looted by the mobs that ransacked houses before burning them.

However, public outcry, political activism and the change of regime over the years have ensured that there were mechanisms from time to time to reopen closed probes and record testimony: the Justice Ranganath Misra Commission, the Justice Nanavati Commission and the Jain-Aggarwal Committee. Affidavits filed before these panels, purported contradictions in them, and the question of whether these disclosures were made at the earliest opportunity, have all been exploited by defence lawyers to delay trials over the years; but a few have made it to the very end. These outcomes kept a sliver of hope alive for at least a few victims, the latest being the three women who witnessed Jaswant Singh and his son Tarundeep being beaten and burnt before their eyes. It is a fact that fixing criminal liability in mob violence is extremely difficult, but the lesson is that the problem of finding credible witnesses should not be compounded by manipulated investigations. Even in this case, the last word has not been said as Mr. Kumar may question the finding of his guilt in appeal. A belated conviction may be seen as proof that the efflux of time need not be an impediment to justice. Or, one may wonder if it is inevitable that influential people can evade the law long enough so that they have a full and untrammelled political career before their role is proved.

HOW WAS 'VIKATAN' MADE INACCESSIBLE?

The story so far:

The website of the Tamil magazine, Vikatan, was rendered inaccessible for several readers on February 15, after the BJP's Tamil Nadu president K. Annamalai sent a letter to L. Murugan, the Minister of State for Information and Broadcasting, complaining about a cartoon featuring Prime Minister Narendra Modi and U.S. President Donald Trump. The magazine, as well as State leaders like Chief Minister M.K. Stalin, have condemned the move as an attack on freedom of expression.

Why was there a complaint about a cartoon?

Ananda Vikatan has been a mainstay in the Tamil magazine space, and in its most recent avatar has been a constant source of political and entertainment reporting. The magazine also publishes an online e-magazine for paying subscribers called Vikatan Plus. The February 10 edition of this digital magazine had a cover cartoon featuring Prime Minister Modi shackled in chains, seated next to President Trump. The shackling was a reference to the plight of the migrants being deported from the U.S. to India aboard military planes in chains.

This depiction of the Prime Minister set off a controversy on social media, which was further taken up by Mr. Annamalai, who wrote to the Ministry of Information and Broadcasting (MIB). He accused the magazine of "operating as a mouthpiece of the DMK".

How was it rendered unavailable?

The Union government did not issue any statement confirming or denying that the website was made inaccessible. The Hindu was able to confirm with four people aware of the order that led to Vikatan's inaccessibility, that it was issued by the MIB. The I&B disseminated the instructions through the Department of Telecommunications to internet providers and telecom operators, after which the website was not accessible in majority of their networks.

Website blockings are governed by Section 69A of the Information Technology Act, 2000. The law's language broadly empowers the government to block a website in the "interest of sovereignty and integrity of India, defence of India, security of the State, friendly relations with

foreign States or public order or for preventing incitement". The blocking orders are confidential, and a copy has not been provided to Vikatan or to the public.

The Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009 details the operation of these Rules, empowering Ministries and State government departments to refer a blocking request through a nodal officer to a designated officer under the IT Ministry, which then constitutes a committee that takes a decision. If a blocking is directed, the Department of Telecommunications is looped in to send the order to broadband and telecom players. This is different from the framework for removing content within a given website or streaming service. That is governed by the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, which are regulations under the IT Act empowering the I&B Ministry and the IT Ministry to issue emergency orders blocking content on social media platforms, streaming services, online news websites, and so on. Since the introduction of secure HTTPS websites, blocking a specific piece of content within a website is not possible without the cooperation of the website's publisher, as internet networks can only see the name of the domain, and not what a user is viewing on a given website.

What can 'Vikatan' do?

Under the 2009 blocking rules, a notice should be sent to the website which is liable to be blocked, so that they may make a representation. This can be considered by a review committee. The publishers of VLC Media Player were able to obtain an unblocking of their website in 2022, after engaging in discussions with the IT Ministry. No such prior notice was sent to Vikatan. On February 16, the day after the order was issued, the magazine received a notice for the cartoon under the 2021 IT Rules governing content blocking within websites, which did not acknowledge the website's overall inaccessibility. After getting a notice, a website owner can typically make their case to the committee formed under the 2009 Rules. If the committee does not accept the defence, this can be appealed in a High Court. In Vikatan's case, the notice from the I&B Ministry called for a hearing on February 20. The magazine presented its case, and has vowed to legally challenge the order if the outcome of the hearing "does not align with press freedom principles."

'INCORRECT, SCANDALOUS': TRUST OBJECTS TO SG SUBMISSION ON HALAL CERTIFICATION

The halal certification process "is part of every Indian consumer's right to be informed in relation to edible products or the other products which he or she is using in his or her day-to-day life" and "cannot be confined to merely non-veg food items and only for export purposes", the Jamiat Ulama-I-Hind Halal Trust told the Supreme Court.

• The Trust, which filed a rejoinder affidavit in response to the counter affidavit by the Centre in the matter related to the ban on halal-certified products in Uttar Pradesh, termed the submissions made by Solicitor General Tushar Mehta "completely incorrect and scandalous".

• During the last hearing on January 20, 2025, Solicitor General Tushar Mehta had told the court, "So far as Halal meat etc is concerned, nobody can have any objection. But your Lordships would be shocked, as I was shocked yesterday, even cement used is to be halal-certified. Sariyas (iron bars) have to be halal-certified... Water bottles which we get are required to be halal-certified..." "Even atta (wheat flour), besan (chickpea flour) have to be halal-certified... How can besan be halal or non-halal?" the senior law officer said, adding that halal certification agencies have made "few lakh crores" through such certification.

• Referring to this, the Trust in its affidavit dated February 22, 2025, said that the SG's submissions were "widely reported… to malign and target the petitioners to allege that the process of halal certification is being misused. Many media organisations set up debates on this issue to vilify and denigrate the entire process. The… submissions became fodder for creating a narrative against the very concept of halal and its certification process."

Do You Know:

• Halal is an Arabic word that loosely translates to 'permissible' in English. In the Quran, the term 'halal' is contrasted with the term 'haram' — meaning 'forbidden' — and is used to designate the categories of lawful (and allowed) and unlawful (and forbidden).

• The term is particularly associated with Islamic dietary laws to refer to food that is procured, processed, and traded in compliance with Islamic belief. It is similarly to the 'kashrut' dietary rules followed by orthodox Jews, who only consume food that is 'kosher', i.e. permitted in Jewish law.

• The term may also be used in the context of personal care products, packaging materials, animal feed, etc.

• India does not have an official regulator for the certification of halal products. Rather, there are various halal certifying agencies that provide companies, products, or food establishments halal certifications. Their legitimacy lies in their name-recognition among Muslim consumers as well as recognition from regulators in Islamic countries.

A LAW WEAPONISED

This couple from Bhopal had approached a local court in the city to notify their intention to marry as per the requirements of the Special Marriage Act, 1954. But their stepping stone to a life of togetherness was ruthlessly interrupted by a group of vigilantes who stormed into the court complex and beat the male partner up.

— The clampdown on interfaith couples is no longer novel in the contemporary context. Mired in the blanket term, "love jihad", almost every Muslim-Hindu marriage is assumed to be an act of religious coercion or indoctrination.

— The Act facilitated any man above the age of 21 years and any woman above the age of 18 years, who don't have any other living spouses and are capable of consenting to marriage, to legally solemnise their marriage.

— But, this Act demands a peculiar formality: The intending couples must give notice to their relevant marriage registrar a month before their desired date of marriage and within this period, anyone can raise objections to the marriage.

— While the caveats to such notice must be grounded on either partner's ineligibility to marry, the danger this publicly accessible notice brews is that the couple's privacy gets severely compromised.

— In the landmark judgment of Justice K.S Puttaswamy vs. Union of India, the Supreme Court had ordained the right to privacy as inalienable to human existence.

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Do You Know:

— The Special Marriage Act of 1954 (SMA) was passed by the Parliament on October 9, 1954. It governs a civil marriage where the state sanctions the marriage rather than the religion.

— Issues of personal law such as marriage, divorce, adoption are governed by religious laws that are codified. These laws, such as the Muslim Marriage Act, 1954, and the Hindu Marriage Act, 1955, require either spouse to convert to the religion of the other before marriage.

— However, the SMA enables marriage between inter-faith or inter-caste couples without them giving up their religious identity or resorting to conversion.

— The Indian system, where both civil and religious marriages are recognised, is similar to the laws in the UK's Marriage Act of 1949. An earlier version of the SMA was enacted in 1872 and was later re-enacted in 1954 with provisions for divorce etc.

— The applicability of the Act extends to the people of all faiths, including Hindus, Muslims, Sikhs, Christians, Sikhs, Jains, and Buddhists, across India. The minimum age to get married under the SMA is 21 years for males and 18 years for females.

FENCING OUT INTERFAITH RELATIONSHIPS IN THE NEW INDIA

On January 27, 2025, Uttarakhand became the first Indian State to implement the Uniform Civil Code (UCC), placing private relationships under state surveillance. The official claim is that it would restore gender justice, create "uniformity", and address administrative oversight. However, when taken along with existing anti-conversion laws, this marks a coordinated legal push to segregate communities — not just in faith, but also in love and daily life. The UCC is the final blow, ensuring that all forms of interfaith relationships are regulated in the 'New India'.

The introduction of more hurdles

Interfaith marriages already face immense social barriers. A survey (2014) of over 70,000 respondents found that fewer than 10% of urban Indians had a family member who married outside their caste. Interfaith unions were even rarer — barely 5% of urban respondents reported any marriages in their family outside their religion. The secular Special Marriage Act, 1954, has administrative hurdles, including a mandatory 30-day notice period, subjecting couples to scrutiny. Meanwhile, rigid anti-conversion laws, now enforced in Uttar Pradesh, Uttarakhand and Rajasthan, among several other States, have further criminalised religious conversion for marriage.

These laws create bureaucratic traps — as mandatory declarations, waiting periods, and district magistrate approvals — that deter conversions for marriage. Worse, they embolden vigilante groups, often linked to right-wing organisations, to justify harassment, policing, and violence against interfaith couples, particularly Hindu-Muslim. A news portal found that at least 63 of 101 police complaints invoking the U.P. anti-conversion law against Christians, were filed by third-party vigilante groups. Instead of protecting individuals, these laws provide legal cover for extrajudicial interventions, often with police complicity.

Against this background, the UCC's provisions on live-in relationships take state scrutiny to a new extreme — even informal relationships are subject to surveillance. Live-in relationships are now legally required to be registered with district authorities. This includes a 16-page application with

official documentation (Aadhaar cards, residential proof), seeking approval from "religious leaders or community heads," and notifying family members. The registrar must inform the couple's parents or guardians about their relationship. Failure to register is punishable with up to six months of imprisonment and a fine of ₹25,000.

These rules make it nearly impossible for couples, particularly interfaith ones, to live without oversight. It is no surprise, then, that only one live-in couple has successfully registered its relationship in Uttarakhand. Others have sought legal protection from the High Court, even as a Bajrang Dal leader claims to have sourced details on live-in applications. The ability of such vigilantes to interfere in private relationships underscores how the UCC and anti-conversion laws work in tandem to suppress interfaith unions.

A form of apartheid

The result is a complex legal machinery that is actively working to segregate communities, entrench religious divisions, and institutionalise a form of social apartheid: individuals cannot marry or even be in a relationship with the so-called 'other' without prior legal approval. These laws create barriers for interfaith couples at every stage whether in marriage or informal cohabitation.

This combined system functions in three ways.

First, by strengthening traditional religious institutions. The requirement for religious certification in both UCC and anti-conversion laws formalises the power of religious leaders over personal relationships in a secular democracy. This contradicts the constitutional guarantee of individual freedom, reinforcing the idea that relationships must adhere to religious and community norms rather than personal choice.

Second, by enabling families to exercise greater control over women. Both laws disproportionately impact women, who often face pressure, coercion, or even violent punishment for engaging in interfaith and inter-caste relationships. By notifying families of live-in relationships, the UCC makes women more vulnerable to honour-based violence and familial control. Women in interfaith relationships are often framed as victims of manipulation, stripping them of agency and reinforcing patriarchal control over their choices.

Third, by providing legal cover for vigilantism. Right-wing vigilantes now have a legal framework to monitor, report, and harass interfaith couples, married and unmarried, under the guise of preserving tradition and the law. When an interfaith couple attempts to register a live-in relationship or convert for marriage, vigilante groups are often the first to know, due to the legal requirement of public notices and family notifications.

Amid rising hate speech and polarisation, these laws effectively legalise and entrench the separation of religious communities, preventing interfaith interaction at all levels. Similar to the apartheid-era South Africa or Nazi Germany, which banned inter-racial unions, the effect of the UCC and anti-conversion laws is to institutionalise segregation by making interfaith relationships, whether marital or informal, almost impossible.

It could be catching on

Looking ahead, Uttarakhand's UCC could be a blueprint for other States. Rajasthan's High Court recently considered mandatory registration of live-in relationships, closely following Uttarakhand's model. The Rajasthan Assembly enacted an anti-conversion law. Gujarat is also

contemplating a draft UCC modelled on similar lines. These legal trends point toward a broader movement toward a systematic regulation of personal relationships.

In India, love and faith are deeply personal and subjective experiences that each individual defines on their own terms. These legal developments not only threaten individual rights but also undermine the very fabric of India's pluralistic society.

A TEENAGER HELD, A BULLDOZER UNLEASHED AND JUSTICE MOCKED

A passerby who claimed he overheard slogans that he considered "anti-national" from a home in Malvan, a town in Maharashtra's Sindhudurg district, even as India played Pakistan for the Champions Trophy in a Dubai stadium Sunday. That's all it took, apparently, to unleash a set of events that should be deeply embarrassing for a state where a new government has just taken charge after winning a large-hearted mandate, and a society that is proud of its progressive traditions and home to Mumbai, one of India's most capacious and modern cities. On Sunday, the 15-year-old boy who allegedly raised the slogans, was sent to an observation home, and his parents arrested after a confrontation with neighbours under charges such as promoting enmity between groups on grounds of religion — they have subsequently got bail. On Monday, a motorcycle rally was taken out in Malvan, not to protest against the bizarre detention and arrests, but to demand stricter action against members of the besieged family. On Monday, too, the Malvan Municipal Council demolished the family's scrap shop, holding up the fig leaf of illegality, and an MLA with a record of stoking communal spectres jumped in with exhortations to "throw out" and exultation over a business that now stood "destroyed".

What happened in Malvan violates fundamental freedoms, the rule of law, and the constitutional letter and spirit. Nilesh Rane, the Shiv Sena (Shinde) MLA, may be seizing a political opportunity, but there are wider complicities. That a teenager's slogan should be seen as a threat to the nation, that the police should hasten to file an FIR and make arrests on flimsy charges, and that the municipal body should rush to perpetrate bulldozer injustice, is deeply troubling. This also thumbs a nose at the Supreme Court itself which has laid down pan-India guidelines to prevent this brazen misuse of power and miscarriage of justice. In November last year, the Court framed the guidelines to ensure that due process is followed before properties of citizens are demolished. Violation of the guidelines would be deemed to be "unconstitutional" and amount to contempt of court, it said. Because the selective targeting of homes of accused persons is discriminatory and inflicts collective punishment in irreversible ways.

The India-Pakistan encounter in Dubai, which sparked the dismal sequence of events in Malvan, also leaves behind a memory of another kind. A viral photograph captured a moment that framed the spirit of the game — it showed former Indian captain Virat Kohli bending to tie the shoelaces of Pakistani player Naseem Shah who was at the non-striker's end. If that Dubai moment was about confidence and grace, Malvan is anything but. It is up to the state, and the court, to correct the course.

THE RTI IS NOW THE 'RIGHT TO DENY INFORMATION'

The introduction of the Right to Information (RTI) Act was a move that generated great hope among citizens since it recognised them to be the rulers of the nation. It empowered them to seek information from the government, with dignity and respect. It looked as if the 'swaraj' that they had missed would be delivered to them. The Act codified their fundamental right to information and was one of the best transparency laws in the world. It appeared that it would curb corruption

and arbitrariness, with citizens being the vigilance monitors of their government. But, it must be conceded, it has fallen far short of our expectations and the state of our democracy is not better.

Within a few months, the government realised that this was a transfer of power from public servants to the citizens. In less than a year it moved to amend the law which would have weakened the RTI Act. But there were widespread protests by citizens across the nation. Sensing the mood of the nation, the government dropped the amendments.

A gradual erosion

The RTI Act had created Information Commissions as the final appellate authorities to implement the law. Most of the posts of 'information commissioner' were taken up by retired bureaucrats. After working for decades as senior bureaucrats, it was difficult for them to hand over power to citizens and recognise that they were the rightful owners of the government. No attempt was made to select people with a record in transparency. Many of them looked at these jobs as post-retirement sinecures and worked only for a few hours. While the national average of the disposal of cases by High Court judges is over 2,500 in a year, the national average of disposal of cases by the commissioners was less than this. Given the fact that the complexity of cases before commissions is far less than the cases before the High Courts, each commissioner should have been clearing at least over 5,000 cases in a year. While the law mandated a period of 30 days for the information to be provided and the same period for the first appellate authorities, it did not specify any time limit for the commissioners. Many commissions began to have pendency of over a year. The right to information was being converted into a right to history. Many ordinary citizens could not pursue the issue of what was now a denial of information. The penal provisions of the RTI Act were the teeth of the Act, but most information commissioners were reluctant to use them. The governments delayed appointing commissioners, which only increased the backlogs.

The clear message of various High Court judgments was that the exemptions listed under Section 8 of the RTI Act were restrictions on a citizen's fundamental right and had to be construed strictly as in the law. Parliament intended most information to be provided and crafted the exemptions carefully.

The entire approach to a citizen's right to information changed in August 2011 when the Supreme Court of India held in Central Board of Secondary Education & Anr. vs Aditya Bandopadhyay & Ors, in paragraph 33: "Some High Courts have held that section 8 of RTI Act is in the nature of an exception to section 3 which empowers the citizens with the right to information, which is a derivative from the freedom of speech; and that therefore section 8 should be construed strictly, literally and narrowly. This may not be the correct approach."

In paragraph 37 it made a comment without any evidence: "Indiscriminate and impractical demands or directions under RTI Act for disclosure of all and sundry information (unrelated to transparency and accountability in the functioning of public authorities and eradication of corruption) would be counterproductive as it will adversely affect the efficiency of the administration and result in the executive getting bogged down with the non-productive work of collecting and furnishing information. The Act should not be allowed to be misused or abused, to become a tool to obstruct the national development and integration, or to destroy the peace, tranquility and harmony among its citizens. Nor should it be converted into a tool of oppression or intimidation of honest officials striving to do their duty."

This justified treating RTI as an undesirable activity and labelling RTI users as outcastes. It justified not giving information and attacks on RTI users.

The subject of 'personal information'

The second major blow came with the judgment in Girish Ramchandra Deshpande vs Cen. Information Commr. & Ors., in October 2012.

A RTI applicant, Girish Ramchandra Deshpande, had sought copies of all memos, show cause notices and censure/punishment awarded to a public servant. A.B. Lute. He had also sought other details such as his movable and immovable properties and details of his investments, lending and borrowing from banks and other financial institutions.

This was denied claiming exemption under Section 8(1)(j). This section exempts "information which relates to personal information the disclosure of which has no relationship to any public activity or interest, or which would cause unwarranted invasion of the privacy of the individual unless the Central Public Information Officer … is satisfied that the larger public interest justifies the disclosure of such information: Provided that the information, which cannot be denied to the Parliament or a State Legislature shall not be denied to any person."

A simple reading shows that under this clause, 'personal' can be denied if it has apparently no relationship to any public activity or interest; or the disclosure of the said information would cause unwarranted invasion of the privacy of the individual.

The Court did not rule on whether the information was an outcome of a public activity or if its disclosure would amount to an unwarranted invasion of the privacy of the individual. It denied the information by reading only the first seven words of the provision and saying it was 'personal information'. Most information can be linked to some person. Realising that it may be difficult for public information officers and other appellate authorities to decide on what constitutes privacy, Parliament gave a simple test in the proviso — that information which would not be denied to Parliament or legislature would not be denied to any person. This can only have one meaning. That anyone claiming that information would be denied to the citizen would make a subjective statement that he would deny the information to Parliament.

It is well settled that literal interpretation should be given to a statute if the same does not lead to absurdity. In Nasiruddin and others vs Sita Ram Agarwal (2003) 2 SCC 577, the Court has stated: "37. The court's jurisdiction to interpret a statute can be invoked when the same is ambiguous... It cannot re-write or recast legislation. It is also necessary to determine that there exists a presumption that the legislature has not used any superfluous words. It is well settled that the real intention of the legislation must be gathered from the language used."

Girish Ramchandra Deshpande amends the RTI Act and has been used as a precedent in six subsequent Court judgments and has become the gold standard to convert RTI into an RDI, or Right to Deny Information. The Digital Personal Data Protection Act takes a cue from this and amends the RTI Act itself. There are other cases in which words in the law have not been accorded their usual meanings.

A call to citizens

To ensure that the RTI fulfils its original promise we should go by the original Act and not allow any distortions. Citizens and the media must take up the responsibility to discuss and defend it. Otherwise, we will have a dilution of our fundamental right under Article 19(1)(a) of the Constitution of India.

DOING THE RIGHT THING

S Y Quraishi writes—Embracing a bipartisan and neutral collegium-based appointment system, drawing from global best practices would fortify the autonomy of the Election Commission of India

• The Election Commission of India (ECI) has been the cornerstone of this democratic process, ensuring electoral integrity. However, the appointment process of election commissioners (ECs) has been questioned for years, raising serious concerns about the autonomy and impartiality of this vital institution.

• In India, several civil society organisations (CSOs), besides the BJP's senior leader L K Advani, have been advocating for a transparent and bipartisan appointment process to the Election Commission to ensure its independence and impartiality. Notable among these organisations are: Association for Democratic Reforms, Internet Freedom Foundation, Common Cause, Lok Satta Movement, and India Rejuvenation Initiative, among others.

• The Association for Democratic Reforms (ADR) has been at the forefront of this demand. However, despite multiple legal challenges, the Supreme Court has not demonstrated the urgency required to address this critical issue that is directly related to India's democratic process and the perception of the ECI in the public mind.

• The ADR's first petition for this reform was filed in 2015 when it challenged the exclusive executive control over appointing election commissioners, arguing that it compromised the independence of the ECI. After a long wait, it was referred to a Constitution Bench in 2018, but despite the critical nature of the case, the Supreme Court did not expedite hearings, allowing, in the meanwhile, multiple EC appointments under the existing framework.

• On March 2, 2023, the Supreme Court, in the case of Anoop Baranwal vs Union of India, observed that despite the constitutional provision under Article 324(2), which expected that Parliament would enact a law detailing the appointment procedure for these positions, no such legislation had been passed in over seven decades. The Court directed that until Parliament enacted a relevant law, the appointment of the CEC and ECs should be made by the President based on the recommendations of a committee comprising the Prime Minister, the Leader of the Opposition in the Lok Sabha, and the Chief Justice of India.

• In December 2023, Parliament passed the Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023, excluding the CJI from the selection panel (although it was included in the first Bill which was later withdrawn) and instead vested the power with a committee consisting of the Prime Minister, a Union cabinet minister (nominated by the PM), and the Leader of the Opposition.

• In effect, the executive overturned the spirit of the SC ruling through the 2023 Act, effectively creating/perpetuating a partisan collegium with the PM and a cabinet minister (instead of the CJI) making the third member — the LoP.

S Y Quraishi writes—

• In the US, commissioners are appointed by the president with the advice and consent of the Senate. In South Africa, they are appointed by the president on the recommendation of the National Assembly. In Brazil, they are appointed by the Federal Supreme Court. In the UK, the

appointment is made by the Speaker's Committee on the Electoral Commission with cross-party membership. In France, the appointment is done jointly by the president, legislature and judiciary. In Nepal, the president appoints the CEC and ECs on the recommendation of the constitutional council followed by a parliamentary hearing.

• The integrity of India's electoral process hinges on the independence and impartiality of the Election Commission, real and visible. Optics are important for public perception. The recent appointments, made under a contentious legal framework and amidst pending judicial review, have left the issue unresolved. Embracing a bipartisan and neutral collegium-based appointment system, drawing from global best practices, would not only fortify the ECI's autonomy but also bolster public confidence in the democratic process.

COUNTING MATTERS

By calling for an all-party meeting on March 5 to discuss the delimitation exercise, Tamil Nadu Chief Minister M.K. Stalin has sought to stir up a national debate. Delimitation, as an exercise, has not seen any increase in the legislative seats since 1973, having been frozen as per the 1971 Census for parity in population growth across States. This was done to prevent States with a higher population growth from getting "rewarded" with a higher number of representatives at the cost of other States with better health indices and lower growth. The 84th constitutional Amendment had stipulated that the delimitation exercise would be based on the first Census after 2026. Is the Union government inexplicably delaying the Census exercise to allow for the delimitation exercise to be held earlier? In the normal scheme of things, the exercise would have been done after the 2031 Census, but it is now possible after 2026 once the Census (due in 2021), is conducted.

The concern of Tamil Nadu that the exercise could hurt its representation in Parliament is legitimate if the Centre intends the process to be only proportionally representative of each State's population. This is illustrated in the population growth rates (1971-2024) in Tamil Nadu and undivided Bihar. The electorate, for which recent data is available, grew by 171% in the former as against 233% in the latter, while they had a comparable number of Lok Sabha MPs (39 versus 54, including Jharkhand). If delimitation was held and constituencies redrawn to match population growth, and even if the overall Lok Sabha tally was increased, the final number for Tamil Nadu would clearly be much lower than Bihar's. Other States with reduced fertility rates, such as Kerala and Karnataka, will also be affected. Home Minister Amit Shah has said that there will be no "reduction on a pro-rata basis" for Southern States and that they would get their "rightful share" but there has been little clarity on whether this would mean that their proportion of representatives will be retained after delimitation. The significant increase in population since 1973 should lead to an increased number of representatives, and, therefore, a higher number of seats, especially in north India's highly populated States. Yet, the equally important principle of federalism should suggest the need for the proportions of representation to be maintained to keep the balance of power intact across States. More importantly, the government must expedite the Census just to allay concerns that it has been delayed to facilitate an earlier and controversial delimitation. A nation striving to reach the higher pedestals of world power cannot afford to delay the basic exercise of counting the number of its own people.

Do You Know:

• Delimitation is a Constitutional mandate, to be carried out after every Census in order to readjust the number of seats in Parliament, and the boundaries of constituencies, based on latest

population data. The idea is to ensure that each constituency has roughly the same number of people living in it.

• Up until 1976, after every Indian Census, the seats of Lok Sabha, Rajya Sabha and State legislative Assemblies were re-distributed throughout the country. This happened thrice, based on the Censuses of 1951, 1961, and 1971.

• The 42nd Amendment to the Constitution, passed during the Emergency, froze the total number of Parliamentary and state Assembly seats till the 2001 Census.

• In 2001, the boundaries of constituencies were altered. But the number of seats that each state had in Lok Sabha, as well as the strength of states' legislative Assemblies, remained the same. This was largely due to opposition from southern states.

• The number of seats each state gets after delimitation will depend upon the base average population that a delimitation commission, as and when constituted, will arrive at.

• In the 1977 Lok Sabha, for instance, every MP in India represented 10.11 lakh people on average. While it is impossible for every constituency to have the same population, it is desirable that the population in each constituency be tightly grouped around this average.

• There is, however, no restriction on what this base average should be. If the 10.11 lakh average were to be retained, the strength of Lok Sabha would shoot up to nearly 1,400 (based on the Union Health Ministry's population projection for 2025).

• This would also mean that UP (including Uttarakhand) would end up nearly tripling the number of seats it has in Lok Sabha, from 85 to 250. The percentage rise would be even greater for Bihar (including Jharkhand), which would see its tally rise from 25 to 82.

SHOULD A THIRD LANGUAGE BE COMPULSORY?

The story so far:

There has been a tussle between the Centre and the Tamil Nadu government over the three-language formula in schools under the New Education Policy (NEP), 2020. The Union government has indicated that it needs to be complied with for release of funds tied to the Samagra Shiksha Abhiyan. However, the Tamil Nadu government views it as a 'smokescreen' for Hindi imposition and insists that it would continue with its two-language policy.

What are constitutional provisions?

The Constitution provides that Hindi is the official language of the Union. English was originally meant to continue as the official language for 15 years from the commencement of the Constitution (till 1965). However, the Official Languages Act, 1963 provides for the continued use of English, in addition to Hindi, for all official purposes of the Union without any time limit. The legislature of a State may adopt any one or more of the languages in use in the State or Hindi as the official language(s) for official purposes of that State.

Further, the Constitution provides that it shall be the duty of the Union to promote the spread of the Hindi language so that it may serve as a medium of expression for all the elements of the composite culture of India.

What is the three-language policy?

The three-language formula was first introduced in the NEP of 1968. This policy and the Official Language Resolution, 1968 mandated the teaching of Hindi as a language in non-Hindi speaking States. There were protests against the same in Tamil Nadu and it has steadfastly followed its two-language policy of teaching Tamil and English in its government schools. The NEP, 2020 has retained the three-language formula albeit with a key difference that it doesn't impose any language on any State. It specifies that the languages to be learnt will be the choice of States, regions and the students, so long as at least two of the three languages are native to India.

What are the issues?

The Annual Status of Education Research (ASER) conducted regularly by renowned NGO Pratham leaves much to be improved upon with respect to learning abilities. The report of 2022 indicates that close to 60% of students in Class V could not read a Class II level text. The report of 2023 reveals that 25% of youth in the age group of 14-18 years could not read a Class II level text fluently in their regional language. More than 40% of this age group could not read sentences in English. The learning outcomes in foundational numeracy skills like subtraction and division is equally poor.

As per the report on 'Analysis of Budgeted expenditure on Education' prepared by the Ministry of Education, Government of India, in 2022, out of the total revenue expenditure on elementary education estimated at ₹3.03 lakh crore (2019-20), 15% is spent by the Centre while 85% is spent by the States. The total expenditure on elementary, secondary, higher and technical education by the Centre and States combined hovers around 4-4.5% of the GDP as against the target of 6% set out in the NEP 2020. Thus, the expenditure on education is yet to reach the desired levels.

What can be the way forward?

While English is not a native language, its proficiency has helped us in becoming globally competitive in various service industries. India is a multi-lingual country and the objective of learning more Indian languages in schools in desirable. However, the existing issues of learning outcomes coupled with constraints on resources require that the efforts of government run schools should be focused on improving the teaching of the mother tongue/local language and English, apart from foundational numeracy skills. Even in private schools where a third language is taught till Standard VIII, there is limited proficiency being attained by the students in such language.

The 2011 Census data reveals that approximately 26% of India is bilingual and 7% is trilingual. The corresponding figures for urban areas are 44% and 15%, as against 22% and 5% for rural areas. With rapid urbanisation and migration of labourers across the country, this number is bound to increase in the forthcoming Census, indicating that the young and adult population would learn additional languages according to their needs.

There must be a constructive dialogue between the Centre and the Tamil Nadu government to ensure that funding is not delayed.

Considering the share of expenditure borne by the States as well as regional diversities, there also needs to be a productive discussion on providing more autonomy to the States in policy matters relating to school education.

WHY TN, CENTRE ARE CLASHING OVER NEP'S 3-LANGUAGE FORMULA

The Centre has withheld funds for the Samagra Shiksha scheme in Tamil Nadu due to the state's refusal to implement the New Education Policy (NEP) of 2020.

• In a strongly worded letter to the Prime Minister, Tamil Nadu Chief Minister M K Stalin last week sought the release of Rs 2,152 crore pending for the centrally-sponsored scheme meant to support the provisions of the RTE Act.

• At the heart of the clash between the BJP-led Centre and DMK-ruled Tamil Nadu is the so-called "three-language formula" that is a part of the NEP. While the Centre maintains that this policy is meant to ensure that youth get employment across regions, Tamil Nadu has long viewed it as an attempt to impose Hindi on the state.

• Tamil Nadu has an almost century-old history of anti-Hindi agitations. Unlike most other states — including southern states such as Kerala and Karnataka — it follows a two-language formula in which students are taught only Tamil and English

• Over several years, the Centre has maintained that education is in the Concurrent List of the Constitution, and that the implementation of the three-language formula is the responsibility of the states.

• In 2004, then Union Human Resource Development Minister Arjun Singh of the Congress said in Parliament: "The role of the Central Government in the matter of the implementation of the three-language formula is recommendatory. Implementation of this formula is the sole responsibility of the State Governments."

• HRD Minister Smriti Irani, of the BJP, reiterated this position in 2014, saying that it was up to the states to finalise their own curricula and syllabi.

• However, now, the Ministry of Education has linked the release of Samagra Shiksha funds to the implementation of the NEP, effectively forcing the hands of the states when it comes to their respective education policies.

Do You Know:

• The debate over language policy in education — regarding both the medium of instruction and teaching of languages — has existed since Independence. The University Education Commission of 1948-49, chaired by Dr Sarvepalli Radhakrishnan, who went on to become the second President of India, examined this topic in detail.

• The Radhakrishnan Commission favoured Hindi (Hindustani) as India's federal language, to be used for all federal activities — administrative, educational and cultural — while regional languages would serve the provinces.

• At the same time, the Commission recognised that immediately abandoning English would be impractical. It stated that English would have to continue as "the medium for Federal business" till such time that all provinces are ready for the change, having "spread the Federal language adequately".

• It was this Commission that first proposed what would later become the three-language formula for school education.

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—"In order to enable every region...to take its proper share in Federal activities, and to promote inter-provincial understanding and solidarity, educated India has to make up its mind to be bilingual, and pupils at the higher secondary and university stages will have to know three languages," the Radhakrishnan Commission said.

—This meant that beyond one's regional language, every person should "be acquainted with the Federal language" and have "the ability to read books in English".

• This proposal was accepted by the National Education Commission of 1964-66 (Kothari Commission), and was incorporated into the National Policy on Education, 1968 passed by the Indira Gandhi government.

• For secondary education, the formula proposed that students learn "a modern Indian language, preferably one of the southern languages, apart from Hindi and English in the Hindi-speaking States" and "Hindi along with the regional language and English in the non-Hindi speaking States."

• The National Policy on Education of 1986, passed by the Rajiv Gandhi government, and the latest NEP of 2020, too retained this formula, although the latter provides for greater flexibility in its implementation. Unlike previous education policies, the 2020 NEP makes no mention of Hindi.

WHY HAS THE UGC-CARE LIST OF JOURNALS BEEN DISCONTINUED?

The story so far:

The University Grants Commission (UGC) decided to discontinue the UGC Consortium for Academic and Research Ethics (UGC-CARE) list, which is a list of quality academic journals, first introduced in 2018. The UGC-CARE list will now be replaced by a set of suggestive parameters for choosing journals based on eight criteria. Stakeholders can submit suggestions by February 25.

What do the new parameters say?

There are about 36 suggestive parameters under eight criteria in the draft notification titled "Suggestive Parameters for Peer-Reviewed Journals." Under the journal preliminary criteria, the UGC has asked teachers to note the journal title, the international standard serial number, periodicity and continuity and transparency review policy etc before sending an article for publication. Under the editorial board criteria, the UGC wants authors to ensure that the journal's editorial board details and editorial board composition are made available. Similarly other criteria under suggestive parameters include journal editorial policy, journal standards, journal visibility and research ethics.

Why did the UGC withdraw it?

The aim of the UGC-CARE listing was to ensure that only "reputable" journals are recognised for faculty selections, promotions, and research funding applications. According to UGC Chairman M Jagadesh Kumar, the UGC-CARE list faced several criticisms, including over-centralisation in deciding what constitutes high-quality research and journals, and unnecessary delays in including or excluding journals from the list. Academics had also raised concerns that in certain fields, such as Tamil, the availability of research journals were limited as per the UGC CARE list. Mr. Kumar said there was lack of transparency in the decision-making process and highly respected journals published in Indian languages were excluded from the list.

Furthermore, the UGC claims that the new approach will help in combating predatory journals and decentralise the mechanism of choosing academic journals. Higher education institutions will "now be responsible for establishing credible mechanisms to evaluate journals and ensure they meet high ethical and scholarly standards." They can develop their own institutional mechanisms for evaluating the quality of publications and journals. "These mechanisms should align with established academic norms and indicative parameters suggested by the UGC. This decentralised approach allows HEIs to tailor their evaluation processes to suit their specific needs," Mr. Kumar said in a statement. Institutions can now create evaluation models that consider the unique characteristics of different disciplines, and accommodate newer, evolving fields.

What has been the response?

Students and academics have voiced their concerns on the latest move. Their main worry is that the decision will result in the mushrooming of low-quality journals. The Central Executive Committee of the Students' Federation of India (SFI) condemned the UGC's move, which they said was taken without adequate consultation with student and research communities. The SFI termed the decision as a serious setback to academic integrity and quality research in India. The SFI added that the UGC's decision is part of a broader pattern of deregulation in higher education under the National Education Policy (NEP) 2020. "While decentralisation is essential for academic freedom, the lack of a central oversight mechanism could lead to arbitrary and inconsistent journal evaluation processes across institutions," it said.

IN MANIPUR, A WINDOW FOR PEACE

In Manipur, now under President's rule, part of the reason for the ethnic conflict persisting for 21 months is the flow of small arms. Thousands of firearms, including assault rifles, carbines, and ammunition have been looted, reportedly even from police stations and armouries, enabling village volunteer organisations and Meitei and Kuki militia groups to engage in armed confrontations. The situation is compounded by the fact that Manipur shares a porous border with Myanmar, a known arms smuggling hub. Security forces have struggled to curb gun violence and disarm militias, despite the recovery of small quantities of arms in combing operations. Last week, Manipur Governor Ajay Kumar Bhalla did the right thing in issuing an appeal to people of all communities to surrender looted and illegally held weapons. On Thursday, the deadline set by the Governor, the Meitei radical group Arambai Tenggol surrendered 246 weapons in Imphal West. Apart from them, more than 100 weapons were surrendered this week in different parts of the state.

Last week's initiative was not the first time a call to surrender looted weapons was issued in the strife-torn state. In June 2023, a few weeks into the ethnic conflict, a drop box for returning weapons was set up outside the home of a BJP legislator from Imphal East with a poster carrying a message in English and Meitei language: "Please drop your snatched weapons here". According to the last update in September 2024 by the Security Advisor to the Manipur government Kuldiep Singh, 1,200 of the approximately 6,000 looted weapons had been recovered by security forces. While thousands of weapons continue to remain in circulation, it is assuring that the last major shootout in Manipur occurred in the early hours of January 1 in the Kadangband area of Imphal West district, hours after former Chief Minister N Biren Singh's New Year's eve apology.

The easy availability of arms made it difficult to restrict the conflict to a few localities in Manipur. The sense of insecurity arising from the Biren Singh government's continued administrative failures created fertile grounds for radical groups in nearly all parts of the state to take matters in

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their own hands. Until all looted weapons are recovered and militias are disarmed, a permanent peace — not merely the absence of war — would remain elusive. The cross-border arms flow will also have to be stopped. Failure to do so would diminish the advantage gained by the state with the surrender and recovery of looted weapons. With radical groups starting to agree to surrender looted weapons, the Centre has a chance to finally break the cycle of violence. It must not let this opportunity slip.

Do You Know:

• On February 20, the Governor appealed to people of all communities to surrender such weapons to their nearest security establishments within seven days, stating that no punitive action would be taken. However, he said that "strict action" would be taken for possessing such weapons after this period ends.

• Arambai Tenggol started in 2020 as a cultural outfit, but soon transformed into a radical organisation. It is one of the two hardline Meitei organisations suspected to be involved in a large number of Meitei-Kuki clashes, which broke out in May 2023. The other group is Meitei Leepun. —Both the organisation had armed themselves and their membership grew rapidly during the conflict, sources had told The Indian Express. They have been accused by the Kuki groups and the security establishment of playing a leading role in the violence.

• Getting armed groups to surrender weapons is one among a series of measures being taken by the Centre via the Governor to restore law and order in Manipur. There are plans to crack down on militias, remove illegal checkposts and escort convoys transporting people and goods.

• This call for the return of weapons is the first major step taken by the Governor after the resignation of former Chief Minister N Biren Singh and the subsequent imposition of President's Rule in the state.

MAHARASHTRA-KARNATAKA BORDER ROW FLARES UP AGAIN OVER CONDUCTOR'S 'ASSAULT': DISPUTE HAS ROOTS IN 1956 ACT

Always simmering in the background, the border dispute between Maharashtra and Karnataka has reared its head again after a bus conductor from Karnataka was allegedly assaulted in Belagavi on Friday for not speaking to a couple of students in Marathi.

• Both states have halted bus operations and the matter was also raised at the Akhil Bharatiya Marathi Sahitya Sammelan in Delhi even as a conductor from Maharashtra was attacked and his face blackened in Chitradurga very recently.

• Most recently the border row flared up in 2022 when then Maharashtra CM Eknath Shinde held a meeting in Mumbai to review the status of the border dispute and announced that freedom fighters in Belagavi and other Marathi-speaking areas in Karnataka would be eligible for pension and free medical care under the Jyotiba Phule Jan Arogya Scheme.

• Irked by this, then Karnataka CM Basavaraj Bommai announced grants for all Kannada schools in Maharashtra. At the time, both the state governments had BJP — on its own in Karnataka and in alliance with Shinde's Shiv Sena in Maharashtra. Bommai also said his government was thinking of staking claim on 40 villages in the Jatt taluka in Maharashtra's Sangli district. Bommai said Karnataka would also claim rights over border villages in Solapur.

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• On December 27, 2022, the Maharashtra Assembly unanimously passed a resolution on the dispute. The Assembly said the cities of "Belgaum, Nippani, Carvar, Bidar, and Bhalki, along with all Marathi-speaking villages in Karnataka" were part of the state and the government would "pursue legal provisions effectively in the Supreme Court".

• In both states, political parties across party lines and ideological differences have made the border Maharashtra and Karnataka dispute a common cause, aligning with their state's position.

Do You Know:

• The long-drawn boundary dispute between the two sides dates back to the reorganisation of states along linguistic lines following the passage of the States Reorganisation Act of 1956. Since its creation on May 1, 1960, Maharashtra has claimed that 865 villages, including Belagavi (earlier known as Belgaum), Nipani, and Carvar should be part of Maharashtra, a claim Karnataka contests.

• On October 25, 1966, the Centre constituted the Mahajan Commission headed by then Supreme Court Chief Justice Mehr Chand Mahajan at the insistence of Maharashtra.

—While rejecting Maharashtra's claim over Belagavi, the commission recommended that 247 villages and places in Maharashtra, including Jatt, Akkalkot, and Solapur, be made part of Karnataka. —It also proposed that 264 villages or places, including Nippani, Khanapur and Nandagad be handed over to Maharashtra. Maharashtra rejected the report outright, saying the commission did not adequately address its concerns and favoured Karnataka.

• Since then, Maharashtra has made repeated attempts, adopting legal and political platforms, to highlight its concerns and reclaim the Marathi-speaking villages along the border.

• In 2004, the Maharashtra government filed a petition in the Supreme Court laying a claim on the villages and the petition has been pending since then. Karnataka has also hardened its position over the decades, first by renaming Belgaum as Belagavi and making it the seat of the winter session of its legislature. There have also been calls to make it the second capital of the state in a tactical move to negate Maharashtra's claim.

• In 2010, the Centre in its affidavit to the Supreme Court said the transfer of certain areas to then Mysore (now Karnataka) was neither arbitrary nor wrong. It also underlined that both Parliament and the Union Government had considered all relevant factors in the States Reorganisation Bill of 1956 and the Bombay Reorganisation Bill of 1960.

THE MALE PROXY PROBLEM

A panel constituted by the Ministry of Panchayat Raj to look into the cases of women panchayat pradhans being represented by male members has submitted its recommendations. Though there are 46.6 per cent women representatives across panchayati raj institutions (PRIs) in the country, the committee found that in several cases, male relatives play a dominant role in decision-making. Given that reservation at the lowest rung was envisioned to root out male dominance across three tiers of administration, the panel's intervention is welcome, especially its reliance on persuasion. These include mandating gender-exclusive quotas in panchayat and ward-level committees, rewarding "anti-pradhan pati champions", appointing women ombudsmen, public swearing-in of women pradhans in gram sabhas, creating a federation of women panchayat leaders, and setting up leadership hubs and support networks. However, its recommendation of "exemplary punishment" for male proxies is problematic.

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The 73rd Constitutional Amendment Act paved the way for one-third representation of women across PRIs. By 2024, 21 states and two union territories had opted for 50 per cent women's reservation. But the presence of "pradhan-patis", militates against the spirit of this Act. In 2023, a parliamentary standing committee on rural development and panchayati raj recommended capacity building and training of elected women representatives (EWRs). A year later, a Centre-sponsored study conducted by Kudumbashree, the Kerala government's poverty eradication and women empowerment programme, and the National Institute of Rural Development and Panchayati Raj underlined that the lack of training deterred the effective participation of EWRs in decision making. On July 6, 2023, while hearing a petition that challenged the misuse of women's reservation in panchayats, the SC remarked, "What can judicial intervention do… you cannot preclude a section of women merely because they are willing to lend their shoulders to this scenario." The Court left the matter to the Ministry of Panchayati Raj. The advisory committee was formed in response.

A top-down approach will defeat the purpose of local governance enshrined in the 73rd Amendment. That's why the panel's advocacy of awareness and training of women representatives is welcome. That's also why the government should avoid resorting to "exemplary punishment". Retributive action could push the practice under the carpet without ushering in systemic change. Women administrators are breaking glass ceilings, resisting patriarchal mores and bringing a different gaze to the table. This trend will intensify through a bottom-up approach, not punitive measures. Like women's reservation in Parliament and state assemblies, the third tier of governance needs much more than symbolism.

INTERNET SHUTDOWNS HIGHEST IN 2024 GLOBALLY, INDIA TOPS IN GOVERNMENT-ORDERED CURBS

The number of Internet shutdowns in India was slightly lower in 2024 than in 2023, according to the Software Freedom Law Centre (SLFC), India's annual report. A separate report by the web rights advocacy, Access Now, shows that India continues to lead globally in the number of government-ordered Internet shutdowns. The Union government has maintained that mobile Internet shutdown is an indispensable instrument in the toolkit to control law and order situations. Most of the Internet use in India is mobile.

India did not impose the highest number of Internet shutdowns last year, with Myanmar seeing one additional disruption in 2024, according to a report by the advocacy body Access Now. However, the number of shutdowns imposed by the government in charge — the Union and State governments here — is still higher in India.

Fewer shutdowns happened in India in 2024 than in the previous year. "People in 16 States and [Union] Territories experienced a shutdown, with State Government officials in Manipur (21), Haryana (12), and Jammu & Kashmir (12) topping the list of offenders in India," the report said.

"Of the 84, 41 shutdowns were related to protests, and 23 were related to communal violence."

More shutdowns happened globally in 2024 than in any past year.

In all, 296 Internet shutdowns happened globally in 2024, the report found, and India's cumulative 84 curbs accounted for 28% of these. Eighty-five were imposed in Myanmar, and 11 of these were a result of other countries and groups: "China imposed two [shutdowns on areas in Myanmar] and Thailand four, while the exiled National Unity Government (NUG), Myanmar National Democratic

Alliance Army (MNDAA), and Ta'ang National Liberation Army (TNLA) imposed one shutdown each in areas they controlled. The remaining two shutdowns were imposed by unknown parties," the report said.

A particular focus of anti-shutdown advocates' ire has been examination-related shutdowns. India imposed five such shutdowns ahead of key exams in 2024. One was during the General Graduate Level Combined Competitive Examinations in Jharkhand, which took place for five-and-a-half hours from September 22 morning through the afternoon.

That same month, Assam imposed similar shutdowns in most districts for government job exams.

Rajasthan issued a shutdown for the Rajasthan Public Service Commission exam in January. Exam-related Internet shutdowns are a disproportionate response to the possibility of cheating in exams, Access Now said.

Globally, there were 88 Internet shutdowns due to communal violence in 2023 and 2024 and all of them were in India. In fact, nearly 95% of all Internet shutdowns ordered by the state due to communal violence since 2018 have occurred in India, says a report by Access Now, a digital advocacy group.

In 2023 and 2024, most of these shutdowns occurred in Manipur (54 instances), followed by Bihar (9), and Haryana (7).

Even for those in favour of retaining shutdowns as a tool in the repertory of emergency policing, the process being followed is cause for alarm. Many a time, as Access Now and SFLC report, there is no valid order uploaded on government websites detailing the duration and the causes in detail, as required by the Telecommunications (Temporary Suspension of Services) Rules, 2024 and its preceding rules of 2017. Ideally, every shutdown should be followed by a sombre examination of whether it was necessary and what its deployment cost was. The ideal number of Internet shutdowns in any country is zero. It is especially troubling that 296 of them were imposed on millions around the world last year. India's case shows that there is an urgent need for circumspection and restraint. The Internet shutdowns index is, after all, one of the indices in which India should not aspire to lead.

THE GREAT TECH RUSH: AFTER DEEPSEEK WAKE-UP CALL, HOW INDIA PLANS TO GET A SEAT AT AI HIGH TABLE

Over the last couple of years, the emergence of Artificial Intelligence (AI)-powered tools such as ChatGPT, Gemini, Perplexity, Grok and many more — all examples of what are known as Large Language Models (LLMs) — have given people a glimpse into the possibilities that AI was always believed to have. These LLMs have shown an exceptional proficiency to 'understand', and interact with, human languages in a meaningful way, considered an extremely difficult task for computers.

— Language proficiency is just one capability. There are other fields in which AI is making a profound difference. For example, an AI-based tool called AlphaFold has shown such a remarkable ability in predicting protein structures.

— AI is currently one of the most coveted technologies. The recent release of DeepSeek, a Chinese LLM built at a fraction of the cost of its American rivals whose domination of the technology had remained unchallenged till then, was described by many as a "Sputnik moment" — the beginning

of a new age of technology war, reminiscent of the space wars between the US and the USSR in the 1960s and 1970s.

— LLMs are a good example of foundational models as they can handle language-related tasks — engage in a conversation, summarise large texts, prepare notes, write computer programmes or even generate poems on demand.

— For now, the big race among nations and corporations is to develop their own foundational models as building applications on top of someone else's model can bring in layers of vulnerabilities. For example, models trained on global datasets often lack local nuances and can insert foreign biases, thereby producing unwanted or erroneous results.

— In applications related to defence or national security, a foreign model always carries potential dangers of sabotage, leaks of sensitive data or uncertainties over updates. On the other hand, home-grown models can spur innovation across sectors, and can result in the establishment of an AI ecosystem.

— Shortage of GPUs, currently in high demand and short supply, is a big challenge. While the AI Mission seeks to procure at least 10,000 of these chips, some researchers feel there is lack of expertise to run these clusters.

Do You Know:

— Artificial Intelligence (AI) is the ability of machines, especially computers, to perform tasks that typically require human intelligence. These tasks include things like understanding language, recognising patterns, solving problems, and making decisions.

— AI can be classified into two types: Artificial Narrow Intelligence (ANI) also known as weak AI and Artificial General Intelligence (AGI) also referred to as strong AI.

— ANI is designed for specific tasks and excels within a narrow domain. Examples include virtual assistants like Siri, recommendation systems on platforms like Netflix, and image recognition software.

— In contrast, AGI aims to replicate human cognitive abilities, enabling it to perform any intellectual task a human can do. AGI would possess general reasoning skills, understand context, and adapt to new situations across various domains.

— Machine Learning (ML) and Deep Learning (DL) are subsets of AI but differ in complexity and capabilities. ML involves training algorithms to learn from data and make predictions and often requires manual feature extraction.

— DL, a subset of ML, uses neural networks with many layers (hence "deep") to automatically learn features from large datasets. While ML works well with smaller datasets, DL requires vast amounts of data and computational power.

WHAT DOES THE AWS-ADARSH DEVELOPERS CASE SAY ABOUT CLOUD DATA MANAGEMENT?

The story so far:

On February 11, Bengaluru-based Adarsh Developers filed a complaint against Amazon Web Services (AWS), claiming that years' worth of company and customer data hosted on AWS was lost, resulting in a financial loss of well beyond ₹100 crore. The loss of data and Adarsh Developers' decision to take legal action against the tech giant in India has raised questions about security in enterprise-grade cloud storage, the need for multiple versions of backed-up data, and the legality of such cases.

What happened?

In its FIR filed on February 11, Adarsh Developers said that it was using SAP ERP hosted on Amazon cloud to secure the company's financial data and customers' personal data. The real estate firm alleged that in May 2023, AWS's business development representative Saidalawi Safan advised the company to opt for an upgraded service to secure their data, so as to ward off cyberterrorism or sabotage. They complied. But on January 9, 2025 at 10.48 AM., the company said, the data environment — the entire SAP S/4HANA environment, to be specific— hosted on AWS was completely deleted.

After making inquiries through its partner SAVIC Technologies Pvt. Ltd., Adarsh Developers said that the data loss was a result of the action taken by individuals at Redington, a vendor, and AWS. The participants' exact actions and the specific allegations against them are not known.

The real estate company further claimed that years' worth of vital financial records, supply chain data, customer information, and operational insights had become inaccessible. The loss of the data brought its business functions and operations to a complete halt, Adarsh Developers said in their complaint. The company estimated that the value of the data it lost to around ₹150 crore as of January 31, with approximate losses of ₹5 crore per day starting from January 9.

Adarsh Developers also said that it was unable to collect customer payments, pay statutory taxes, and facilitate interest payments to lenders.

The cybercrime police has registered a case against AWS and others, under the IT Act, Section 318(4) (cheating and fraud), and Section 319(2) (impersonation) of the Bharatiya Nyaya Sanhita.

How might the data have gone missing?

There is a general tendency to think data loss is a result of actions performed by malicious agents, such as hackers or even disgruntled employees. However, there can be a number of reasons behind data loss, especially when teams of vendors, technical partners, clients, service-providers, and consultants work together to keep a company's complex systems up and running in a secure environment.

One possibility is cloud misconfiguration, which stems from poorly implemented cloud storage settings, bad system architecture, low-quality security infrastructure, unsecured databases, or unmanaged access. Human error is also a common cause for large-scale outages and data loss incidents. In the FIR, Adarsh Developers cited SAVIC's claims that some individuals in the

Redington and AWS teams were responsible for the data loss, and that, "...employees at Redington Group have entered into our storage area at root level and deleted our account completely."

However, it is not possible to pinpoint the exact cause of the data loss and those behind it until a comprehensive forensic investigation is carried out and the results backed up by evidence. For this to happen though, Adarsh Developers, Redington, SAVIC, and AWS will all have to present their claims and technical data to make sure they are in the clear.

What was Amazon's response

Adarsh Developers claimed that AWS India responded by saying that they could not retrieve the data or restore it, forcing the real estate company to take legal action. Amazon, however, has refused to accept Adarsh Developers' allegations. "The claims against AWS are false. AWS operated as designed and is not responsible for the deletion of Adarsh Developers' data," said an AWS spokesperson in response to The Hindu.

The cybercrime investigation is ongoing.

Have such cases happened before?

While the root cause of Adarsh Developers' data loss incident is not yet clear, some similar incidents involving data loss through cloud services have been recorded in the past.

For example, The Register outlet reported that the Microsoft Azure outage of January 29, 2019 affected Azure SQL databases and also led to some data loss within a certain time window. To compensate users, the company waived a few Azure usage charges for 2-3 months, depending on how the databases were affected, per The Register. Even before this, code-hosting platform Code Spaces had to shut down after its servers were hit by a DDoS attack and its Amazon Web Service account [Amazon Elastic Compute Cloud (EC2)] was breached by a hacker. Most of the platform's data and its backups (including offsite backups) were deleted, said Code Spaces.

WHY ARE PWDS WORRIED ABOUT DPDP RULES?

The story so far:

With the Ministry of Electronics and Information Technology (MeitY) looking to wrap up public consultations on the draft Rules for the Digital Personal Data Protection Act, 2023 by March 5, disability rights activists are trying to get a key provision of the Act amended or dropped, pointing out that it infantilises Persons with Disabilities (PwDs), negates their decision-making capabilities, and comes from a misunderstood notion of how guardianship works for PwDs.

What does this provision state?

Section 9(1), in clubbing children with PwDs, has mandated that even in cases of adult PwDs who have legal guardians, consent for use of any personal data must be obtained from the guardian concerned. While government officials have said that the draft Rules have tried to address the issue by limiting the number of disabilities the provision would apply to, activists and experts maintain that there remain significant challenges in its implementation.

What do the draft Rules say?

The Union government has said that it brought the DPDP Act, 2023 to govern the processing of digital personal data in a way that "recognises both the right of individuals to protect their personal data and the need to process such personal data for lawful purposes and for matters connected therewith or incidental thereto". Section 9(1) of the Act says, "The Data Fiduciary shall, before processing any personal data of a child or a person with disability who has a lawful guardian obtain verifiable consent of the parent of such child or the lawful guardian, as the case may be, in such manner as may be prescribed."

The Act's language defines data fiduciaries as those parties processing the personal data and data principals as the users whose data is being collected. But in Section 2(j)(ii), for PwDs, the Act has included "lawful guardian" within the meaning of data principal.

In the draft Rules notified by the MeitY on January 3 this year, the government has proceeded to set out the rules that will govern the Act. In these Rules, Rule 10 deals with the governing of Section 9(1) of the Act. Rule 10(2) says, "A Data Fiduciary, while obtaining verifiable consent from an individual identifying herself as the lawful guardian of a person with disability, shall observe due diligence to verify that such guardian is appointed by a court of law, a designated authority or a local level committee, under the law applicable to guardianship." In the next sub-section, the Rules provide for considering guardianship under the Rights of Persons with Disabilities Act, 2016 (RPWD Act) and the National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999 (NT Act).

It also goes on to define PwDs, for whom the consent clause of Section 9(1) would apply to, as: "(i) an individual who has long term physical, mental, intellectual or sensory impairment which, in interaction with barriers, hinders her full and effective participation in society equally with others and who, despite being provided adequate and appropriate support, is unable to take legally binding decisions; And (ii) an individual who is suffering from any of the conditions relating to autism, cerebral palsy, mental retardation or a combination of any two or more of such conditions and includes an individual suffering from severe multiple disability."

But while the Rule on how to take the consent of the parents of children contains detailed explanations in the form of illustrations that highlight different scenarios and how the consent procedure would work in each, there is no similar illustrations presented for the sub-section that deals with taking consent of the guardian of a person with disability.

This has led disability rights activists and experts alike to question how the consent clause would apply to PwDs, details of procedures for different disabilities and degrees of severity, and whether it would apply uniformly to guardians appointed under different laws.

How do guardianships for PwDs work?

The legal guardianship for PwDs, while not mandatory, is governed by two laws in India — the RPWD Act, 2016 and the NT Act, 1999 — both of which mandate different roles for the guardians appointed under it for adult PwDs.

The NT Act's guardianship clauses apply to people who are "diagnosed with conditions related to autism, cerebral palsy, intellectual disability (previously categorised as mental retardation), or any combined occurrence of two or more of these conditions". It provides for full guardianship of the PwD. In contrast, the RPWD Act's guardianship clauses apply to people "experiencing long-

term physical, mental, intellectual, or sensory impairments which, when interacting with various barriers, hinder their full and effective participation in society on an equal basis with others". This provides for a "limited guardianship", which allows for support in making specific legal decisions when the individual's capacity is deemed insufficient.

While the NT Act goes against the principles of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) by making "decision-making capacity" a metric for guardianship without adequately defining it, the RPWD Act, drafted to keep up with the UNCRPD, frames guardianship as support to PwDs in exercising their own decision-making rights.

Where does the conflict arise?

A small survey among 91 PwDs by policy thinktank PACTA and Saksham Disability has shown that about 27.4% of them had legal guardians. Amongst those respondents who knew which law their guardianship was governed by, most said theirs were under the RPWD Act's provision for "limited guardianship". But despite this, the practicalities of guardianship are different, a report by Saksham and PACTA noted, adding that most of the PwDs with guardians maintained that their legal guardian ends up managing all their affairs. This report, released last month, noted that while the Act and the draft Rules are sound "in theory" if the guardianship is under the RPWD Act, the realities of how this guardianship works would mean that "a guardian is likely to deprive the autonomy and personhood of the individual".

On the other hand, in cases of guardians appointed under the NT Act, this would be in "direct conflict" with the autonomy of persons with disabilities under the UNCRPD, the report argued.

The report noted that a plain reading of Section 9(1) of the DPDP Act "appears to presume" that just because a PwD might have a legal guardian, this in itself would be indicative of their "inability to take decisions in the digital sphere".

In addition, it said the law does not consider intersectionality of gender and disability. It cites a situation where a PwD woman may not be able to buy sanitary napkins from an online platform because it may now require their guardian's consent for them to be able to access the platform itself.

Nipun Malhotra, of the Nipman Foundation, who is leading efforts to lobby the government on these provisions, has said that Section 9(1) of the DPDP Act, 2023 itself has caused enough chaos on how it would apply, to whom, and under what circumstances. As for the government's attempts to address the issue with the law by limiting the definition of PwDs in the draft Rules, Mr. Malhotra told The Hindu, "Instead of simplifying how it would apply, the definitions have further complicated the issue." Citing one example of the definition, he explained that "physical impairment" has been included. "But there is no provision for people with just physical disability to have legal guardians. This will only confuse people more."

What are the concerns being raised?

Given the way the consent clause has been structured for PwDs in the DPDP Act, 2023 and the draft Rules, some of the principal concerns that have emerged include those of what legal obligations would the guardian of a PwD face; how the consent clause can be implemented in cases where guardianship law is in dissonance with the UNCRPD; and whether the legal guardian can opt out of consenting on behalf of the user with respect to specific platforms.

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Another issue highlighted by Saksham in their report has been that of concerns among PwDs about what the fate of their personal data will be. For instance, the rights body has posited that to comply with Section 9(1) of the Act, any data fiduciary would have to ask at least two questions: (i) Whether the user has a disability? (ii) Whether the user had a legal guardian. In cases where the answer to the first question is yes but the second is not, the platform will still have data on the person's disability with no purpose to process it.

Further, Saksham has questioned that if the definition of data principal includes the legal guardian of a PwD, would that then mean that they must take on the full legal responsibility and face penal consequences under the Act? It has been argued that if this is the case, the legal guardian may, at times, be acting in their own interest, instead of the PwD they are caring for. Moreover, experts working in the disability sector have pointed out that beyond all of this, the primary barrier to PwDs' digital rights remains that of inaccessible platforms and applications. According to a 2023 accessibility evaluation conducted by the Vidhi Centre for Legal Policy of the 10 most used apps, platforms like Paytm, Swiggy, Zomato, and Flipkart had low accessibility scores.

ISRO'S ADITYA-L1 MISSION CAPTURES FIRST-EVER IMAGE OF A SOLAR FLARE 'KERNEL'

India's first dedicated space-based solar mission, Aditya-L1, has made a ground-breaking observation as one of its scientific payloads has captured the first-ever image of a solar flare 'kernel'.

The Solar Ultraviolet Imaging Telescope (SUIT) payload has captured the image in the lower solar atmosphere — the photosphere and chromosphere.

ISRO said that this observation and associated scientific results mark a major step towards understanding the Sun's explosive activity and its impact on Earth.

According to ISRO, "On February 22, the SUIT payload onboard Aditya-L1 observed an X6.3-class solar flare, which is one of the most intense categories of solar eruptions. The unique feature of this observation was that SUIT detected brightening in the Near Ultra Violet wavelength range (200-400 nm) — a range never observed before in such detail".

These observations confirm that the energy released from the flare spread through different layers of the Sun's atmosphere. This provides new insights into the complex physics responsible for these massive solar explosions, the space agency added.

One of the most exciting revelations in this observation is that the localised brightening captured in the lower solar atmosphere corresponds directly with an increase in the temperature of plasma in the solar corona at the top of the solar atmosphere.

The Aditya-L1 mission was launched on September 2, 2023. On January 6, 2024, the spacecraft was successfully placed in a large halo orbit around first Earth-Sun Lagrange Point, known as Lagrange Point L1.

TAMAL, INDIA'S LAST IMPORTED WARSHIP, LIKELY TO BE COMMISSIONED IN JUNE

The Indian Navy crew that will operate Tamal, the stealth frigate under construction in Russia, reached St. Petersburg last week in preparation for its commissioning, which is expected to take place in early June.

The event is significant as Tamal will be the last warship to be commissioned outside India or imported. The country now designs and constructs its own warships.

The commissioning crew of around 200 personnel reached St. Petersburg around 10 days ago for training as the ship will undergo a series of trials leading up to its commissioning, officials sources in the know confirmed. The crew will shift to Kaliningrad after the training to oversee the trials.

The ship is being built as part of the deal for four additional follow-on stealth frigates under an Inter-Governmental Agreement signed in October 2016. Under the deal, two ships are to be imported and two manufactured by Goa Shipyard Ltd. (GSL) under technology transfer. A $1-billion deal was subsequently signed for the two frigates under direct purchase.

Tamal has completed manufacturer trials and is currently undergoing State Committee Trials. It will then go through delivery acceptance trials, both in harbour and at sea, which will be spread over 45 to 50 days, sources said, explaining the process.

The ship's weapons will also be fired after which it will be ready for commissioning.

INS Tushil, the first ship to be manufactured in Russia under the deal, was commissioned on December 9, 2024 at Kaliningrad in the presence of Defence Minister Rajnath Singh. The ship reached its home port in Karwar on February 14 after sailing over 12,500 nautical miles, visiting eight countries across three continents through the journey.

The Indian Navy, which set up a Directorate of Naval Design way back in 1970, has, for sometime now, graduated into a builder's navy with over 60 warships being constructed at Indian shipyards.

ANCIENT 'STITCHED' SHIP 'PUT IN WATER', SET TO SAIL TO OMAN BY YEAR-END

The project, which is part of an initiative to revive India's rich maritime heritage, is being executed through a tripartite agreement between the Indian Navy, the Ministry of Culture and Goa-based shipbuilding company Hodi Innovations (OPC) Private Ltd.

• A 5th century wooden 'stitched ship' – recreated using ancient stitching techniques and constructed using coconut fiber stitching, traditional wooden joinery, coir rope and natural resins and powered by cotton sails – was 'launched' Wednesday at Goa's Divar island.

• The 'ancient' ship, modelled on a painting of a stitched ship in the Ajanta caves in Maharashtra, has been "put in the water" or "transferred from land to water" for the first time, said officials.

• The vessel, with a 15-member crew of the Indian Navy aboard, is expected to set sail on a historic voyage to Oman – retracing ancient trading routes – by the end of 2025.

• The project, which is part of an initiative to revive India's rich maritime heritage, is being executed through a tripartite agreement between the Indian Navy, the Ministry of Culture and Goa-based shipbuilding company Hodi Innovations (OPC) Private Ltd.

Do You Know:

• The ship has been designed and built in Goa by Hodi Innovations Pvt Ltd, with the help of artisans and traditional shipwrights, led by Babu Sankaran, an expert in stitched ship construction. Sankaran said in the stitched method, the wooden planks are shaped using the traditional

steaming method to conform to the shape of the hull. "Each plank is stitched to another using cords, ropes, sealed with a combination of coconut fiber, resin, and fish oil," he said.

• The ancient stitched ship features a main mast, mizzen mast and bowsprit mast, with steering controlled through steering oars. The vessel is bound together with coir rope and fiber. The keel is made from 'Matti', Goa's state tree, while the stem, stern and beams are crafted from teak. Jackfruit wood frames have been selected to match the ship's natural curves. The joints are sealed with a traditional mixture of fish oil and khundrus.

• The earliest known example of a sewn boat is the 40+ metres long funerary boat in Egypt; dating back to 2,500 BC. Later finds in other parts of the world include some early Greek ships. In Finland, Russia, Karelia and Estonia, small sewn boats have been constructed more recently, until the 1920s.

• As per experts in the Archaeological Survey of India (ASI), naval trade on the Indian Ocean dates back to the 3rd century BC, when residents of the Indus Valley opened maritime trading with Mesopotamia, Egypt, East Africa, and the Roman Empire. Through these maritime trade networks, many goods were exchanged, including medicine, aromatics, spices, wood, grain, gems, textiles, metal and stones. The trade, in turn, facilitated the exchange of religions, cultures and technologies, contributing to the expansion of Buddhism, Christianity and Hinduism, they say.

• Project Mausam is said to be India's answer to the Maritime Silk Road of China, and India plans to move for UNESCO to award transnational heritage status to Project Mausam, which was launched by India at the 38th World Heritage Session at Doha in June 2014. Several countries including the UAE, Qatar, Iran, Myanmar, and Vietnam have expressed great interest in this multifaceted cultural project.

WATER BLIGHT

Barely a week after the remains of nine coal miners were recovered at the end of a 44-day operation, from a coal mine that had flooded in Assam in early January, a disaster of similar contours, this time in Nagarkurnool, Telangana, is in the making. A portion of the Srisailam Left Bank Canal tunnel, which is under construction, collapsed on February 22, leaving eight workers trapped. What is known so far is that a three-metre section of the roof collapsed due to water seepage. The roof collapse eventually led to the tunnel crumbling over a stretch of eight metres. Despite nine specialised rescue teams, drawn from the Centre and the State governments, working round-the-clock, no significant progress has been made so far on ascertaining the condition of the workers and in devising an optimal rescue plan. So far, the playbook that is being experimented with seems to be inspired by the successful rescue work in the Silkyara Tunnel collapse in Uttarkashi, Uttarakhand, in November 2023, where a portion of the four -kilometre-long tunnel that was being constructed collapsed, stranding 41 workers. It took a 16-day operation that started out with a variety of approaches, including drilling horizontally, and later on vertically, from both ends of the tunnel to reach the stranded workers. In the end, key breakthroughs were achieved by a team of 'rat hole' miners from Assam, who use manual excavation methods that are considered hazardous and deemed illegal.

The key difference between the Silkyara episode and the one in Srisailam is the presence of water. There were 70 workers in the tunnel when a deluge of water and muck suddenly began to gush inside. Barring the eight, the rest escaped, with 13 of them sustaining injuries. However, in the subsequent days, it is the torrential flow that has proved to be a barrier to rescue operations. The

history of tunnel-linked disasters globally shows that while rare, they can often be catastrophic. A large proportion of these accidents, studies show, are due to a rupture in aquifers (underground water channels). It is to determine such risks that extensive studies are commissioned to understand the sub-surface geology of a site. A report by the Uttarakhand disaster management authority on the Silkyara episode says that there was insufficient analysis of the rock formations at Silkyara but also that a complete picture of structural deformities cannot be known before tunnelling. While the rescue of the trapped personnel at the Srisailam tunnel is paramount, there has to be a proper investigation by the authorities on the reasons for the collapse and action taken, if evidence emerges of tardy pre-tunnelling analysis.

WHY TELANGANA, UTTARAKHAND TUNNEL CRISES ARE DIFFERENT

Around 5:30 am on November 12, 2023, an under-construction tunnel on the Yamunotri National Highway, connecting Silkyara and Dandalgaon in Uttarakhand's Uttarkashi district, collapsed, trapping 41 workers inside. On February 22, 2025, another tunnel collapse was reported, trapping eight men, this time in Telangana, but experts say this is a more challenging operation.

With operations underway at the Srisailam Left Bank Canal (SLBC) tunnel in Nagarkurnool, The Indian Express spoke with experts to understand how the operations are different from that of Uttarakhand's Silkyara tunnel rescue.

• National Disaster Response Force Tenth Battalion Commandant N Prasanna Kumar, who is coordinating rescue efforts in Telangana with the Army, Navy, and other agencies, said that the primary challenge and the difference between the two incidents is that in Silkyara, there was no water and mud seepage involved.

• "In water, anyone can survive at best for 20 minutes. Had it been a dry area, those trapped could survive for at least five days. We are dealing with a thick wall of mud-water mix here," he said.

• "Another difference is workers trapped in Silkyara had a two-kilometre moving space inside the tunnel, but here, there is no such gap as they are in the dead end of the tunnel," he said, adding that the situation is similar to the Tapovan incident from 2021. In that incident, a flood severely damaged the hydropower project on the Dhauli Ganga River in Chamoli's Tapovan, leading to slush choking a part of the tunnel and trapping and killing over 200 people.

Do You Know:

• A key set of rescuers in the Silkyara incident, rat hole miners, will not be practical in Telangana, said Kumar. "Rat hole miners only work in sand and dry areas, and here, in water, they cannot be useful. There is little technology to go through this wall of slush to reach the trapped men," he said.

• In the Silkyara rescue, when parts of the auger machine drilling through the debris broke inside the pipes meant to help people crawl through, excavators used gas torches to cut through steel. The machine, after digging some distance, halted again after its blades broke inside the pipe. Though the excavators cut the blades and cleared the steel with gas cutters, it generated heat and wore the rescuers out.

• At this stage, the rat hole miners, known to employ a method of extracting coal from narrow, horizontal seams, went in to drill manually through the remaining 12 metres of debris. They pulled out the 41 men after almost a day of digging.

• One of the most viable methods to use when there is debris in case of a collapse is the side drift method, he said. "But by the time we arrived, earth auger machines used to drill through soft soils were used. We had also initiated vertical drilling from the top in Silkyara, but horizontal drilling got us to the other side first. This is challenging in Telangana because the top surface is 400 metres high. Also, these rigs could damage the aquifers, and water could start pouring in, further endangering the trapped men," said the official.

CAN EX-GRATIA BE PAID IN CASH? HERE'S WHAT THE RULES SAY

The disbursal of ex-gratia compensation to the next of kin of those who died in the stampede at the New Delhi railway station last week has raised eyebrows, specifically with regards to the mode of payment.

— Ex-gratia payments are payments made out of moral — not legal — obligation. For instance, ex-gratia payment by the government after a tragedy, such as the one which occurred in New Delhi last Saturday, shows its goodwill, and does not involve admitting any liability or wrongdoing.

— Compensations, on the other hand, are made out of a legal obligation. They are reparatory payments made to reimburse or make amends for the loss of life, property, or livelihood, among other things.

— While disbursal of ex-gratia payment in cash is not common, there are no strict government-issued guidelines on the mode of such disbursals.

— "[Payment] is made in cash because the families usually do not have bank details in hand or some of the victims do not have bank accounts... The station master has the power to order the withdrawal of money [from the official account], which is then disbursed by the Commerce Department," railways officials say.

EXPRESS VIEW ON L-G PLAN TO CLEAN UP YAMUNA: A RIVER MUST FLOW

The Yamuna in Delhi has suffered long because of the accumulation of untreated sewage, industrial effluents and domestic trash. Though only about 22 km of the 1,400-km river flows between Wazirabad and Okhla in Delhi, the national capital accounts for 75 per cent of the pollution load on the Yamuna. The river is not even fit for bathing in its Delhi stretch, except for Palla, the point where it enters Delhi. At some places, the concentration of pollutants is more than 700 times the desired level. The L-G's plan to clean the river over the next three years was, therefore, long overdue. The project does tick a few right boxes. It aims to clean the riverbed, overhaul the sewage treatment plants and empty out effluents from the city's drains. However, similar plans have run out of steam in the past. The river suffered in the last 10 years because Delhi's elected government was not on the same page with the L-G. The Delhi government could also never summon the political will to engage the NCR's neighbouring states in its river rejuvenation endeavours.

Delhi generates about 790 million gallons of sewage every day (MGD). On paper, its STPs can treat a little more than 700 MGD. The refurbishment of these plants planned in the new Yamuna cleansing project can address the deficit. But zero waste discharge into the river could still be a tall order. According to a Delhi Pollution Control Board study last year, 21 of the capital's 37 STPs do not meet the basic standards. More than 70 per cent of these plants do not have a bacterial disinfection facility, despite several NGT orders. Delhi's waste problem is compounded by the fact

that large parts of the city are outside the sewerage network. In 2006, the Sheila Dikshit government planned interceptor drains to connect the city's STPs with localities that are outside the sewer lines. The Delhi government has spent about Rs 2,400-crore on the project, which has missed several deadlines. In many places, sewer lines have been laid, but the STPs have not been upgraded. The overhaul planned by the Delhi government will have to reckon with the fact that the volume of the city's sewage has increased by at least 100 MGD in the 19 years since the interceptor project was planned.

The 30-year water-sharing agreement between five Yamuna basin states is slated to be renegotiated this year. In the past 10 years, the Delhi and Haryana governments have been at loggerheads over the river. The new Delhi government will have to engage better with its counterparts in neighbouring states for ensuring greater flows to the city.

WILD AND SAFE

Recent human fatalities due to wild animal attacks, deep inside forests, in forest-fringed human habitations, and even within villages, have highlighted growing human-wildlife conflict in Kerala, where nearly 29% of the land is forested. With a dry spell and an unusually hot summer expected, urgent measures are needed to prevent further escalation of this conflict, which now has political, social, and environmental dimensions. The Kerala government is facing criticism for its perceived inability to manage wildlife. Groups such as the Kerala Independent Farmers' Association (KIFA) and sections of the church advocate for culling wildlife, citing an alleged population boom. However, Forest Department data suggest otherwise. The wild elephant population, linked to 18% of human fatalities, has declined by 7%. Snakebites, responsible for 75% of wildlife-related deaths, have fallen from 113 in 2012 to 34 in 2023. Overall, human deaths from wildlife encounters have decreased from 146 in 2018 to 57 last year. Yet, this is no cause for complacency. A concerning trend is that many victims are from tribal communities, traditionally adept at coexisting with wildlife. The government should investigate this as part of its newly announced mission to document and assess the traditional knowledge of Kerala's 36 tribal communities in tackling wildlife encounters.

There are also several anthropogenic factors. Habitat fragmentation, particularly in elephant corridors such as Aralam Farm (Kannur) and Chinnakkanal (Idukki), has forced animals into human settlements. Unregulated tourism, cattle grazing near forests, encroachments, and food waste dumping on forest fringes further exacerbate the issue. Invasive plants (Senna spectabilis) and monoculture industrial plantations have also disrupted wildlife feeding patterns. In response, the Kerala government, in 2022, empowered local bodies to eliminate feral wild boars damaging farmland. Last year, the Cabinet classified human-wildlife conflict as a State-specific disaster, allowing the Disaster Management Authority to intervene. The government's decision to emphasise participatory forest and wildlife management is a step in the right direction, given the extreme views propagated by some sections. The Forest Department has restored 5,031 hectares of natural forest and built ponds and check dams. However, restoring areas dominated by industrial plantations such as eucalyptus and acacia is a challenge. While solar fencing has shown some success, the ₹52-crore elephant-proof wall at Aralam, one of 12 conflict landscapes, remains incomplete. The State's 10 missions to mitigate human-wildlife conflict must be prioritised. Given the region-specific nature of the problem, a multi-agency approach involving the Disaster Management, Revenue, Local Self-Government, Tribal Welfare, Agriculture, Health and Forest Departments is crucial to balancing human safety and sustainable wildlife management.

WHY GHARIALS ARE ENDANGERED, HOW MP HAS LED CONSERVATION EFFORTS

Madhya Pradesh Chief Minister Mohan Yadav last week released 10 gharials, a critically endangered species, into the Chambal river at the National Chambal Gharial Sanctuary in Morena.

• Madhya Pradesh's decades-long conservation efforts have earned it the title of a "gharial state," hosting over 80 per cent of India's gharials.

• CM Yadav released nine males and one female into the Chambal on February 17 to bolster the population of gharials and reinforce Madhya Pradesh's leadership in crocodile conservation.

• The state boasts the highest number of gharials in India, with a 2024 census recording 2,456 individuals in the sanctuary. This is a feat attributed to decades of conservation work, following a national decline of over 80 per cent in gharial population between the 1950s and 1960s, MP wildlife officials said.

• Globally, Gharial populations saw a steady recovery until 1997, but between 1997 and 2006, numbers plummeted by 58%, dropping from 436 adults to 182, according to a 2007 research paper.

• Wildlife researchers have said the species is likely extinct in Myanmar and Bhutan, with only small, uncertain populations remaining in Pakistan, Nepal, and Bangladesh's upper Brahmaputra.

• Between 1975 and 1982, India established 16 captive breeding and release centers and five gharial sanctuaries. Today, the species survives primarily in five refuges: National Chambal Sanctuary (NCS), Katerniaghat Sanctuary, Chitwan National Park, Son River Sanctuary, and Satkosia Gorge Sanctuary.

• Conservation efforts include captive breeding programmes to rear and release hatchlings back into the river, monitoring populations, actively managing threats like sand mining, and engaging local communities in habitat preservation and awareness campaigns.

Do You Know:

• The gharial is a species of Gavialis gangeticus—long-snouted, fish-eating crocodilians. The name 'gharial' comes from the Hindi word ghara, meaning pot or vessel, referring to the bulbous snout tip of adult males, which resembles an inverted pot.

• In Indian mythology, gharials hold sacred significance, often depicted as the divine mount of the goddess Ganga. Their slender snouts, lined with numerous sharp, interlocking teeth, are adapted to trap fish, the mainstay of their diet.

• Males grow from 3-6 meters, and females 2.6–4.5 meters. Gharials mate during November, December, and January. Sandbanks, sandbars, and islands are critical to their ecology, serving as preferred sites for basking and nesting.

• From March to May, as river levels recede, female gharials climb onto exposed sandbanks and islands to nest communally, with many laying eggs in the same area. Females provide parental care for the first few days after hatching.

• Gharials are important for a river's ecosystem, as they clean up carrion.

INDIA'S OLIVE RIDLEY TURTLE NUMBERS IMPROVE, BUT CLIMATE SKEWS SEX RATIO

A 16-year-long assessment of trends in turtle populations in India says the numbers of the Olive Ridley species suggest a "steady or growing" population. However, rising sand temperatures due to climate change are causing a large proportion of these turtles to be females, "raising questions" on the long-term viability of the population.

The report, spanning studies from 2008 to 2024, has been prepared by the Dakshin Foundation and is a long-term monitoring project carried out in partnership with the Indian Institute of Science (IISc), Bengaluru, and several State Forest departments. It provides important information about population trends, threats, and conservation along India's mainland and island coasts. Along with the Olive Ridley, the most populous of marine turtles, the study encompasses other species of sea turtles found in the Indian territory such as the leatherback turtles of the Andaman and Nicobar islands and the Green Turtles of the Lakshadweep islands.

Sea turtles are long-lived, late-maturing, and highly migratory species. Any changes in their populations occur over years or decades, making long-term monitoring essential for understanding population trends and environmental impacts.

Striking phenomenon

A striking natural phenomenon that evokes considerable public interest is the arribada or mass nesting of the Olive Ridley turtle, when tens or hundreds of thousands of female turtles come ashore to nest simultaneously. Gahirmatha and Rushikulya in Odisha are two of the largest "rookeries" or nesting grounds worldwide, with other similar sized ones found only in Mexico and Costa Rica.

This month, Rushikulya witnessed one of the largest arribadas in recent years, with 400,000 to 500,000 turtles nesting in a span of just a few days.

"The overall trend from nearly two decades of monitoring is that the Ridley population is stable or increasing. The fact that arribadas don't occur in some years is puzzling as our offshore monitoring indicates that there are large numbers of turtles in the water. However, it may not be a cause for immediate alarm. Nevertheless, we must remain wary of threats to both coastal and oceanic habitats," Professor Karthik Shankar, who led the study, said in a statement.

SHIRKE FAMILY 'TO PROTEST' AGAINST HISTORICAL INACCURACIES DEPICTED IN CHAAVA MOVIE

A descendant of the historic Shirke family of Maharashtra on Monday said that members of the family might take to the streets in protest against the inaccuracies shown in the film Chhava.

• The Shirke family has alleged that two of their ancestors, Maratha commanders Ganoji and Kanhoji Shirke, were shown in the film as having betrayed Chhatrapati Sambhaji Maharaj, leading to his capture by the Mughal emperor Aurangzeb.

• "Our reputation has been deeply affected. The whole of India thinks of us as gaddar (traitors). If the filmmakers continue to ignore us, we will take to the streets in protest. The Shirke family numbers are in lakhs in Maharashtra," said Deepak Raje Shirke, a member of the family.

• The novel, Chhava, by the late Sivaji Sawant, was published in 1979 and, without any basis, accused Ganoji and Kanhoji Shirke of betrayal. Elders from our family had registered their objection to the novel as well. In 2009, we filed an RTI with the Directorate of Archives and they responded that there was no evidence to support the contention of the Shirkes' betrayal," Deepak said.

• According to Deepak Raje Shirke, the diary of Francis Martin, a French officer who served as an envoy in the Maratha court, revealed that it were the scribes of the court who had betrayed Chhatrapati Sambhaji Maharaj. "It is sad that people think of Ganoji and Kanhoji Shirke as khalnayak," he said.

Do You Know:

• Chhatrapati Sambhaji Maharaj was the eldest son of Chhatrapati Shivaji Maharaj. He came to power following a bloody succession battle with his half-brother Rajaram in 1681. The Mughal emperor Aurangzeb (1618-1707) was a contemporary and his plan to extend his empire towards the Deccan often resulted in clashes with the Marathas

While Sambhaji was able to defend many famous forts against Mughal forces for some years, he was captured by them in 1689 and eventually put to death.

SHORT NEWS

EX-RBI GOVERNOR SHAKTIKANTA DAS TO BE PRINCIPAL SECRETARY-2 TO PM

The government on Saturday appointed retired IAS officer and former Reserve Bank of India governor Shaktikanta Das as Principal Secretary-2 to Prime Minister Narendra Modi. He is probably the first Principal Secretary with experience in both fiscal and monetary policy.

EXPRESS VIEW ON IMPORT OF YELLOW PEAS: PULSES NEED PRIORITY

Food and Consumer Affairs Minister Pralhad Joshi has said that the Centre may stop duty-free imports of yellow peas (matar) after February. This comes even as Finance Minister Nirmala Sitharaman, in her latest budget speech, announced a six-year Mission for Aatmanirbharta (self-reliance) in pulses with a special focus on tur (pigeon-pea), urad (black gram) and masoor (red lentil).

NEED LEADERS WHO UNDERSTAND GLOBAL MINDSET, WITH INDIAN MIND, SAYS PM MODI

Inaugurating the School of Ultimate Leadership (SOUL) conclave 2025 at Bharat Mandapam in the presence of Bhutan Prime Minister Tshering Tobgay who called him "elder brother" and "mentor", Modi said, "For nation-building, the development of better citizens is essential. To achieve any great heights or attain vastness, the foundation must be laid from the very beginning...

NYOKUM YULLO FESTIVAL

— The Nyokum Yullo festival is celebrated by the Nyishi community in the state of Arunachal Pradesh.

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— The Word Nyokum has been derived from the combination of two words – Nyok means land (earth) and Kum means collectiveness or togetherness.

— It is commonly celebrated by people from all class and walk of life for better productivity, prosperity and happiness of all human beings on earth.

JHUMUR DANCE

— In honour of Assam's oldest industry and the workers who made it flourish, over 8,600 women and men from the state's "tea tribes" performed their traditional 'jhumoir' (also spelt 'jhumur' or 'jhumair') dance in the presence of Prime Minister Narendra Modi.

— The term "tea tribe" loosely refers to a multi-cultural, multi-ethnic community of tea garden workers and their descendants.

— These people came from Central India — mostly from present-day Jharkhand, Odisha, Chhattisgarh, and West Bengal — and settled in Assam in the 19th century to work in the tea gardens that the British were setting up.

— Jhumur is the folk dance of the Sadan ethnolinguistic group, who trace their origins to the Chotanagpur region.

— Women are the main dancers and singers, while men play traditional instruments such as madal, dhol, or dhak (drums), cymbals, flutes, and shehnai.

— The attire worn varies from community to community, although red and white sarees are particularly popular among women.

— Dancers stand shoulder-to-shoulder and move in coordinated patterns with precise footwork while singing couplets in their native languages — Nagpuri, Khortha and Kurmali. These have evolved in Assam to borrow heavily from Assamese.

ASHA (ACCREDITED SOCIAL HEALTH ACTIVIST)

— A section of ASHA workers have been protesting in Kerala demanding that their honorarium be increased to Rs 21,000 a month.

— ASHA workers are volunteers from within the community who are trained to provide information and aid people in accessing benefits of various healthcare schemes of the government.

— In 2022, the one million ASHA (Accredited Social Health Activist) workers, who were at the forefront of healthcare delivery in India, received the Global Health Leaders Award-2022 in the backdrop of the 75th World Health Assembly.

UN SECURITY COUNCIL RESOLUTION 1325

— Speaking at the inaugural session of the 'Conference for Women Peacekeepers from the Global South', External Affairs Minister S Jaishankar said India has also been at the forefront of deploying women in peacekeeping operations.

— The conference — the two-day event was held to mark the 25th anniversary of the adoption of UN Security Council Resolution 1325 on Women, Peace and Security — brought together women peacekeepers from 35 countries to explore the evolving role of women in peacekeeping operations and discuss strategies to enhance their participation.

— India ranks among the top contributors to UN peacekeeping missions with 5,384 personnel, including 153 women, across 10 missions as of September 2024.

— India deployed the first all-female Formed Police Unit (FPU) to Liberia in 2007. Today, 20.45% of its deployed military observers and staff officers are women.

AVALANCHE

— An avalanche hit a Border Roads Organisation (BRO) project site near Mana — India's "first" village — in Uttarakhand's Chamoli district.

— According to the World Meteorological Organisation, an avalanche is a mass of snow and ice falling suddenly down a mountain slope and often taking with it earth, rocks, and rubble of every description.

BLACK PLASTIC

— According to a study published in the journal Chemosphere in October last year, found that black plastic household products contained a flame-retardant chemical called decabromodiphenyl ether (BDE-209) that had been linked to potential human health risks. However, it was later found that they overestimated the chemical exposure.

— Black plastic is often made from recycled electronic waste such as computers, TVs, and appliances. The issue is that these electronics typically contain substances such as the flame retardant bromine; antimony; and heavy metals such as lead, cadmium, and mercury. These electronics comprise flame retardants in a bid to prevent fire hazards.

SPHEREX

— NASA has successfully launched a new space telescope, called Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer (SPHEREx) in space.

— SPHEREx will map the universe while detecting two kinds of cosmic light, optical and infrared

— One of the primary aims of SPHEREx will be to measure something called cosmic inflation. It refers to a period which took place around 14 billion years ago, during which the universe expanded faster than the speed of light for a fraction of a second.

— Scientists suggest that inflation explains many aspects of the universe such as its flatness, or lack of curvature, on the largest scales.

— SPHEREx will identify water- and life-forming molecules, also known as biogenic molecules (such as carbon, hydrogen, and oxygen), in the Milky Way galaxy, where the Earth is located.

SPINAL MUSCULAR ATROPHY (SMA)

— The Supreme Court has stayed a Kerala High Court order asking the Centre to provide medicines worth Rs 18 lakh to a 24-year-old suffering from a Group III rare disease — Spinal Muscular Atrophy (SMA).

— SMA is a debilitating genetic condition that affects motor neurons that control movement and leads to progressive muscle weakening. "About one in every 10,000 births have some form of the condition — making it a leading genetic cause of death in infants and children," according to a report in Nature.

— The condition is caused by mutations in the survival motor neuron gene (SMN1) which causes a deficiency of a protein crucial for the survival of motor neurons in the spinal cord.

— The World Health Organisation (WHO) has defined rare diseases as a debilitating, lifelong condition that affects 1 or fewer people in 1,000. Around 6% to 8% of the population is estimated to have a rare disease.

— In India, rare diseases are categorised into three groups based on the nature and complexity of available treatment options.

→ Group 1 includes diseases that can be treated with a one-time curative procedure.

→ Group 2 diseases require long-term or lifelong treatment which are relatively less costly and have shown documented benefits, but patients need regular check-ups.

→ Group 3 diseases are those for which effective treatments are available, but they are expensive and must often continue lifelong. There are challenges in selecting the right beneficiaries for these treatments.

— Solarpunk: It is a literary and art movement rooted in science fiction that evaluates what a sustainable civilisation may look like and how we can achieve it.

— PKK: Kurdistan Workers' Party, or PKK, launched an armed insurgency against the Turkish state in the early 1980s, originally seeking independence for the Kurds, who are believed to make up about 15% or more of Turkey's population.

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BUSINESS & ECONOMICS

TRUMP ORDERS TRADE CHIEF TO REVIVE TARIFF RETALIATION AGAINST DIGITAL TAXES

President Donald Trump on Friday ordered his trade chief to revive investigations aimed at imposing tariffs on imports from countries that levy digital service taxes on U.S. technology companies.

• The memo directs the U.S. Trade Representative's office to renew digital service taxes investigations that were initiated during Trump's first term, and investigate any additional countries that use a digital tax "to discriminate against U.S. companies," according to a White House fact sheet.

• The digital service taxes aimed at dominant U.S. tech giants including Alphabet's Google (GOOGL.O),Meta's Facebook (META.O), Apple (AAPL.O) and Amazon (AMZN.O), have been a longstanding trade irritant for multiple U.S. administrations.

• Britain, France, Italy, Spain, Turkey, India, Austria and Canada have levied the taxes on sales revenue by these and other digital services providers within their borders.

• During Trump's first term, USTR launched Section 301 unfair trade practices against several of these countries, finding they discriminated against U.S. companies, paving the way for retaliatory tariffs on certain imports.

• US President Donald Trump has said that his administration will "soon" impose reciprocal tariffs on countries such as India and China, reiterating what he had said during Prime Minister Narendra Modi's recent visit to the US capital.

Do You Know:

• Tariffs are taxes or duties imposed by a government on imported goods and services. Their objective is to make foreign products more expensive compared to domestically produced goods, thereby encouraging consumers to prefer local products. Tariffs also act as a protective measure for domestic industries against foreign competition. Additionally, they serve as a source of revenue for the government.

THE MYSTERIOUS GOLD VAULTS OF U.S. FORT KNOX

For over a week now, the catchphrase 'Fort Knox' has been stealing the spotlight online, to be more specific, in the United States.

Several conspiracy theories started floating around it and even U.S. President Donald Trump and Tesla CEO Elon Musk, who is also the head of the U.S. Department of Government Efficiency, spoke about it in public.

On February 20, 2025, President Trump, at the Republican Governors association meeting, said, "We're going to inspect Fort Knox."

What is Fort Knox?

Fort Knox, a metonym for gold, is the U.S. Bullion Depository that sits on 1,09,000 acres of land, in Kentucky. It's not a production facility but it stores bullion reserves of the United States in its fortified safety vaults.

Gold Reserves

It was in 1937 that the U.S. Fort Knox got its first gold shipment from Philadelphia Mint and New York Assay Office.

On December 31, 1941, the Depository had its historic gold holdings at 649.6 million ounces. Except for the small portion for purity-testing purposes, no gold has changed hands to or from the Depository for several years.

Currently, Fort Knox has in its vaults 147.3 million ounces of gold, which is nearly half of the Treasury's stored gold, and valuables of other federal agencies.

What's the fuss about?

On February 16, 2025, conspiracy theorist Alex Jones tweeted saying the U.S. government claims it has nearly 5,000 tonnes of gold but Fort Knox has not been audited since 1974. The tweet opened the floodgates of conspiracies revolving it after Elon Musk replied him, "It would be cool to do a live video walkthrough of Fort Knox."

Further, he tweeted, "Who is confirming that gold wasn't stolen from Fort Knox? Maybe it's there, maybe it's not."

Who can visit?

No one is allowed to visit Fort Knox, unlike how banks allow its customers to keep/take jewels, gold, silver or documents in/from its lockers, on a regular basis.

In fact, U.S. Senator Mike Lee tweeted that he has been repeatedly trying to enter Fort Knox and that the Depository has replied him in negation.

Who visited last?

Former President Franklin D. Roosevelt was the only one who visited the Depository other than authorised personnel, back in 1943.

One of Kentucky's U.S. Senators Rand Paul wrote a letter to the U.S. Treasury Department Secretary Scott Bessent saying, "Prior to a visit by Treasury Secretary Mnuchin and others in 2017, forty-two years had elapsed since a civilian was allowed to enter and view the gold vault."

In his letter, Mr. Paul has requested an audit of the United States Mint's holdings, including testing of the gold. He has also asked for in-person inspection of the entire Depository and other holdings by him and his staff.

Is Fort Knox audited?

In an exclusive interview with talk show host Dan O'Donnell, Scott Bessent said, "We do an audit every year and [as per] the audit that ended on September 30, 2024, all the gold is present and accounted for."

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Performing an audit

A committee of auditors from the Treasury Department and the United States General Accounting Office (GAO) will perform the audit of the gold holdings.

Auditors will be from the Office of the Secretary, the Bureau of Government Financial Operations, the U.S. Customs Service, and the Bureau of the Mint.

Further, the auditing committee also comprises of technicians belonging to the Bureau of the Mint. These technicians at the Mint were trained in the assaying and the weighing of gold bullion.

TRUMP TO SLAP EU WITH 25% TARIFFS, BLOC VOWS TO 'VIGOROUSLY' FIGHT BACK

The European Union on Thursday pushed back hard against allegations by U.S. President Donald Trump that the 27-nation bloc was out to get the U.S., and warned that it would vigorously fight any wholesale tariff of 25% on all EU products.

The tit-for-tat dispute following the vitriolic comments of Mr. Trump aimed at an age-old ally and its main post-war economic partner further deepened the trans-Atlantic rift that was already widened by Mr. Trump's warnings that Washington would drop security guarantees for its European allies.

Thursday's EU pushback came after Mr. Trump told reporters that "the European Union was formed in order to screw the United States. That's the purpose of it, and they've done a good job of it," adding that it would stop immediately under his presidency. Prime Minister Donald Tusk of Poland, which holds the EU's rotating presidency, went on a counteroffensive.

"The EU wasn't formed to screw anyone," Mr. Tusk said in an X post. "Quite the opposite. It was formed to maintain peace, to build respect among our nations, to create free and fair trade, and to strengthen our transatlantic friendship. As simple as that."

The EU also warned that the moment the tariffs would be announced, it would trigger tough countermeasures, on iconic U.S. industries like bourbon, jeans and motorcycles.

"The EU will react firmly and immediately against unjustified barriers to free and fair trade," European Commission trade spokesman Olof Gill said in a statement. "We will also protect our consumers and businesses at every turn. They expect no less from us." Mr. Trump said in comments late Wednesday that the U.S. stood ready.

"We are the pot of gold. We're the one that everybody wants. And they can retaliate. But it cannot be a successful retaliation, because we just go cold turkey. We don't buy any more. And if that happens, we win."

IN SHADOW OF US TARIFF, INDIA BACK TO TABLE FOR TRADE TALKS WITH UK, EU

As US President Donald Trump moves to upend the world trade order with tariff threats against allies and rivals alike, New Delhi Monday re-started negotiations for two long-stalled, big-ticket trade deals with Britain's new Labour Party-led administration — just days ahead of President of the European Commission Ursula von der Leyen's visit to India for trade talks.

• After an eight-month pause due to general elections in India, the UK and European parliamentary elections, New Delhi and London announced plans to restart trade talks for a free trade agreement

(FTA), a bilateral investment treaty, and a separate social security pact during UK Trade Secretary Jonathan Reynolds's visit that began Monday.

• The trade deal with the UK, talks for which began in 2022, assumes significance as it would be India's first full-fledged agreement with a Western country, facilitating deeper economic integration with a major global services sector leader. It is also considered crucial as it could serve as a template for trade deals with larger Western trade partners such as the European Union.

• On 27th February 2025, amid growing tension in the trans-Atlantic relationship between US and Europe, the EU College of Commissioners is set to meet Prime Minister Narendra Modi to further strengthen bilateral relations based on "growing convergences".

• India and the EU are also expected to conduct bilateral ministerial meetings and engage in a trade and technology council, which was launched to resolve issues such as the contentious Carbon Border Adjustment Mechanism (CBAM).

Do You Know:

• With the growth trajectory being different in both the countries, the potential business opportunities were much different and, therefore, India had requested the UK to consider a social security pact.

• India has Social Security Agreements (SSAs) with countries like Belgium, Germany, Switzerland, France, Denmark, Korea, and the Netherlands.

• Meanwhile, nine rounds of talks have happened between India and EU, with the 10th round of negotiations set to take place from March 10-14 in Brussels. In the ninth round, discussions covered a range of issues, including goods, services, investment, government procurement, rules of origin, sanitary and phytosanitary (SPS) measures, and technical trade barriers, the Commerce Ministry had said in a statement last month.

THE INDIA-EU PARTNERSHIP

At a time when ties between Europe and the United States are facing great pressure, a large delegation of European Commission College of Commissioners is in New Delhi for a two-day visit.

• Twenty-two of the 27 Commissioners are part of the delegation led by European Commission (EC) President Ursula von der Leyen. This is the first trip out of Europe by the College that took office in December, and the first-ever visit to India by the Commissioners together.

• Indian officials said the visit of the College of Commissioners marks a significant new phase in bilateral relations, as India and the EU enter the third decade of their Strategic Partnership.

• Meetings of the India-EU Trade and Technology Council (TTC), bilateral between Indian Ministers and EU Commissioners, and the meeting at the leaders' level will diversify engagement and promote trade and investments in a range of areas, the officials said.

• These include artificial intelligence (AI) and semiconductors, as well as green hydrogen, sustainable urbanisation, water management, resilient supply chains, defence, and space.

• Prime Minister Narendra Modi and EC President Ursula von der Leyen have met at least seven times in the past. The President paid an official visit to India in April 2022, during which she participated in the Raisina Dialogue as Chief Guest, and delivered the inaugural address.

• Prime Minister Modi and President von der Leyen met briefly on the sidelines of the G20 Rio Summit in November 2024. In January this year, the PM spoke by telephone with the President of the European Council Antonio Costa.

Do You Know:

• India established diplomatic relations with the European Economic Community — the first pillar of the future European Union — back in 1962. The Joint Political Statement signed in 1993 and the Cooperation Agreement of 1994 paved the way for the strengthening of ties between India and Europe.

• The multi-tier institutional architecture of cooperation has been presided over by the India-EU Summits, 15 of which have been held so far. The first Summit was held in Lisbon in June 2000, and the bilateral relationship was upgraded to a Strategic Partnership at the 5th Summit in The Hague in 2004.

• The India-EU Strategic Partnership: A Roadmap to 2025, was adopted at the last India-EU Summit in July 2020. At the Leaders' Meeting in May 2021, the two sides announced the resumption of negotiations for a comprehensive free trade and investment agreement, and an agreement on Geographical Indications. They also launched an ambitious 'Connectivity Partnership'.

• India and the EU have been negotiating a Free Trade Agreement for the last decade and a half. The economic argument for an agreement is strong: the EU is India's largest trading partner in goods, and bilateral trade has increased 90% over the past decade.

• Bilateral trade in goods was $135 billion in FY 2023-24, with Indian exports to the EU accounting for $76 billion and imports for $59 billion. Bilateral trade in services in 2023 stood at $53 billion, comprising Indian exports of $30 billion and imports of $23 billion.

• Cumulative Foreign Direct Investment (FDI) flows from the EU during the period April 2000 to September 2024 was $117.4 billion, which represented 16.6% of the total FDI equity inflow.

EU TRADE TALKS: INDIA TO RED-FLAG CARBON TAX, DATA PRIVACY CONCERNS

India is set to raise concerns over the European Union's controversial carbon tax, which seeks to impose tariffs as high as 30 per cent on imports of carbon-intensive products such as steel and aluminium from next year, during the two-day visit by the President of the European Commission, Ursula von der Leyen, and 21 EU Commissioners, beginning on February 27, 2025.

• Finance Minister Nirmala Sitharaman and Commerce and Industry Minister Piyush Goyal have, on multiple occasions, called the Carbon Border Adjustment Mechanism (CBAM) or carbon tax an "unfair" measure and a violation of the "common but differentiated responsibilities" (CBDR) provision of multilateral climate negotiations.

• While several countries, including China, Russia, Brazil, and South Africa, have taken the EU to the WTO, India is yet to formally file a case as both sides are actively discussing a free trade agreement (FTA), investment pact, and geographical indication (GI) treaty.

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• In the FTA negotiations, India is also seeking concessions for its Micro, Small and Medium Enterprises (MSMEs).

• Notably, CBAM is set to take effect January 2026, with the transition period—requiring exporters to submit data to EU authorities— having begun on October 1, 2023. This is significant as India exports over 15 per cent of its total goods exports to the EU. In 2022-23, India exported goods worth $75 billion to the EU.

• Delhi-based think tank Global Trade and Research Institute (GTRI) estimates that CBAM will have an adverse impact on India's exports of metals such as iron, steel, and aluminium products to the EU, translating into a 20–35 per cent tax on select imports into the EU from January 1, 2026.

Do You Know:

EU's Carbon Border Adjustment Mechanism—

• The Carbon Border Adjustment Mechanism is a plan from the European Union (EU) to tax carbon-intensive products, such as iron and steel, cement, fertiliser, aluminium and electricity generation, from 2026.

• The EU came up with the Carbon Border Adjustment Mechanism in 2021.

• The European Commission's website describes it thus, "Designed in compliance with World Trade Organization (WTO) rules and other international obligations of the EU, the CBAM system will work as follows: EU importers will buy carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced under the EU's carbon pricing rules. Conversely, once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in a third country, the corresponding cost can be fully deducted for the EU importer."

MUSK'S STARLINK RACES WITH CHINA TO DOMINATE SATELLITE INTERNET

The billionaire's Starlink communications network is facing increasingly stiff challenges to its dominance of high-speed satellite internet, including from a Chinese state-backed rival and another service financed by Amazon.com founder Jeff Bezos.

Shanghai-based SpaceSail in November signed an agreement to enter Brazil and announced it was in talks with over 30 countries. Two months later, it began work in Kazakhstan, according to the Kazakh embassy in Beijing.

Separately, Brasília is in talks with Mr. Bezos's Project Kuiper internet service and Canada's Telesat, according to a Brazilian official involved in the negotiations, who spoke on condition of anonymity to freely discuss ongoing talks. News of those discussions is being reported for the first time. Starlink has since 2020 launched more satellites into low-Earth orbit (LEO)—an altitude of less than 2,000 km—than all its competitors combined. Satellites operating at such low altitudes transmit data extremely efficiently, providing high-speed internet for remote communities, seafaring vessels and militaries at war. Mr. Musk's primacy in space is seen as a threat by Beijing, which is both investing heavily in rivals and funding military research into tools that track satellite constellations, according to Chinese corporate filings and academic papers whose details have not been previously reported.

China launched a record 263 LEO satellites last year, according to data from astrophysicist Jonathan McDowell analyzed by tech consultancy Analysys Mason. The emergence of competition to Starlink has been welcomed by Brazil's government, which wants high-speed internet for communities in far-flung areas but has previously faced off with Mr. Musk over commerce and politics.

A newspaper controlled by China's telecoms regulator last year praised it as "capable of transcending national boundaries, penetrating sovereignty and unconditionally covering the whole world ... a strategic capability that our country must master."

Few of Mr. Musk's international rivals have the same ambition as SpaceSail, which is controlled by the Shanghai municipal government. It has announced plans to deploy 648 LEO satellites this year and as many as 15,000 by 2030; Starlink currently has about 7,000 satellites, according to McDowell, and has set itself a target of operating 42,000 by the end of the decade.

SpaceSail's launches will eventually comprise the Qianfan, or "Thousand Sails," constellation that marks China's first international push into satellite broadband. Three other Chinese constellations are also in development, with Beijing planning to launch 43,000 LEO satellites in the coming decades and investing in rockets that can carry multiple satellites.

Quest for control

"The endgame is to occupy as many orbital slots as possible," said Chaitanya Giri, a space technology expert at India's Observer Research Foundation.

China's rush to occupy more of lower-Earth orbit has raised concerns among Western policymakers, who worry that it could extend the reach of Beijing's internet censorship regime. Researchers at the American Foreign Policy Council think-tank said in a February paper that Washington should increase cooperation with Global South nations if it wanted to "seriously contest China's growing foray into digital dominance."

The researchers also described Qianfan as a crucial part of the space component of China's Belt and Road Initiative. The $1 trillion global infrastructure development plan is a signature policy of Chinese leader Xi Jinping, but has been accused by critics of being primarily a tool to expand Beijing's geopolitical influence.

THE MISSING GROWTH STRATEGY

In 2007, India joined the ranks of middle-income countries, classified, to be precise, as a lower middle-income economy. Almost 18 years later, it remains in that category.

— Over these years, the country's per capita income has risen from $1,022 to about $2,700. Some have argued that if a country remains a lower middle-income economy for 28 years — in India's case that would mean a decade more — then it is caught in a lower middle-income trap.

— The per capita income now required to join the ranks of upper-middle-income countries is $4,516. Moving up to this category does seem possible in a decade, though not by the end of this decade. The IMF expects India's per capita income to touch $4,195 by 2029.

— For India to reach a per capita income in excess of $10,000, the current growth structure necessarily requires western and southern states to have higher levels of per capita income, attaining high-income status years before.

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— With more job opportunities in these regions, labour, across the skill spectrum, and capital should continue to flow to these states. This could help keep wages under check and ensure steady access to capital, possibly allowing them to maintain their competitiveness.

— At the same time, for the vast majority of states, where the bulk of the country's population resides, moving up from the low-income category — like Bihar with an average income of $729 — or moving towards the upper middle-income levels — for states like Chhattisgarh ($1,780), West Bengal ($1,861) and Odisha ($1,970) — will be a difficult journey.

— Thus, India's development challenge, as some have also argued, exists at two levels. One, to ensure that the western and southern states do not get trapped in the middle-income trap. And two, to see to it that the poorer states grow rapidly. This will necessarily involve operating across the entire smile curve — engaging in both low and high-value-added activities.

Do You Know:

— What should be the strategy to become a developed country in the next two decades? Analysts are considering redesigning industrial policy in light of ongoing global developments. After World War II, many East Asian countries adopted an export-led growth strategy and made rapid progress. In contrast, although India's share in world exports was also 0.6 per cent in 1970, it only increased to 2.5 per cent by 2022.

— The strategy should be multi-dimensional: Emphasise exports, services, manufacturing, agriculture etc. It would be useful to identify our "sunrise" industries. For example, the food processing industry may be given high priority as it is labour-intensive, helps agriculture and has export demand.

— Another critical issue is the creation of adequate jobs. The impact of technological changes means a reduction in the absorption of labour per unit of output.

HOW RBI'S $10-BN SWAP CAN BOOST LIQUIDITY

After conducting a $5 billion dollar-rupee swap less than a month ago, the Reserve Bank of India (RBI) on Friday (February 21) decided to inject rupee liquidity for longer duration through another $10 billion dollar-rupee buy-sell swap arrangement.

• The central bank's initiative is designed to provide a durable solution to the system's liquidity requirements, while also stabilising the value of the rupee and bolstering the nation's foreign exchange kitty.

• The swap mechanism can help stabilize the currency by providing immediate liquidity support, thereby mitigating the pressure on the rupee during periods of foreign fund outflows. This temporary relief can bolster market confidence and prevent excessive volatility in the exchange rate.

• It will also beef up the dollar reserves of the RBI at a time when it's intervening in the forex market to prevent a slide in the rupee. The central bank will be conducting the $10 billion swap auction for a tenor of 3 years next week.

• The Indian banking system encountered its worst liquidity crunch in more than a decade in January 2025. The liquidity deficit peaked at Rs 3.15 lakh crore on January 23, its lowest level in nearly 15 years.

• The RBI has been selling dollars to stabilise the rupee, thereby sucking out an equivalent amount in rupee from the system.

• The swap is in the nature of a simple buy-sell foreign exchange swap from the Reserve Bank side. A bank will sell US dollars to the Reserve Bank and simultaneously agrees to buy the same amount of US dollars at the end of the swap period.

• The RBI had infused over Rs 3.6 lakh crore of durable liquidity into the banking system in the last five weeks through debt purchases, forex swaps and longer-duration repos.

Do You Know:

• The RBI uses Open market operations (OMOs) in order to adjust the rupee liquidity conditions in the market on a durable basis. When the Reserve Bank feels that there is excess liquidity in the market, it resorts to the sale of government securities, thereby sucking out the rupee liquidity. Similarly, when the liquidity conditions are tight, the central bank buys securities from the market, thereby releasing liquidity into the market. It's used as a tool to rein in inflation and money supply in the system.

RBI MOVES TO BOOST CREDIT FLOW TO NBFCS, CUTS RISK WEIGHT ON LOANS

In a major relief to non-banking finance companies (NBFCs), the Reserve Bank of India (RBI) on Tuesday slashed the risk weights of bank loans to NBFCs by 25 percentage points depending on the ratings.

• The decision, which is applicable in all cases where the existing risk weight as per external rating of NBFCs is below 100 per cent, comes at a time when bank credit to NBFCs has hit a new low, sparking concerns about the sector's ability to lend to retail customers.

• By reducing the risk weights, the RBI aims to encourage banks to lend more to NBFCs, thereby boosting credit growth in the economy. The move is seen as a positive step towards revitalising the NBFC sector and promoting financial stability.

• The risk weight on the exposures of Scheduled Commercial Banks (SCBs) to NBFCs was increased by 25 percentage points by the RBI in November 2023. "On a review, it has been decided to restore the risk weights applicable to such exposures and the same shall be as per the external rating," the RBI said.

• A lower risk weight on loans means that lenders need to set aside less capital against those loans, which typically results in lower interest rates for borrowers as banks try to maintain their profit margins, making it less expensive for individuals, businesses or NBFCs to take out such loans. Risk-weighted assets are the loans and other assets of a bank, weighted (that is, multiplied by a percentage factor) to reflect their respective level of risk of loss to the bank.

Do You Know:

• According to Investopedia, Nonbank financial companies (NBFCs), also known as nonbank financial institutions (NBFIs), are financial institutions that offer various banking services but do not have a banking license. Generally, these institutions are not allowed to take traditional demand deposits—readily available funds, such as those in checking or savings accounts—from the public. This limitation keeps them outside the scope of conventional oversight from federal and state financial regulators.

FINANCE SECY TUHIN KANTA PANDEY TO BE NEW CHIEF OF MARKETS REGULATOR SEBI

The government has appointed Finance and Revenue Secretary Tuhin Kanta Pandey as the next chairman of capital markets regulator Securities and Exchange Board of India (Sebi). An order issued by the Appointments Committee of the Cabinet late Thursday said the appointment of Pandey as Sebi chief will be for three years.

• The current three-year tenure of Sebi chairperson Madhabi Puri Buch is slated to end on Friday (February 28). She took over as the first woman chief of the capital markets regulator on March 2, 2022.

• Pandey's appointment as Sebi chief marks the second major appointment of a bureaucrat as the head of a regulator, after Indian Administrative Services (IAS) officer Sanjay Malhotra's appointment as the Reserve Bank of India (RBI) Governor in December 2024.

• Even though candidates from the private sector are learnt to have been considered for the post of Sebi Chairman, the final section of an IAS officer signifies a reposing of faith in bureaucracy by the government to manage critical institutions of the country. The appointment of the Sebi Chairman is made by the central government on the recommendation of the Financial Sector Regulatory Appointments Search Committee (FSRASC).

• Before being appointed as Revenue Secretary in January, Pandey had the charge of Secretary, DIPAM. Pandey, a 1987-batch Indian Administrative Service officer of the Odisha cadre, had taken charge as Finance Secretary in September 2024 after his predecessor TV Somanathan was appointed as Cabinet Secretary. The charge of Finance Secretary is by convention given to the senior-most secretary amongst all the secretaries of the Ministry of Finance.

Do You Know:

• According to the official website of SEBI, the Securities and Exchange Board of India (SEBI) is the regulatory body for securities and commodity market in India under the administrative domain of Ministry of Finance within the Government of India. It was established on 12 April 1988 as an executive body and was given statutory powers on 30 January 1992 through the SEBI Act, 1992.

• SEBI is led by a board of members, including a chairman appointed by the Union Government of India. Two members of the Union Finance Ministry. One member from the Reserve Bank of India. The remaining five members are nominated by the Union Government of India, with at least three being full-time members.

FREEFALL IN MARKETS: US FED WILL SHOW THE WAY

Indian stock markets have been experiencing sustained weakness. From the highs observed last year — on September 27, 2024, the BSE Sensex had touched 85,978 — it is down around 13 per cent. Since the beginning of this year, the Sensex is down about 5 per cent. While on Tuesday it was up marginally, most sectoral indices are in the red. The fall among the smaller firms is steeper — the BSE Midcap index is down almost 15 per cent since the beginning of the year, while the BSE Smallcap index has fallen around 19 per cent. After this correction, the Sensex is trading at a price to earnings ratio of 21.48.

There are both global and domestic reasons for the fall. A state of uncertainty has gripped global markets following the election of Donald Trump and his subsequent announcements on tariffs, taxes and immigration. Trump's tariff proposals, some of which have been kept on hold while others are already in effect, have soured investor sentiment. The threat of reciprocal tariffs weighs heavily on countries. But higher tariffs will be inflationary for the US. Inflation data released a few days ago has further complicated matters for the US Federal Reserve — in January, inflation rose to 3 per cent. On the domestic front, the corporate results season has been subdued. For instance, in the third quarter, HUL registered a 1.8 per cent revenue growth, while UltraTech Cement saw a growth of just 2.9 per cent. As per ICRA, 602 listed companies, excluding those in the financial sector, saw their revenues grow at just 6.8 per cent. Growth for the fourth quarter has been pegged at 7-8 per cent. Commentary from brokerage houses suggests that corporate profitability is "under strain". Foreign investors have continued to be net sellers with reports suggesting increasing allocations towards China. After withdrawing $13.7 billion in October and November last year, net investments by foreign portfolio investors were -$12.8 billion in the first two months of the year (data up to February 25). The pressure on the rupee continues. On Tuesday, it fell by 51 paise, settling at 87.23 (provisional) as per reports.

At the end of this week, the National Statistics Office will release its estimates for GDP growth in the third quarter, and the second advance growth estimates for the full year. These will provide clarity on the underlying economic momentum in the country. Thereafter, the March meeting of the US Fed will provide clues on the trajectory of interest rates. These will shape investor sentiments in the near term.

SEBI WATCHING SMES USING IPO PROCEEDS FOR 'WORKING CAPITAL'

Market regulator SEBI is keeping a strict watch on the usage of proceeds from initial public offerings (IPO) to detect possible fraud as many small and medium enterprises (SMEs) are flocking to the primary markets to ostensibly meet working capital requirements.

Unlike funds raised for capital expenditure, the use of working capital can be mismanaged and is very difficult to trace the final benefit of its usage, according to experts.

S. Venkat, founder of business consulting firm Practus, said while it is justified for firms to allocate some portion of IPO proceeds for working capital needs, very high allocations could be a red flag.

Late last year, SEBI cancelled the IPO of Trafiksol ITS Technologies and ordered it to refund ₹45 crore it had raised. The issue, priced at ₹70 a share, was subscribed 346 times. One of the objects of the issue was to purchase software from a third-party vendor which turned out to be a shell company with fabricated profiles and forged financial statements.

The SEBI order came after a probe triggered by a complaint regarding the use of issue proceeds and wrongful disclosures.

Similarly, SEBI banned Mishtann Foods from equity markets after it found negligible fixed assets on its books and negative cash flow from operations.

It had raised ₹50 crore of which ₹37 crore was for working capital needs.

Of the ₹8,822 crore raised by 242 companies via SME IPOs last year, about 35%, or ₹3,091 crore, was for working capital needs, showed data collated by AIF manager Finavenue from NSE Emerge and BSE SME.

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Abhishek Jaiswal, fund manager, Finavenue, said while SEBI put a 15% cap on funds raised for general corporate purpose in SME IPOs, similar upper limit for working capital would protect investors' interest.

WHAT'S AILING INDIA'S TEXTILE INDUSTRY AND GOVT'S ATTEMPTS TO IMPROVE COMPETITIVENESS

India's textile industry is among the largest in the world, spanning a vast value chain from cotton cultivation to high-end apparel manufacturing.

• However, despite its scale, India lags behind countries like China, Vietnam, and Bangladesh in textile exports, which benefit from vertically integrated supply chains, lower production costs, and simpler regulations.

• Despite being a global leader in cotton and synthetic fibre production, India's textile and apparel industry has recorded sluggish growth in recent years.

• India lags behind China, Vietnam, and Bangladesh in textile exports, largely due to higher production costs. For instance, Vietnam exported apparel worth $40 billion in 2023. These countries benefit from vertically integrated supply chains, allowing them to manufacture garments at far more competitive prices.

Do You Know:

• After China, India is the second largest producer of cotton, accounting for 24% of global production. Cotton cultivation engages around 60 lakh farmers, mostly across Gujarat, Maharashtra, and Telangana. The entire cotton textile value chain—from processing raw fibre and spinning yarn to weaving fabric, dyeing, and stitching—employs over 4.5 crore people.

• The size of India's textile and apparel industry cannot be understated—it contributes 13% to industrial production, 12% to exports, and roughly 2% to GDP. However, manufacturing in the textile and apparel industry has slightly contracted over the past 10 years, according to the Index of Industrial Production (IIP).

PHILANTHROPY IN INDIA: TAKING STOCK, LOOKING AHEAD

Providing structured services for family philanthropy could unlock an additional Rs 50,000-55,000 crore in funds over the next five years, the report said. However, the average spending of high net worth remains low compared to other major countries.

• Over the next five years, private funding in India's social sector is expected to see a 10%–12% annual growth, largely driven by family philanthropy from high-net-worth individuals (HNIs), according to a new report released on Thursday (February 27).

• As of FY24, the total size of the country's social sector funding – on education, healthcare, gender equality, etc. – is around Rs 25 lakh crore ($300 billion). Public spending accounted for 95% of total funding at Rs 23 lakh crore, including schemes such as MGNREGS and the Pradhan Mantri Awas Yojana.

• On the other hand, private spending stood at around Rs 1.3 lakh crore ($16 billion), according to the India Philanthropy Report (IPR) 2025 from venture philanthropy firm Dasra and management consultancy Bain & Co.

Do You Know:

• As defined in the 2025 report, UHNIs refer to ultra-high-net-worth individuals (UHNIs) with a net worth of Rs 1,000 crore and more. HNIs have a net worth of Rs 200 to 1,000 crore, while the "Affluent" category includes those ranging between Rs 7 to 200 crore. On average, the three categories of private individuals gave Rs 5 crore, Rs 0.4 to 5 crore, and less than Rs 0.4 crore to philanthropy in FY 2024, respectively.

• Generally, the share of private funds allocated towards philanthropy in India has been low compared to other major economies. The India Philanthropy Report 2022 found that "Relative contributions (giving as a percentage of wealth) among Indian UHNIs (Ultra-high-net-worth individuals) range from 0.1% to 0.15% compared with 1.2% to 2.5% in the United States, 0.5% to 1.8% in the UK, and 0.5% to 1.4% in China."

FEMALES SPENT 201 MINS MORE THAN MALES IN UNPAID HOUSEHOLD WORK: TIME USE SURVEY 2024

Females also spent 62 more minutes in a day in unpaid caregiving activities for household members than males, with the average time spent by females registering an increase to 137 minutes in 2024 from 134 minutes in 2019.

• Even as the time spent by females in a day on unpaid domestic services for household members reduced by 10 minutes to 289 minutes in 2024 from 299 minutes in 2019, females spent 201 more minutes in a day in unpaid domestic services for household members than their male counterparts last year, the Time Use Survey 2024 (January-December) released by Ministry of Statistics and Programme Implementation (MoSPI) on Tuesday showed.

• Females also spent 62 more minutes in a day in unpaid caregiving activities for household members than males, with the average time spent by females registering an increase to 137 minutes in 2024 from 134 minutes in 2019.

• The share of unpaid household work for females aged 15-59 years remained high as they spent 305 minutes in such work in 2024, even as it reduced by 10 minutes from 315 minutes spent on those activities during 2019.

• Unpaid activities include care for children, sick, elderly, differently-abled persons in own households; production of other services for own consumption; production of goods for own consumption; voluntary work for production of goods & services in households and market/non-market units; unpaid trainee work and other unpaid work for production of goods and services.

• Paid work includes self-employment for production of goods and services; regular wage or salary or casual labour for production of goods and services.

Do You Know:

• Time Use Survey (TUS) measures time dispositions by the population on different activities. The primary objective of the Survey is to measure the participation of men and women in paid and unpaid activities, the ministry said.

• The gap between the minutes spent by females than males in a day is the sharpest for unpaid domestic work, followed by unpaid caregiving services for household members.

• Overall, around 83.9 per cent females participated in unpaid activities during a day in 2024, almost the same as the level of 84.0 per cent in 2019, while for paid activities, their share increased 20.6 per cent in 2024 from 17.1 per cent in 2019.

• Time spent in a day in employment and related activities increased to 341 minutes among females in 2024 from 333 minutes, while for males, it increased to 473 minutes from 459 minutes. 708 minutes in a day was spent on self-care and maintenance activities by persons aged 6 years and above. Females of this age group spent 706 minutes, while males spent 710 minutes in such activities, the report said.

• Culture, leisure, mass media and sports practices accounted for 164 minutes of a female's time in a day in 2024, almost flat from 165 minutes in 2019. For males, however, there was a sharp increase in time spent in a day in culture, leisure, mass media and sports practices at 177 minutes in 2024 from 164 minutes in 2019.

• This survey covered 4,54,192 persons belonging to 1,39,487 households (rural: 83,247 and urban: 56,240). Information on time use was collected from each member of age 6 years and above of the selected households.

NAKSHA

Union Rural Development Minister Shivraj Singh Chouhan launched the Central government's new initiative—'NAtional geospatial Knowledge-based land Survey of urban HAbitations' (NAKSHA)— on February 18 from Raisen in Madhya Pradesh.

• NAKSHA is a city survey initiative under the existing Digital India Land Records Modernization Programme (DILRMP). It is spearheaded by the Department of Land Resources (DoLR), under the Ministry of Rural Development.

• Under the new initiative, maps of towns and cities will be prepared. The programme has been launched as a pilot across 152 urban local bodies in 26 states. The cities selected meet two criteria: area less than 35 sq km, and population less than 2 lakhs. The pilot will be completed in a year.

• The programme addresses the issue of updation of land records in urban areas – while land records have improved in rural areas, several cities lack maps even today. Most urban areas – barring a few states like Tamil Nadu, Maharashtra, Gujarat and Goa – have outdated or unstructured land records, causing inefficiencies in governance and taxation.

Do You Know:

• The idea of this initiative was first mooted in the Union Budget last year. "Land records in urban areas will be digitised with GIS mapping. An IT-based system for property record administration, updating, and tax administration will be established. These will also facilitate improving the financial position of urban local bodies," Finance Minister Nirmala Sitharaman said in her budget speech on July 23, 2024.

• As per the Census 2011, India has 7,933 towns covering 1.02 lakh square km of the total 32.87 lakh square km geographical area of the country. NAKSHA will cover 4,142.63 square km of area.

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• The initiative is 100 per cent centrally funded. The pilot project is expected to cost about Rs 194 crore. At the unit level, the cost varies depending on the camera used. For a simple camera, the cost is about Rs 25,000 to Rs 30,000 per square km, while for a 3D camera, it comes to about Rs 60,000 per square km.

• Once completed, NAKSHA is expected to provide comprehensive digital urban land records, reduce land disputes, aid in faster and more efficient urban planning, improve property tax collection, simplify property transactions and improve access to credit.

STRATEGY ON FERTILISERS

Capping or even reducing the consumption of urea, di-ammonium phosphate (DAP) and muriate of potash (MOP) has become a strategic imperative of sorts for India.

The primary reason: All these fertilisers are imported, whether directly or as inputs for domestic manufacturing.

• MOP is wholly imported from countries such as Canada, Russia, Jordan, Israel, Turkmenistan and Belarus, as India has no mineable potash reserves. In urea, India's production meets over 85% of its consumption demand, but the plants mostly run on liquefied natural gas imported from Qatar, US, UAE or Angola.

• DAP is imported in the form of finished fertiliser (mainly from Saudi Arabia, China, Morocco, Russia and Jordan) as well as raw material (rock phosphate from Jordan, Morocco, Togo, Egypt and Algeria; sulphur from UAE, Qatar and Oman) and intermediate chemicals (phosphoric acid from Jordan, Morocco, Senegal and Tunisia; ammonia from Saudi Arabia, Qatar, Oman and Indonesia).

• Import dependence – made worse by the rupee's depreciation – apart, a second reason for limiting urea, DAP and MOP usage is that they are high-analysis fertilisers: Urea and MOP contain 46% nitrogen (N) and 60% potash (P) respectively. DAP has 46% phosphorous (P) plus 18% N.

Do You Know:

• A good example is 20:20:0:13 or ammonium phosphate sulphate (APS). A complex fertiliser with 20% N, 20% P, 0% K and 13% sulphur (S), it has emerged as an effective substitute for DAP, despite having less than half of the latter's P content. DAP is manufactured by importing merchant-grade phosphoric acid with 52-54% P content and reacting it with ammonia (the source of N). The end-product has 18% N and 46% P.

• APS has become India's third largest-consumed fertiliser after urea and DAP. It has overtaken single super phosphate (SSP), previously the most popular alternative to DAP. SSP, which contains 16% P and 11% S, is manufactured by reacting rock phosphate directly with sulphuric acid.

FARMERS' SHARE IN RABI CROP CONSUMER PRICES RANGED FROM 40-67%: RBI SURVEY

A pan-India survey conducted by Reserve Bank of India (RBI) officials has revealed that farmers received a share ranging from 40-67 per cent of consumer prices for major rabi crops.

• The survey, which covered major rabi crops during May-July 2024, found that farmers' share is higher for non-perishable crops and lower for fruits and vegetables.

• Wheat farmers emerged as the biggest beneficiaries, with a 67 per cent share of consumer prices, owing to the fact that wheat is a notified commodity, with a significant portion of produce sold through the public procurement system.

• Rice farmers received an estimated 52 per cent share of retail prices. This figure is consistent with previous surveys, indicating a stable trend in farmers' shares for rice.

• Around one-fourth of the respondent wheat farmers in the 2024 survey are reported to have sold their output to the government under a procurement system. Procurement at minimum support price gives farmers an assured market option.

• The estimate of 67 per cent is consistent with the available literature which suggests that wheat farmers' share in the consumer price ranges between 53 and 74 per cent, said the survey report authored by five RBI officials.

Do You Know:

• In India, the fruit and vegetable supply chain comprises many unorganised intermediaries, which creates difficulties in identifying the flow of products, funds and information across the supply chain, and, can compress farmers' share in consumer prices, it said.

• A lower share for farmers can also act as a constraint for farmers in diversifying from traditional cereal crops, the survey said.

• As per the current survey, the combined share of traders and retailers is estimated to be more than half for all surveyed fruits and vegetables except tomatoes. "Amongst the set of crops which were surveyed in previous kharif rounds and this rabi round survey, the farmers' share in retail prices of rice is estimated at around 52 per cent in this survey," it said.

• The survey covered mandis/villages in 86 centres across 18 states for 12 rabi crops using three separate questionnaires for farmers, traders and retailers.

COAL-FIRED POWER PLANTS IN INDIA CUT RICE, WHEAT YIELD BY UP TO 10%

According to new research led by researchers at Stanford University in the U.S., coal-fired power plants are quietly depleting India's rice and wheat output, destroying up to 10% of the yield in several States.

The emissions from coal power plants include carbon dioxide, nitrogen oxides, sulphur oxides, fly ash, soot, suspended particulate matter, and other trace gases. These pollutants have been linked to smog, acid rain, eutrophication and various other environmental burdens.

An elusive link

In the new study, PhD student Kirat Singh and his colleagues turned the spotlight on the less-explored consequences of nitrogen dioxide (NO2) on crop productivity.

The nitrogen oxides in general are an established side effect of India's coal dependence. They are phytotoxic, meaning they stress plants, and have been known to hinder cellular function and interfere with crucial enzymatic activities. The oxides also contribute to the formation of ozone, which in turn exacerbates crop damage and produces particulate matter that limits the amount of sunlight available for photosynthesis.

Blowin' in the wind

They also analysed wind patterns to differentiate between pollution from coal plants and other industrial and environmental sources. This step helped the team unravel major differences in the effects of coal pollution across States.

For example, Chhattisgarh, a major hub for coal-fired power, had the highest share of NO2 pollution from coal plants: about 19% of NO2 detected in the monsoon season and 12.5% in winter came from coal plants.

Surprisingly, Uttar Pradesh had high overall NO2 levels but only a small portion of that came from coal power, while Tamil Nadu had relatively low NO2 pollution but the bulk of it came from coal power.

Coal's contribution to air pollution thus varied by region. Not all power plants have the same impact: those located near fertile farmland with a high emissions exposure caused the most agricultural damage, Singh said.

An overlooked loss

Crop damage intensity — measured as monetised loss per gigawatt-hour (GWh) of electricity generated — for wheat and rice touched up to $17,370/GWh (₹15 lakh on February 6, 2025) and $13,420/GWh (₹11.7 lakh) respectively.

About 20% of coal-fired electricity generation during the monsoon season accounted for half of all coal NO2-related rice losses while 12% of total winter season generation was linked to 50% of wheat losses.

This suggested that targeting a relatively small subset of highly polluting power stations could still have significant benefits for agricultural productivity.

To wit, as per the study, the yield of 5.7% of cropland in West Bengal near coal-fired power stations could increase 5-10% while the gains of 1.66% could exceed 10%.

Similarly in Madhya Pradesh, the yield in 5.9% of cropland could increase 5-10% yield gains and another 11.9% could gain by more than 10%.

To compare, the annual yield growth for kharif rice and rabi wheat has averaged just 1.7% and 1.5% respectively between 2011 to 2020.

According to the study, India's rice production could gain $420 million a year and wheat $400 million a year, roughly ₹7,000 crore in total.

India and coal

As the 2025-2026 Economic Survey as well as energy experts have noted, coal power plays a crucial role in India's growth at the moment. The 2025-2026 Union Budget has allocated 255% more for the Ministry of Coal over revised estimates of FY 2024-2025.

India's demand for food is soaring as well. In 2024, the Global Hunger Index ranked India 105th out of 127 countries on food security. Rice and wheat are staple crops in India and in many parts of the world to which these grains are exported.

Singh said he hopes to inform policy reforms that will allow the coal and agricultural sectors to meet in the middle. "When you're crafting policy around controlling pollution from the power sector, considering crop impacts alongside health and greenhouse gas emissions can help policymakers prioritise where that pollution control equipment should be installed," he said.

"If you want to optimise the money that is being invested in installing all of this pollution-control equipment, you want to focus on power plants where it would bring the most benefit. Policymakers might find information in our research that could be helpful in terms of figuring out which power stations to prioritise," he added.

Singh grew up in New Delhi and said its poor air quality motivated him to study the consequences of air pollution on human as well as crop health.

He is planning to further study how coal power plants affect agriculture at large in India, including the effects of other pollutants on crop productivity.

WHY ARE PILOTS ASKING FOR MORE REST HOURS?

The story so far:

After at least a year-long tussle over the new relaxed duty norms for pilots brought out by the Directorate General of Civil Aviation (DGCA), the Delhi High Court on February 24, ruled that a vast chunk of these rules would come into effect from July 1, 2025. This brings to a close a six-year battle in Delhi High Court waged by pilot unions against the punitive provisions of the DGCA's 2019 norms that raised permissible night flying from one night to two consecutive nights, slashed rest periods including for ultra-long range flights, and allowed airlines special dispensation for utilising pilots during unforeseen circumstances such as inclement weather or emergencies.

What did the High Court rule?

The Delhi High Court ruled that a vast chunk of the liberalised duty and rest norms for pilots that were unveiled in January 2024, but put under abeyance after opposition from airlines, would come into effect from July 1, 2025. These include provisions such as increased weekly rest from 36 hours to 48 hours. Airlines would also be required to submit quarterly reports of fatigue complaints filed by pilots as well as subsequent action taken by airlines to the DCGA.

Some of the more contentious provisions have been postponed for implementation on or before November 1. This includes the new definition of night duty — 00:00 hrs to 05:00 hours being widened to 06:00 hours — which would bring down the quantum of night flying as pilots can't be rostered for more than two consecutive nights of flying. The number of landings for flights encroaching night duty will be capped to two; while on night duty pilots can also not be assigned more than eight hours of flying duty or 10 hours of total duty that encompasses pre and post flight tasks. The special dispensation given to airlines in the event of unforeseen circumstances has been tightened where the additional duration for which pilots can be utilised has been brought down from three hours to two hours, and their rest in such events has been raised.

Pilots were forced to go to Delhi High Court in May 2024, after the DGCA put its own January 2024 rules on hold because of stiff opposition from airlines. Several airlines had told the DGCA that provisioning for more rest and reduced flying would require them to hire more pilots which would need time, in the absence of which there could be flight cancellations and increase in airfare.

The volte face from the DGCA though came after it had admonished airlines for engaging in scaremongering and pressed for an urgent "wake-up call" as there had been incidents of pilot deaths "ostensibly due to punishing rosters". On August 17, 2023, IndiGo's Captain Manoj Balasubramani died due to a cardiac arrest at the boarding gate of Nagpur airport minutes before his flight to Pune.

Why are there demands for rest?

Following the resurgence in travel post COVID-19, pilots say their share of daily flying has increased considerably, which includes upto four landings in a day that entail a flying duty of upto 10 hours and total duty period of 12-13 hours. As approaches and landings demand a higher level of concentration and complex decision-making, more flights mean a substantial increase in workload.

Since a change in DGCA's rules in 2019, airlines are also allowed to deploy pilots on two consecutive nights of flying, which is one of the most staunchly opposed provisions because it requires pilots to stay awake against their natural body clock, with the window of circadian low, between 2am and 6am, being the toughest. When these night flights are combined with 3-4 landings per day involving a duty period of 10 to 13 hours, pilots are often at their tether's end. With low-cost carriers massively increasing their short-haul international flying over the past decade, there has been a spurt in night flying. Over the years, this has become more hectic with airlines removing hotel rest at the destination, and requiring pilots to operate the return leg to improve cost and manpower efficiency. Pilots are known to overshoot their mandatory duty hours on routes in the Gulf such as to Bahrain and Jeddah.

While pilots typically fly between 50 to 90 hours in a month, their monthly duty period that include pre and post flight tasks could be upto 140-150 hours. While this may seem like a much lighter schedule than the average 200 hours a month for anyone working a 9-5 job, there are many factors that need to be considered. For instance, the legal entitlement of weekly rest within 168 hours provided by the DGCA implies that pilots get their weekly off only on the eighth day. There are no public or government holidays and only six casual leaves, 12 sick leaves and 30 privilege leaves (Air India) which have to be applied for a year in advance. IndiGo provides 42 PLs to pilots in command, and 22 to First Officers. This may also be due to the nature of the business that requires rostering and commercial teams to ensure sanctity of flight schedules which have been sold to passengers.

Then there is the cockpit environment that makes flying fatiguing. These include factors such as movement restriction, poor air flow, low light levels, background noise, and vibration as well as multiple cycles of changes in oxygen pressurisation requiring one's body to constantly adjust to rapid shifts resulting in fatigue. Automation has replaced hands-on flyingin the cockpit, making greater demands on the crew to perform vigilant monitoring which is tiring.

Erratic or unstable rosters in some airlines are widely infamous for disturbing how pilots plan their rest. For example, a 10am reporting time could be rescheduled to 4pm duty time that concludes at 2am allowing one little window for rejigging their pre-flight rest after waking up at 6am or 7am. Alternating night and day shifts, unlike a fixed night or duty shift for a specific number of days, where the human body's natural circadian rhythm struggles to adjust to disruptions, does take its toll.

While the DGCA norms are broadly based on those framed by the U.S. and European aviation regulators, the Federation Aviation Administration and European Union Aviation Safety Agency,

pilot unions underline that these are only prescriptive outer limits that are further negotiated by various airline unions, whereas cockpit crew in India have no such negotiating power as their unions are not recognised by airlines, who enforce only the upper thresholds laid down by the DGCA.

The impact of the exacting rosters is such that pilots are known to sleep inside the cockpit for 1.5 to 2.5 hours even on domestic and short-haul international flights of upto five hours

Add to these, the revised contract implemented by Air India and Air India Express since 2023, where pilots get a fixed pay equivalent to 40-hours of flying, down from 70-hours earlier, further pushing pilots to fly more to earn more.

What do the airlines say?

"Air India is committed to the safety and wellbeing of its crew members and has been implementing robust fatigue management protocols. Fatigue Management is a key area of our operation, and we follow a comprehensive Fatigue Risk Management (FRM) process to assess any such report. This involves engaging the bio-mathematical fatigue tool (Jeppesen Boeing Alertness Model -BAM) for risk analysis and a dedicated review committee — Fatigue Safety Action Group (F-SAG) — besides, sustained monitoring by the regulator," the airline spokesperson told The Hindu. They added that they also have a non-punitive, confidential nature of fatigue reporting system for proactive and transparent feedback from the pilots. There was no response from IndiGo on its fatigue management practices.

Air India has over 3,500 pilots, which it said was more than adequate for the existing fleet and the "current" DGCA norms on pilot rest and duty times.

While there is a surge in travel demand, allowing airlines to raise airfares and witness record profits, they are also faced with the need to closely watch their costs as airport tariffs have gone up post-pandemic and an acute shortage of new aircraft due to supply-chain challenges has pushed the cost of the few available on lease by 20-30% higher than in 2019. Profit margins in airline business are slim, andaccording to the International Air Transport Association (IATA), net profits are expected to be $36.6 billion in 2025 with a 3.6% net profit margin which translates into average net profit per passenger being $7.0. Flight crew salaries and expenses account for the third biggest cost for airlines globally at 8.7% of the total cost.

There were 11,775 pilots employed across airlines in the country as of November 2024, with a fleet size of nearly 800 aircraft. As the world's fastest growing aviation market, which has 1,000 aircraft on order between Air India and IndiGo alone set to be delivered by 2035, the demand for more pilots is expected to continue to grow and so will efforts to optimise their utilisation.

LIFE & SCIENCE

WHAT TO KNOW ABOUT NASA'S NEW SPACE TELESCOPE

National Aeronautics and Space Administration (NASA) is tentatively scheduled to launch its new megaphone-shaped space telescope on Friday (February 28) aboard a SpaceX Falcon 9 rocket from Vandenberg Space Force Base in California.

• During its short two-year mission, the observatory will help better understand things about the formation of the universe, the growth of all galaxies across cosmic history, and the location of water and life-forming molecules in the Milky Way galaxy.

• SPHEREx will map the universe while detecting two kinds of cosmic light, optical and infrared. While the human eye can see optical light, infrared light is invisible to it. That is an issue when it comes to studying the cosmos as it is the infrared light that contains information about the farthest reaches of space, the stars being born, and the details of galactic structures.

Do You Know:

• One of the primary aims of SPHEREx will be to measure something called cosmic inflation. It refers to a period which took place around 14 billion years ago, during which the universe expanded faster than the speed of light for a fraction of a second. Scientists suggest that inflation explains many aspects of the universe such as its flatness, or lack of curvature, on the largest scales.

• SPHEREx will identify water- and life-forming molecules, also known as biogenic molecules (such as carbon, hydrogen, and oxygen), in the Milky Way galaxy, where the Earth is located.

FIRST DETAILED MAP OF MOON'S SOUTH POLE MADE FROM CHANDRAYAAN DATA

Astronomers are excited to be poring over the first ever detailed geological map of the moon's south polar region, where India's Chandrayaan-3 lunar module, Vikram, touched down on August 23, 2023.

The map is expected to throw new light on the moon's origin and evolution.

Researchers from the Physical Research Laboratory (PRL) in Ahmedabad, Panjab University in Chandigarh, and the Laboratory for Electro-Optics Systems, Indian Space Research Organisation, Bengaluru, created the map using data from the rover Pragyan, which was deployed by Vikram on a nine-day mission to analyse the chemical composition of the regolith — the loose rock fragments and dust that cover the lunar surface.

Solving the magma mystery

The cornucopia of geological information from the mission has helped scientists confirm what they always suspected: the moon harbours an underground ocean of molten rock, or primordial magma.

Data from previous missions, such as the US uncrewed Surveyor spacecraft, the crewed Apollo moonshots, and the robotic Russian Luna and Chinese Chang'e 3 probes, indicated the presence of such a sea of lava beneath the lunar surface.

But the actual extent of magma on the moon was not known since all the available data came from landing sites near the lunar equatorial and mid-latitude regions, which are far away from the poles.

Chandrayaan-3, however, was the first mission to land in a high-latitude polar region of the moon, 630 km from the south pole, and scientists considered it the best bet to solve the magma mystery. In September 2024, a team of lunar geologists from PRL announced that the Alpha Particle X-ray Spectrometer aboard the Pragyan rover had detected magma under the landing site.'

This meant the ancient ocean of molten lava extended across the entire moon.

The new map of Vikram's landing site, published in the journal Advances in Space Research on January 20, shows an undulating landscape of highlands and low, flat plains around the lander.

The researchers traced the alignment of secondary craters — dug up when debris from an impact crater lands elsewhere — and identified Schomberger to be the primary source of the debris covering the Chandrayaan-3 landing zone.

A common origin

Using the map, the scientists calculated the age of the region to be around 3.7 billion years, around the same time the first signs of microbial life emerged on earth.

In fact, earth and the moon have had similar evolutionary trajectories, as is evident in the dynamics of the earth-moon system. The inclination, or tilt, of the moon's orbit is, for example, to the earth's rotation, and both bodies are similarly aligned to the ecliptic plane of the solar system. Their terrestrial and lunar geochemistries are also complementary, with both possessing several common isotopes, pointing to their origins from the same cloud of molten material.

Astronomers believe that some 4.5 billion years ago, when the planets of the solar system were coalescing out of the rubble floating around the sun, the young earth had collided with a massive planetary rock roughly the size of Mars. The resulting debris from the collision was flung outwards explosively before it cooled over millions of years. This proto-planetary material gradually solidified into a molten sphere that was eventually captured by the earth's gravity to become the moon we see today.

In those early millennia, the infant moon must have been pummelled by asteroids and space rocks, as is evidenced by its surface, which is studded with numerous craters. The Vikram lander had touched down close to one of the oldest of these craters: the South Pole-Aitken Basin, which is also one of the largest impact craters in the Solar System.

Lunar craters are of great interest to astrogeologists, who study them to learn more about the evolution of impact craters elsewhere on the earth and on the inner planets of the solar system.

Cratering history

The airless and arid conditions on the moon render it a sterile environment in which craters can survive erosion for millennia.

In fact, lunar impact basins preserve the original records of space-rock crashes that occurred during the formation of the solar system.

Given that lunar craters are important tools for scientists to calculate the age of geological features on other planets with solid surfaces, moon maps like the new one assume greater significance.

Sadly, the lunarscape may not endure undisturbed for very long as efforts to colonise the moon get under way.

Littering the regolith

After the erstwhile Soviet Union's Luna 2 lander became the first probe to 'land' (it was intentionally crash-landed) on the moon way back in 1959, scores of robotic and crewed spacecraft from the U.S., China, India, Israel, Japan, and the European Space Agency have reached the moon's surface. These missions have also left spacecraft components and other waste items behind, littering the regolith.

It is largely unknown how the landers, rovers, and the dozen U.S. astronauts may have disturbed the regolith, which sustains the thin lunar atmosphere. The moon's exosphere was formed when space rocks and the solar wind, the stream of charged particles flowing outwards from the sun, kicked up the powdery dust from the lunar surface.

Scientists also worry about the contamination of lunar ice reserves by exhaust fumes from lunar landers. When a spacecraft touches down on the moon, the water vapour released from its engines spreads across the lunar surface and ends up freezing at the poles. This leads to inaccurate readings for scientists who are studying the presence and the distribution of lunar water ice. These concerns are bound to increase as more and more missions head for the moon and mining for lunar resources eventually becomes a reality.

HOW DOES SPACE TRAVEL AFFECT HEALTH OF AN ASTRONAUT?

The human body was not built for spaceflight, with its microgravity conditions, exposure to high-energy radiation, and other issues. As a result, trekking beyond the earth's confines causes many physiological changes that affect an astronaut's health.

Space travel exposes people to an environment different from the earth's, posing a range of physiological and psychological challenges, especially with prolonged exposure, according to Afshin Beheshti, director of the Centre for Space Biomedicine at the University of Pittsburgh.

As researchers seek new countermeasures to protect space travellers, more data is needed on astronauts with varying health backgrounds and undertaking different kinds of missions in order to map out personalised risk profiles and mitigation strategies, Chris Mason, a professor of physiology and biophysics at Weill Cornell Medicine in New York, said.

Unlike on the earth, where the atmosphere and planetary magnetic field provide a shield from space radiation, astronauts are exposed to high-energy radiation permeating the cosmos. This can lead to DNA damage, increased cancer risk, neurodegenerative effects and immune system dysregulation.

The earth's magnetosphere provides some protection for astronauts in missions in low-earth orbit. But astronauts traveling beyond that, such as on missions to the moon, would experience much higher radiation doses.

Gravity plays a critical role in regulating bodily functions. Without gravity, bodily fluids shift upward, increasing intracranial pressure that can affect vision. The lack of mechanical loading on

bones and muscles associated also leads to bone density loss and muscle atrophy. The cardiovascular system also changes, struggling to regulate blood pressure upon return. Prolonged exposure to microgravity conditions also affects the inner ear's ability to sense movement and orientation, leading to balance and coordination issues.

Long-duration space missions require astronauts to live in confined and isolated environments with limited social interaction and exposure to natural stimuli. This, Beheshti said, can lead to psychological stress, sleep disturbances, and mood disorders.

How astronauts recover after returning to the earth depends mostly on mission duration. For short-duration missions of a few days in low-earth orbit, about 95% of biological damage sustained appears to be reversed.

For astronauts who spend months aboard the International Space Station, recovery appears proportional to their time in space. Many physiological systems gradually return to normal. But some issues persist. For example, spaceflight-associated neuro-ocular syndrome has been linked to impaired vision due to microgravity-induced fluid shifts and changes in intracranial pressure affecting the eyes.

LEAPING THROUGH TIME

Q: While leap years get an extra day, why are century years left out unless divisible by 400?

A: A tropical year is the time (365.242199 days) the earth takes to revolve around the sun once. By having just 365 days in a calendar year, 0.242199 days are lost each year. To correct this error, Julius Caesar introduced a four-year cycle. The first three years had 365 days each and the fourth year had 366 days.

This correction was later found to be an overestimation of the year by 11 minutes and 14 seconds, amounting to 5.1204 days in 400 years. A course correction was brought about: to drop three days in 400 years. As a result, century years are not leap years unless divisible by 400.

Time measurements and calendars have often been refined over the years. The one followed now is the Gregorian calendar, named after Pope Gregory XIII of the 16th century. The pope promulgated an order in 1582 that only century years divisible by 400 would be leap years whereas 1700, 1800, 1900, 2100, etc. even though divisible by 4 would be normal years with just 365 days.

Accurate atomic clocks have recently detected a slowing down of the earth due to the moon's drag, by about 0.06 microseconds per year. It is not easy to account for such changes even though they affect our calculations of the date and time of the equinoxes. Nonetheless, the present system is working satisfactorily.

WHY MICROSOFT'S CLAIMS OF QUANTUM COMPUTING BREAKTHROUGH MATTER

Microsoft last week claimed a breakthrough in quantum computing, an eagerly-awaited technology much like artificial intelligence (AI), that holds the promise of performing tasks beyond the capabilities of current technologies.

• Essentially, Microsoft has claimed to have found a novel way to create qubits (short for quantum bits), the basic unit of data that is stored and processed in a quantum computer. The company has

also claimed that this novel way produces qubits that are more stable than those produced by existing methods.

• The claim, if it stands, could become a major milestone not just in quantum computing, but also in physics. That is because the process of creating these qubits involves working with a physical state that is long known to be theoretically possible but has never been attained. This is the reason why there has been a little scepticism around this announcement as of now.

• There are several ways in which quantum computers are being designed. One of the major differences is how qubits are created and controlled. Microsoft has said the qubits created through its novel process are more resilient, and make significant advances over alternative platforms in terms of scalability, error generation and error correction. It has also said this opens up the pathway for creating a million-qubit system within a few years.

Do You Know:

• Quantum computers are not just the next generation of superfast computers. These are very different in the way they work, the way they handle and process information, and even in the way they look. They are designed to utilise the very special properties that tiny particles, smaller than an atom, exhibit.

• One such property is superposition, or the ability of a quantum particle to exist in multiple states at the same time. This property is used in a quantum computer to supercharge calculations in a way that traditional computers are incapable of doing. In traditional computers, data are stored and processed through billions of small transistors that can each handle only one bit of information (0 or 1) at a time. Quantum computers use electrons or other similar particles to process data. Superposition allows these particles, or qubits, to be in both 0 and 1 state at the same time. In fact, they can exist in every combination of 0 and 1 simultaneously.

• Interaction with other qubits allows for a kind of parallel processing that is not possible in a normal computer where data processing happens one step at a time, even though at lightning speeds.

• However, quantum computing faces big challenges. The quantum behaviour of a particle collapses into normal behaviour the moment the system is observed or measured. This is because any act of measurement, or observation, is not possible without disturbing these extremely tiny systems. Any other external disturbance, such as deviations in temperature or pressure, also collapses the system. Maintaining the stability of qubits is a huge issue.

• The other challenge pertains to the integrity of the outcome. The multiple states of a qubit lead to multiple outcomes, only one of which is desirable. Getting the quantum computer to throw this correct outcome, instead of millions of other possibilities, is also a challenge.

• Quantum computers differ depending on their choice of qubit. For example, Google's Willow chip uses small circuits that mimic the properties of atoms in a quantum state. Microsoft has said its new chip uses Majorana particles, elusive subatomic entities supposed to appear in materials called topological superconductors. These particles have unusual properties that physicists believe could be used to build qubits that are less error-prone than the designs Google and IBM use.

CONDENSED MATTER: A BIG PIECE OF PHYSICS

WHAT IS IT?

Condensed matter physics is one of the largest, most active branches of contemporary physics research. Simply speaking, scientists in this field study the properties and behaviour of solid and liquid matter. Not so simply speaking, scientists here are interested in the behaviour of large collections of particles that are interacting strongly with each other. Such interactions are optional and infrequent in gases.

Because of its size and scope, condensed matter physics has numerous subcategories. For example, the branch of electronic condensed matter is concerned with how electrons behave in solids and liquids. Research on semiconductors would belong here. Likewise, magnetic condensed matter studies different kinds of magnets and magnetism. Soft matter physics studies objects that are easily deformed but not broken, like biological tissue. Nanoscience studies very small objects that can display both classical and quantum properties in the same settings (such work won the Nobel Prize for chemistry in 2023, for example). Superfluidity studies solids and liquids that flow without resistance, like the electrons in a superconductor. And so on.

Such research has already given us, among other things, modern computing, optical fibres, lasers, nanofabrication, and novel chemical reactions to synthesise new materials.

Of late, researchers have also been exploring quantum condensed matter, where quantum physics processes enable very unusual behaviour not seen in macroscopic solids and liquids. Based on what they learn, they're developing next-generation technologies like novel electronic items and quantum computers.

AI HAS AN ENVIRONMENTAL PROBLEM

AI has become an indispensable part of our lives, transforming how we work, live, and do business. Broadly defined, AI encompasses technologies that simulate human thinking and decision-making. While basic forms of AI have existed since the 1950s, the field has advanced rapidly in recent years, driven by improvements in computing power and the exponential surge in data availability. With the global AI market valued at $200 billion and projected to contribute up to $15.7 trillion to the global economy by 2030, AI adoption and its recognition as a driver of economic value have reached unprecedented levels. In the U.S., the announcement of the Stargate Project, involving more than $500 billion in AI infrastructure investments over four years, is testament to this. In India, Reliance Industries is planning to build the world's largest data centre in Jamnagar, in partnership with Nvidia. India has also announced plans to build its own LLM (large language model) to compete with DeepSeek and ChatGPT. However, as governments race to tap AI's economic potential, it is crucial to acknowledge that its rapid rise brings not only opportunities but also risks, particularly environmental costs.

Impact across stages

The environmental impact of AI arises across several stages of its value chain, including energy consumption from infrastructure, computing hardware production, cloud data centre operations, AI model training, inferencing, validation, and related processes. In terms of hardware, data centres, the backbone of AI operations, contribute 1% of global greenhouse gas emissions, according to the International Energy Agency (IEA). This figure is expected to rise significantly as

electricity demand from data centres is projected to double by 2026. Generative AI models like ChatGPT, which rely on sophisticated machine learning (ML) techniques, require 10–100 times more computing power than earlier versions, further driving demand for graphic processing units and worsening the environmental footprint. Moreover, the rapid expansion of data centres is also fuelling a growing e-waste crisis.

AI's software life cycle emissions arise from processes like data collection, model development, training, validation, maintenance and retirement, and are equally concerning. Training advanced AI models, such as GPT-3, can emit up to 552 tonnes of carbon dioxide equivalent — comparable to the annual emissions of dozens of cars. To mitigate these environmental risks, governments and the private sector must proactively work towards embedding sustainability into AI ecosystem design.

Global conversations on this issue have been gaining momentum. At COP29, the International Telecommunication Union emphasised the urgent need for greener AI practices. Such commitments demand that businesses also align their processes with sustainability targets. Over 190 countries have adopted non-binding ethical AI recommendations addressing the environment, and regions such as the European Union and the U.S. have introduced laws to curb AI's environmental impact. However, such policies are scarce. While governments across the globe are crafting national AI strategies, they often overlook sustainability, particularly the private sector's role in reducing emissions.

The way forward

To balance innovation and environmental responsibility, action is needed across the AI value chain. Investing in clean energy is a key step in achieving net-zero emissions. Companies can achieve this by transitioning to renewable energy sources and purchasing carbon credits. Locating data centres in areas with abundant supply of renewable resources can also reduce strain on existing resources and help lower the carbon footprint. AI can also help optimise energy grids, particularly by integrating renewable energy sources. For instance, Google's DeepMind has leveraged ML to improve wind energy forecasting, enabling more accurate wind pattern predictions and facilitating better integration of wind power into the grid.

Using energy-efficient hardware and ensuring regular maintenance can also significantly minimise emissions. Equally important is the development of efficient AI models. Smaller, domain-specific models that are tailored to their applications can deliver the same outputs with less processing power, reducing demand on infrastructure and resources. A study by Google and the University of California, Berkeley, has found that the carbon footprint of LLMs can be minimised by a factor of 100 to 1,000 through optimised algorithms, specialised hardware, and energy-efficient cloud data centres. Further, instead of collecting new data or training models from scratch, businesses can adapt pre-trained models to new tasks.

Lastly but most importantly, transparency is essential in driving sustainability efforts. Measuring and disclosing the environmental impact of AI systems will help organisations understand their life cycle emissions and address the negative externalities of their operations. Establishing standardised frameworks for tracking and comparing emissions across the industry will ensure consistency and accountability.

Sustainability needs to be incorporated into the very design of the AI ecosystem, in order to ensure its long-term growth and viability. By balancing environmental responsibility with innovation, we can harness AI's transformative potential without compromising the Earth's future.

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Telegram: http://t.me/DreamIAS_Jamshedpur

MONEY TOPS AGENDA AS BIODIVERSITY TALKS RESUME IN ROME

An annual United Nations conference on biodiversity that ran out of time last year will resume its work in Rome on Tuesday with money at the top of the agenda. That is, how to spend what's been pledged so far — and how to raise a lot more to help preserve plant and animal life on earth.

The COP-16 held in Colombia in November yielded some significant outcomes before they broke up.

"They eventually lost a quorum because people simply went home," said Linda Krueger of The Nature Conservancy, who is in Rome for the two days of talks "and so now we're having to finish these last critical decisions, which are some of the the nitty gritty decisions on financing, on resource mobilisation and on the planning and monitoring and reporting requirements under the Global Biodiversity Framework."

The overall financial aim was at achieving $20 billion a year in the fund by 2025, and then $30 billion by 2030. So far, only $383 million had been pledged as of November, from 12 participants, including countries like Germany, France and the U.K. Participants will discuss establishing a "global financing instrument for biodiversity" intended to effectively distribute the money raised. And a big part of the talks will be about raising more money.

Oscar Soria, chief executive of The Common Initiative, a think tank specialising in global economic and environmental policy, was pessimistic about raising a great deal more money. "We are completely off track in terms of achieving that money," Mr. Soria said. Key sources of biodiversity finance are shrinking or disappearing, he said.

TRUMP'S MAKING CLIMATE CHANGE BATTLE HARDER. BUT THE FIGHT ISN'T OVER

Scientists from more than 190 countries are meeting in Hangzhou, China, this week as a part of the process of drafting the Intergovernmental Panel on Climate Change's (IPCC) Seventh Assessment Report. Absent from the conference are experts from the US, including NASA chief scientist Katherine Calvin, who was slated to chair one of the main sessions. The delegates' participation was reportedly vetoed by the Trump administration. The Seventh Assessment Report is due only in 2029. However, the UN body that evaluates the science behind climate change often staggers the release of its findings. There was hope, therefore, that some of its findings would be published before 2028 when the UNFCCC conducts its next Global Climate Stocktake — the assessment of the collective progress made towards achieving the goals of the Paris Agreement. The US withdrawal could jeopardise the chances of the IPCC's inputs informing the stock take.

The US has not yet clarified whether it is withdrawing from the IPCC. However, by pulling out experts from the Hangzhou meet, the Trump administration made apparent its hostility to the UN body. Trump has also ordered federal scientists at the National Oceanic and Atmospheric Administration (NOAA) and the US Global Change Programme to stop work on IPCC projects. There are fears that these moves could be a precursor to cutting off US funds to the agency. The apprehensions are not unfounded given that the IPCC was starved of American financial support during Trump's first stint at the White House. The Joe Biden administration, in contrast, provided close to a quarter of the agency's funding. Fetters have now been put on the technical team assembled by the former US president to assist American experts on the IPCC panel. The agency does work with scientists who are not nominated by their governments. During Trump's last term,

for instance, US scientists continued to contribute to the IPCC's work even though the US kept a low-profile presence at IPCC meetings. However, the quality of the UN body's work could take a hit without inputs from agencies such as NASA and NOAA and experts like Calvin, who was to co-chair its working group on global warming mitigation. NASA has already terminated its contract with a US-based group of scientists who were working with Calvin to coordinate global efforts to craft the Seventh Assessment.

That said, the first Trump administration's disengagement with the IPCC did not derail the agency. A large part of the work on the Sixth Assessment Report was conducted during that challenging period, enabled to a great extent by support from countries and institutions outside the US. The Hangzhou meeting could be a precursor for putting in place procedures to fill the void created by the US's absence.

MELTING GLACIERS CAUSED 2 CM SEA LEVEL RISE THIS CENTURY: THE LIKELY IMPACT

Melting ice from glaciers worldwide has led to the sea level rising by almost 2 cm this century alone, a newly-published study has found.

• Glaciers have been losing 273 billion tonnes of ice each year — equivalent to how much water Earth's entire population would consume over a period of 30 years — for the last 25 years, the study reported.

• While the 2 cm sea level rise may seem insignificant, it can have disastrous consequences for the world. Andrew Shepherd, head of the Department of Geography and Environmental Science at the UK's Northumbria University told The Guardian: "Every centimetre of sea level rise exposes another 2 million people to annual flooding somewhere on our planet."

• The research paper titled 'Community estimate of global glacier mass changes from 2000 to 2023', was published in the journal Nature on February 19. It was carried out by scientists from the University of Edinburgh (Scotland) and the University of Zurich (Switzerland).

Do You Know:

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

—FIRST is the global warming-driven melting of glaciers (accumulation of ice and snow that slowly flows over land) and ice sheets (glaciers which cover more than 50,000 square km of land). According to the latest study, since 2000, glaciers have lost between 2% and 39% of their ice regionally, and about 5% globally. This is roughly 18% more than the two existing ice sheets — in Greenland and the Antarctic — have lost in the same time period.

—SECOND is the thermal expansion of seawater, a process by which water expands as it warms up. With global temperatures rising, oceans are becoming warmer, and as a result, the volume of water is increasing as well. Thermal expansion of seawater is responsible for one-third to half of global sea level rise, according to the National Aeronautics and Space Administration (NASA).

HOW GLACIER ICE ALGAE ACCELERATE GREENLAND ICE SHEET MELTING

A new study reveals that dark-pigmented microalgae, which contribute to the melting of the Greenland ice sheet, are highly efficient at nutrient uptake and growth, allowing them to rapidly

colonise expanding areas of exposed ice. The findings suggest that these algae can persist and spread without the need for additional nutrient inputs, intensifying ice sheet darkening and accelerating melt rates. The results were published in the journalNature Communications.

They utilised cutting-edge single-cell imaging techniques to examine the carbon, nitrogen, and phosphorus content of glacier ice algae. By measuring their nutrient assimilation rates, the study found that these algae store phosphorus internally and maintain exceptionally high carbon-to-nutrient ratios, indicating a survival strategy finely tuned to nutrient-poor glacier environments.

'Crucial insights'

"Our study provides crucial insights into how glacier ice algae sustain themselves in such extreme conditions," Dr James Bradley from the Queen Mary University of London and a co-author of the paper said in a release. "They don't require large amounts of external nutrients to grow, which means that as the ice sheet continues to melt and expose more bare ice, these algae are well-positioned to expand their coverage. This is particularly concerning because their dark pigmentation lowers the ice's reflectivity, increasing heat absorption and accelerating melting and therefore sea-level rise."

The melting of the Greenland Ice Sheet is the single largest contributor of freshwater to global sea-level rise. Previous research has shown that algal blooms on the ice sheet's western margin can enhance melt rates by 10 to 13%. However, the factors controlling algal growth have remained unclear. This new study highlights how these resilient microorganisms can optimise their nutrient intake, ensuring their survival and expansion despite the nutrient-poor conditions of the ice sheet.

By revealing the self-sufficiency of these algae, the study underscores the urgent need to incorporate biological processes into climate models predicting ice sheet melt.

LEAVING A LASTING IMPRESSION: HOW YOUR BODY RESPONDS TO PERMANENTINK

Tattoos have long been a form of self-expression, cultural identity, and art. Beyond aesthetics, however, the process of tattooing involves a complex interaction between ink, skin, and the body's immune system. As the popularity of tattoos continues to rise, so do concerns about their long-term effects on skin health and overall well-being.

The process of tattooing

Tattooing is the process of embedding ink into the dermis, the second layer of the skin, using a needle that punctures the epidermis at a high frequency. The tattoo machine, equipped with a group of needles, moves rapidly to deposit ink particles under the skin. Unlike surface-level ink applications, such as henna, tattoo ink becomes permanent as the immune system encases the ink particles in fibroblast cells (cells that help form connective tissue), preventing them from dispersing. Diya Shaji, a professional tattoo artist from Bangalore, explains that a professional tattoo machine moves the needle anywhere between 50 to 3,000 times per minute. The ink is deposited about 1.5 to 2 millimetres deep, which ensures its permanence, as it sits in a stable layer of the skin.

Tattoo ink composition varies, with pigments derived from carbon, heavy metals, and synthetic dyes. The human body recognises tattoo ink as a foreign substance, triggering an immune response. Macrophages attempt to remove the ink particles, which is why some fading occurs over time. However, since ink particles are too large, they become trapped in the skin.

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The body's response

Nicolas Kluger, assistant professor of dermatology at Helsinki University Hospital, Finland, and a leading global expert in tattooing, explains that the body's response to tattoo ink is both immediate and long-term. As soon as the tattoo machine needle breaks the skin, capillaries react with an inflammatory response. The skin becomes red, sensitive, and raised, and this reaction can last from a few hours to a couple of days. Over time, macrophages try to remove the pigment, but not all of the ink is eliminated. Instead, it becomes entrapped in the macrophages, fibroblast cells, or remains between the collagen. While studies have not proven any direct association between tattoos and cancer, concerns remain about ink composition. Dr. Kluger points out that recognised safe manufacturers exist, but some inks contain carcinogenic heavy metals, making selection crucial.

Complications can also arise post a tattooing session. Healing problems, local infections, and bacterial or viral issues such as staphylococcus or even hepatitis can occur if sterilisation protocols are not strictly followed. Allergic reactions are another concern. Dr. Kluger says these reactions can manifest as painful, swollen lumps appearing in red, pink, or violet shades. Black ink reactions, on the other hand, are more likely to be granulomatous and could indicate underlying sarcoidosis (a disorder where the immune system overreacts and causes inflammation in various organs). Individuals with pre-existing skin conditions like psoriasis, vitiligo, or lichen planus must be cautious, as getting a tattoo when such diseases are active can trigger flare-ups, he says.

Safety regulations

Tattoo safety regulations vary worldwide. The European Union recently banned certain hazardous ink components, while the United States' Food and Drug Administration (FDA) monitors tattoo pigments. In India, tattoo regulations with regard to hygiene and safety protocols remain lax, and ink quality control is not standardised, leading to practices varying widely among tattoo parlours, increasing the risk of infections and other complications. Dr. Kluger advises that prospective clients should ensure their tattoo artist uses certified, high-quality ink and follows strict hygiene protocols.

Ms. Shaji emphasises professional ethics in the industry, noting that good tattoo artists prioritise safety through single-use needles, sterile gloves, and high-quality ink. She explains that an experienced artist not only ensures the hygiene and safety but also advises clients on tattoo placement, aftercare, and longevity. "Tattoos are a lifelong commitment, and choosing the right design and placement is crucial," she says.

Advances in technology

Researchers are developing biodegradable tattoo inks that fade over time. Additionally, laser removal techniques are becoming more effective, offering hope for those seeking to erase their ink. Being aware of, and understanding the science behind tattooing allows individuals to make informed choices about body modifications.

DREAM RECALL

What makes us remember our dreams?

A new study has explored the factors that influence 'dream recall' — the ability to remember dreams upon awakening — and uncovers which individual traits and sleep patterns shape this

phenomenon. The study revealed that people with a positive attitude toward dreams and a tendency for mind-wandering were more likely to recall their dreams. Individuals who experienced longer periods of light sleep had a greater likelihood of waking with a memory of their dreams. Younger participants showed higher rates of dream recall, while older individuals often experienced 'white dreams' (a sensation of having dreamt without recalling any details). This suggests age-related changes in memory processes during sleep. Moreover, seasonal variations emerged, with participants reporting lower dream recall during winter compared to spring, hinting at the potential influence of environmental or circadian factors. Thus dream recall is a reflection of how personal attitudes, cognitive traits, and sleep dynamics interact.

RESEARCHERS SPOT A CLUE AS TO WHY HUMAN AND MOUSE GENOMES OVERLAP

Eighty million years ago humans, rats, and mice shared the same mammalian ancestor.

More recently, researchers made the astonishing discovery that even today our genomes contain close to 500 segments that have remained totally unchanged since then. These segments are called ultra-conserved elements (UCEs). Nearly all the UCEs are also highly unchanged in the chicken and dog genomes, and many are significantly conserved in fish, too.

What biological constraint maintained the UCEs intact in so many different genomes for these tens of millions of years?

For a long time scientists had no idea — so much so that our ignorance was considered profound.

But a team made a breakthrough this year. Researchers led by David J. Elliott of Newcastle University in the UK reported in EMBO Journal that a UCE in a mouse gene has an important role in limiting the production of the protein encoded by this gene.

Using genetic engineering, they deleted this gene in mouse testes, and found that these mice over-produced the corresponding protein in their testes. The overproduction resulted in death of the sperm-producing cells and the mice becoming infertile.

This result suggested that if the UCE underwent any change that interfered with its role in limiting that protein's levels, it would result in loss of sperm production. Thus the altered UCE would not be transmitted to the next generation, accounting for the maintenance of the UCE across species.

From gene to protein

The DNA is a double-helix molecule. Each helix is a string of four bases. The double helix is held together because a base on one strand bonds with a base on the other. Each bond represents a base-pair. A gene is a relatively short stretch of the DNA molecule, typically only a few thousand base-pairs long.

When a gene is 'expressed', the cell copies its sequence of bases into a messenger RNA (mRNA) and loads it onto a cellular machine called the ribosome. There its base sequence specifies the sequence amino acids should be stitched together to make the protein encoded by the gene. The mRNA also has any one of three short sequences of bases called stop codons. When the ribosome encounters a stop codon, it stops adding more amino acids and releases the newly synthesised protein.

Our genome contains 20,000 genes that code for proteins and another 20,000 used to make RNA that influence the expression of other genes.

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Telegram: http://t.me/DreamIAS_Jamshedpur

(Some DNA sequences, called promoters and enhancers, bind to regulatory proteins which specify when and where other genes are copied into mRNA. These too are called genes because changes in their sequence can have visible effects on the organism.)

COULD AFRICAN GIANT POUCHED RATS OFFER A SOLUTION TO THE CHALLENGES OF TB DIAGNOSIS?

Tuberculosis (TB) remains one of the deadliest diseases worldwide, causing over 10 million new infections each year globally. It is estimated that around 28% of the world's new TB cases occur in India. An estimated 5 lakh deaths occur due to TB each year in the country, which is about one TB death every minute. Despite significant medical advancements, detecting TB remains a major challenge, particularly in remote and underserved populations.

The government's National TB Elimination Programme (NTEP) aimed to eradicate TB in India by 2025, five years ahead of the global target of 2030, but the chances of this are looking bleak. Despite the India TB Report 2024 revealing a 16% decrease in the incidence of TB and an 18% decrease in TB-related death since 2015, elimination remains a challenge.

Traditional diagnostics frequently fail to detect TB in its early stages, particularly in children and people with low bacillary loads (M. tuberculosis concentration present in a sputum sample). This means that many cases may go undetected, contributing to the disease's spread. Many people are also unwilling to seek a second diagnosis if the first test result was negative, and often, are only diagnosed at late stages. Slow and insufficient diagnostic facilities are another issue: residents of rural and remote areas have to travel long distances to get tested. While the government has made TB treatment free, travel is often a big cost. This is where perhaps, innovative approaches could make a significant difference.

African giant pouched rats

One such initiative is of APOPO, a non-profit organisation, headquartered in Tanzania, that trains African giant pouched rats (nicknamed HeroRATS), to detect TB in sputum samples. "These rats have an outstanding ability to sniff diseases due to their sensitive olfactory receptors," says Tefera Agizew, head of tuberculosis at APOPO. The rats, he says, demonstrate remarkable accuracy, particularly in detecting cases that traditional methods often miss, serving as a secondary diagnostic tool. Their ability to identify TB quickly and accurately helps improve early diagnosis and curtail transmission particularly in areas with limited resources. The rats, says Dr. Agizew have successfully transformed TB diagnosis in three countries: Tanzania, Mozambique and Ethiopia.

The rats, bred and nurtured in a facility, undergo a rigorous training process, beginning at just two to three months old, lasting up to nine months. They are exposed to sputum samples, and when they successfully identify TB-positive samples, researchers signal their success with a clicking sound, followed by a reward of a smoothie. This positive reinforcement helps hone their skills. Remarkably, 100 samples can be tested in just 20 minutes, a process typically taking a technician three to four days using conventional sputum-smear microscopy.

The rat's food habits are otherwise controlled. They are fed during and after testing. Each morning, APOPO staff collect test samples from directly observed therapy (DOT) facilities for reassessment. Samples are placed under 10 sniffing holes in a rectangular chamber (205 cm x 55 cm x 55 cm) and evaluated by an average of five rats daily. Trained through operant conditioning,

the rats signal a positive response by holding their nose in a scent hole for three seconds or longer. Handlers monitor and record these responses, and rat-positive samples are further analysed using Ziehl-Neelsen (ZN) microscopy and fluorescent microscopy.

A study published in BMC Infectious Diseases last April, demonstrated that these rats were able to detect increased tuberculosis cases in both children and adults in Tanzania. TB is generally difficult to detect in children, but the rats identified it at twice the rate compared to conventional testing, the study said. The study looked at 35,766 patients, of whom 5.3% (1900/35,766) were smear-positive and 94.7% (33,866/35,766) were smear or Xpert-negatives. Of those with negative results, 2,029 TB cases were detected using rats, which otherwise would have been missed, the paper said. "They could detect six times more when the bacillary load is scanty or 1+ compared to 2+ or 3+ in both children and adults," says Dr. Agizew, who was also the lead researcher of the study. Other studies on rats detecting drug-resistant TB are ongoing.

Disease detection by animals

African giant pouched rats aren't the only animals capable of detecting diseases and TB is not the only disease where animals have been used. Some animals excel where technology falls short. Dogs for instance, are widely used: they have between 125 million and 300 million olfactory receptors and a special sensory organ called the Jacobson's organ located in their nasal passage, specifically designed to detect pheromones and other chemical signals. Some research indicates that trained dogs may be able to identify Parkinson's disease.

Unlike dogs, who require extensive training, ants learn quickly and inexpensively, making them a promising alternative for cancer detection. "Insects can help us develop diagnostic tools faster," says Debajit Saha, assistant professor at Michigan State University, U.S. A French study, published in Science Direct, found that ants detected cancer cells in three days using chemical cues and a sugar reward. Their ability to distinguish cancer types highlights their potential. "Our findings suggest ants can serve as fast, feasible, and less laborious tools for detecting cancer biomarkers," says lead researcher Baptiste Piqueret of Laboratoire d'Ethologie Expérimentale et Comparée, France.

Another macrosmatic species (one with a highly developed sense of smell), honeybees possess highly sensitive olfactory antennal lobes. Debajit Saha's research shows they can detect lung cancer using synthetic biomarkers (artificial human breath that contains cancerous odours). Neural activity in the honeybee antennal lobe changes in response to cancer and non-cancerous samples, distinguishing between small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC) with 88% accuracy. Dr. Saha and his team aim to develop a diagnostic tool capable of detecting early-stage lung cancer—a disease that can currently only be detected at late stages. "The field is growing and ever-developing. Researchers are going back to mother nature and applying what we are learning from these animals," Dr. Saha says.

The Indian scenario

With India still grappling with high rates of undiagnosed TB, especially in underserved areas, could 'HeroRATS' be a solution?

Tuberculosis specialists believe this may work. "The work of 'HeroRATS' sounds fascinating and can be looked at as a secondary means of diagnosis but whether it can be implemented in India or not, only the NTEP can determine," says Dewraj Sarkar, District TB Officer, Darjeeling, West Bengal.