



# CURRENT AFFAIRS for UPSC

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DreamIAS

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## INTERNATIONAL

### DIPLOMACY WITH CHINESE CHARACTERISTICS

The posting of China's most well-known "wolf warrior" spokesperson earlier this week to a less high-profile Boundary and Ocean Affairs Department has turned the spotlight on China's diplomacy, as well as ignited a debate on whether it is undergoing a recalibration.

The original 'wolf warrior', Zhao Lijian, who worked for the Foreign Ministry in Beijing as a spokesperson, garnered a fan-following in China — with more than 7.7 million followers on China's Twitter-equivalent, Sina Weibo — and a more controversial reputation abroad through his active presence on Twitter, a website banned in China.

Mr. Zhao famously started a conspiracy theory that COVID-19 began because the U.S. military had brought the virus to Wuhan. He was also slammed by then Australian Prime Minister Scott Morrison for tweeting a mock-up image of an Australian soldier with a knife about to slit the throat of an Afghan child. Mr. Zhao was unapologetic about his often undiplomatic approach to diplomacy. But rather than receive a promotion to a high-profile posting for his endeavours, he was moved sideways — he remains of Deputy Director General rank in the Ministry, but has now essentially been sidelined, away from the limelight of the spokesperson's podium. He wasn't given, as his two predecessors were, an overseas posting with a higher profile.

Now, his reassignment, three months into Mr. Xi's third term, has expectedly triggered debate about the immediate future of China's diplomacy and raised the question whether the 'wolf warrior' days are over.

That conclusion may be premature. Although Mr. Zhao became for some the face of 'wolf warrior diplomacy' in the social media era — the name derives from a popular eponymous Chinese action film in 2015 that became emblematic of the nationalistic zeitgeist of the early Xi Jinping years — the hard edge to Chinese diplomacy, in fact, long predated Mr. Zhao's tweets. And regardless of tweaks in Chinese messaging that may follow his ouster from the Ministry's briefing room, signs are it is here to stay.

### CHINA AND BHUTAN AGREE TO 'PUSH FORWARD' BORDER TALKS

Officials from China and Bhutan on Friday, January 13, 2023 agreed to "push forward" a three-step roadmap as an expert group meeting held boundary talks in the southwestern Chinese city of Kunming.

A joint release said the two sides "had an in-depth exchange of views on implementing the MOU on the Three-Step Roadmap for Expediting the China-Bhutan Boundary Negotiations, and reached positive consensus."

Bhutan and China in October 2021 signed an agreement on a "Three-Step Roadmap For Expediting the Bhutan-China Boundary Negotiations". Bhutan's Foreign Ministry said then the MoU on the Three-Step Roadmap would "provide a fresh impetus to the Boundary Talks."

So far, 11 expert group meetings and 24 rounds of talks have been held since the process began in 1984.



Negotiations in the 24 rounds have focused broadly on two areas of dispute — Doklam and areas along the western borders of Bhutan and near the India-China-Bhutan trijunction, and the Jakarlung and Pasamlung valleys along Bhutan’s northern borders.

#### **New dimension**

However, China has recently appeared to broaden the scope of the dispute by also bringing in areas along Bhutan’s eastern borders in Sakteng wildlife sanctuary, which borders India’s State of Arunachal Pradesh. The Chinese Foreign Ministry subsequently referred to disputes in “western, middle and eastern” sections.

Some observers viewed that move as a pressure tactic to push Bhutan to accept China’s earlier reported offer of a swap of Doklam in the west, which Beijing views strategically, in exchange for Bhutan to retain its northern territories.

#### **Proximity to India**

The western areas, measuring 269 sq. km, are a particularly sensitive bone of contention given the proximity to India, especially after the 2017 stand-off between Indian and Chinese troops in Doklam. Since the stand-off, China has stepped up its military presence in the disputed plateau.

The Jakarlung and Pasamlung valleys along Bhutan’s northern borders with Tibet measure 495 sq. km.

Beijing has recently launched an infrastructure push in Tibet to build what it calls “xiaokang” (moderately prosperous) frontier villages, to establish civilian settlements in areas, including disputed ones, along the Tibet-Bhutan border.

### **BILL IN US HOUSE TO REVOKE PAKISTAN’S MAJOR NON-NATO ALLY STATUS: WHAT ARE ITS OBJECTIVES?**

A US Congressman has recently moved a Bill in the House of Representatives to revoke Pakistan’s designation as a Major Non-NATO Ally. The Bill says that for the country to keep the status, the US President must submit a certification to the Congress that Islamabad has met certain conditions.

The Bill, HR 80, was introduced by Andy Biggs, a Republican who represents the fifth Congressional district of Arizona. Before it can turn into a law with a signature from the President, the Bill has to be passed by the House and the Senate. For now, it has been sent to the House Foreign Affairs Committee.

#### **What the Bill says**

The Bill says that Pakistan should be demoted from the major non-NATO ally status till the US President can submit a certification that it has met certain conditions.

The conditions listed are: “Pakistan continues to conduct military operations that are contributing to significantly disrupting the safe haven and freedom of movement of the Haqqani Network in Pakistan; Pakistan has taken steps to demonstrate its commitment to prevent the Haqqani Network from using any Pakistani territory as a safe haven; the Government of Pakistan actively coordinates with the Government of Afghanistan to restrict the movement of militants, such as the Haqqani Network, along the Afghanistan-Pakistan border; and Pakistan has shown progress in arresting and prosecuting Haqqani Network senior leaders and mid-level operatives.”



The Haqqani network is a terrorist group whose leadership is based in Pakistan, though it operates majorly in Afghanistan. The network came into being during the Soviet occupation of Afghanistan in the 1980s and was armed and funded by the US and Pakistan to fight the Russians. After 9/11, Haqqani turned against the US. US officials have long considered the Haqqani leadership to be among the closest proxies for Pakistan's ISI.

#### **Major Non-NATO Ally status**

Designation as MNNA entitles a country to some military and economic privileges. According to the US Department of State website, "Major Non-NATO Ally (MNNA) status is a designation under US law that provides foreign partners with certain benefits in the areas of defense trade and security cooperation... While MNNA status provides military and economic privileges, it does not entail any security commitments to the designated country."

#### **Who is Andy Biggs?**

Biggs belongs to the conservative faction of the Republican Party, and was among the leaders subpoenaed by the House select committee investigating the Capitol Hill riots. Biggs was alleged to have been involved in plans to bring protestors to Washington, and for trying to persuade Arizona state officials that the 2020 election was "stolen".

Many Republicans have said that Joe Biden unseated Donald Trump in the last Presidential elections through unfair means, claims that have been debunked. Arizona was among the states the Democrats flipped in 2020.

A retired attorney, Biggs, before being elected to Congress, had served in the Arizona Legislature for 14 years. He is a former chairman of the Freedom Caucus, considered to be the most conservative, far-right caucus of the Republican

Party in the US House of Representatives, and was among the lawmakers who recently disrupted fellow Republican Kevin McCarthy's Speaker bid.

Biggs is also a member of the Republican Hindu Caucus, founded under the aegis of the Republican Hindu Coalition (RHC). The RHC, founded by industrialist Shalabh Kumar, seeks to "provide a single unified platform to build a strong, effective & respected Hindu-American voice in Washington and across the country", according to its website, and supports Trump and the Republicans. In October 2022, Trump gave a Diwali speech organised by the RHC at his Mar-a-Lago resort in Florida, where he said he would nominate Shalabh Kumar as the Ambassador to India if was elected as President again in 2024.

### **THE POLITICAL FLUX IN PAKISTAN**

With the dissolution of Punjab and the Khyber Pakhtunkhwa (KP) provincial assemblies, Pakistan's politics has entered tumultuous territory. Former Prime Minister and founder of the Pakistan Tehreek-e-Insaf (PTI) Imran Khan believes that now the PTI has a better chance to return with more seats. On the contrary, the Pakistan Muslim League (Nawaz) (PML-N) and the Pakistan Democratic Movement (PDM) have been trying to avoid holding elections immediately. They want more time to stabilise the economy and improve social conditions before asking the people to vote. However, Mr. Khan senses a public mood against the Establishment and wants to capitalise on it. The PDM would want to strengthen its case with the Establishment firmly, before making the next step. The economic situation and the social conditions following the floods remain tense



in Pakistan. All of the above, along with the lack of political consensus leaves national politics in a flux. At the same time, in the provincial level, there is an effort to revamp regional political parties in Balochistan and Sindh.

#### PAKISTAN PM SHEHBAZ SHARIF'S WHITE FLAG TO INDIA

Pakistan Prime Minister Shehbaz Sharif's candid remarks to Al Arabiya news channel that his country had learnt its lessons from the three wars it had fought against India, and wanted to normalise ties with its eastern neighbour for the betterment of the Pakistani economy and its people, seem to have been triggered by the dire straits in which his country finds itself. In a potential repeat of Sri Lanka's economic meltdown, Pakistan's foreign exchange reserves are drying up fast, the price of food, especially wheat, has shot up beyond the reach of the common man, and the International Monetary Fund's release of funds has been held up by Pakistan's reluctance to meet the lender's conditions. On a recent trip to the UAE, Prime Minister Sharif managed to secure a \$3 bn handout, and the Saudi Fund for Development announced it would lend \$1 bn. But these countries, despite their strong religious and political bonds with Pakistan, have made it plain over the last few years that they are tired of bailing out a "brother" who cannot clean up his own act. It is conceivable that Sharif, like Imran Khan before him, heard some harsh truths from the UAE leadership during his visit.

However, it is also clear that the domestic consensus in Pakistan on normalisation with India remains elusive. This makes it difficult if not impossible for Delhi to take Sharif seriously. Within hours of the interview airing, the Pakistan Prime Minister's Office had to issue a clarification that there could be no talks with Pakistan without a rollback by India of its "illegal actions" of August 2019. From the Indian point of view, this means Sharif's "message to Prime Minister Narendra Modi" is dead in the water. It must be well known to both the military and political leadership in Pakistan from reported backchannel interactions, that a rollback is not on the cards, Delhi is only considering restoration of statehood of J&K. The attempt of the previous hybrid civil-military dispensation led by Imran Khan and General Qamar Javed Bajwa (retired) to restart trade with India came a cropper because of a lack of consensus within the government and security establishment. General Munir has not spoken on the issues, so it is not known if he shares the views of his predecessor that Pakistan must turn its "unique" geography into a money-spinning link between the east and west.

The bigger question is if Pakistan has really learnt its lessons from the failed wars against India. After all, not long ago, Pakistan has signalled acknowledgement of the fact that the terrorist attacks on its soil were a blowback for the militancy that it had sown and nurtured for several years to wage sub-conventional wars in India and Afghanistan. And yet, Pakistan worked overtime to put the medieval-minded Taliban, a globally designated terrorist group, back in power in Kabul in 2021, unfolding yet another disaster in Afghanistan. All the same, if Sharif were to make a more concrete, less caveated approach to India, one that is backed by all stakeholders in Pakistan, Delhi should not spurn him.

#### HOLD OFF

India has welcomed the designation of Lashkar-e-Taiba (LeT) deputy chief Abdur Rehman Makki as a sanctioned terrorist by the UN Security Council, after China withdrew the "technical hold" it had placed on the listing last year. Makki, the brother-in-law of 26/11 mastermind Hafiz Saeed, is on the most wanted lists of India and the United States for terror attacks in India, and support to





terrorists in Pakistan. China's hold on the Makki listing process in June was one of five holds it placed on similar proposals against other wanted LeT/Jaish-e-Mohammad (JeM) terrorists based in Pakistan. It had led to an angry response from New Delhi, which accused Beijing of "double standards" on terrorism and "making a mockery" of UNSC counter-terror mechanisms. In that sense, China's decision to allow the listing is a win for India: this is the first time a listing proposal where India is a co-sponsor has been allowed to go through; and it is the first time a terrorist has been listed primarily for attacks in India, particularly in Kashmir, as most others have been listed for their al-Qaeda links and for attacks in other parts of the world. It is unclear what prompted China to relent, as it has continued to hold out despite the 14 other UNSC members agreeing to the listing. In 2019, China agreed to a decade-old demand from India to list JeM chief Masood Azhar only after international outcry over the Pulwama suicide bombing. The Chinese Ministry of Foreign Affairs has called the Makki listing as "conducive to enhancing international counterterrorism cooperation" and a "recognition" of Pakistan's fight against terrorism.

As India knows from experience, the designation of UNSC terrorists, who are subject to an assets freeze, travel ban and arms embargo, is only one step towards bringing them to justice. Pakistan has yet to hold even one of the many terrorists on the list accountable for the major attacks they are accused of: from the 1999 IC-814 Kandahar hijacking, to the Mumbai 26/11 attacks, and Pathankot and Pulwama. New Delhi will have to persevere in its seemingly Sisyphean task of keeping the spotlight on Makki and others to ensure that Pakistan continues to feel pressure to prosecute them successfully. It is possible that the Makki designation is the result of behind-the-scenes India-China negotiations at a time the relationship is mired in issues over the LAC standoff. The test of this diplomacy will perhaps be known if and when China acts on the listings of the four other terrorists proposed, i.e., Hafiz Saeed's son Talha, 26/11 handler Sajid Mir, LeT recruiter Shahid Mehmood and Abdul Rauf Azhar (Masood Azhar's brother) wanted for the IC-814 hijacking.



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## NATION

### INDIA AND THE NEW GLOBAL ORDER

The Voice of the Global South summit that Delhi convened last week did not produce any spectacular outcomes; it was not supposed to. The forum, however, marks an important effort by India to make global governance work for the developing nations, whose concerns tend to get a short shrift in international forums. The virtual forum has provided valuable inputs from the Global South that could facilitate India's ambition to steer the G20 summit in Delhi to success later this year. The forum is also about India reconnecting with a global group of nations that had fallen off the Indian foreign policy radar since the end of the Cold War. Over the last three decades, Indian diplomacy's focus has been on reordering its great power relations, bringing stability to the neighbourhood and developing regional institutions in the extended neighbourhood. That 120 odd nations attended the meeting underlines the willingness across the Global South to support Indian leadership on addressing the global challenges that have had a massive impact on the condition of the many developing countries. The twin crises produced by the Covid-19 pandemic and the Russian war in Ukraine have had a devastating and disproportionate impact on the Global South.

While the future of this particular forum is not clear, the idea that India must reclaim the leadership of the developing world appears to have gained much currency in Delhi. Although the government might be aware of the dangers of one's reach exceeding its grasp, the foreign policy discourse in Delhi is drifting towards exuberance about India's plans to reorient the G20 and take charge of the Global South. The international context today is not amenable to major global initiatives. Multilateralism is now in dire straits thanks to the growing military tensions among the great powers — between Russia and China on one side and the US, Europe and Japan on the other. Major power conflict has been reinforced by the breakdown of the world trading rules and the weaponisation of global finance.

India's own past experience with the Non-Aligned Movement and the Group-77 developing nations points to the real difficulty of uniting the Global South in pursuit of common goals. Representing the presumed collective interests of the Global South has become harder today given the deep economic differentiation and sharp political divisions among the developing nations. Sceptics at home would remind Delhi of India's own enduring developmental challenges, despite its impressive aggregate GDP and growing economic, industrial, and technological capabilities. Given the size of its population, critics would insist that lifting India towards greater prosperity and sustainable development would automatically improve the condition of the Global South. Yet, a large nation and rising power like India can't simply be self-centred. Nor should it abandon its long-standing equities in the Global South. Delhi certainly needs to contribute in more significant ways to modernising and democratising the global order. What Delhi needs is a careful balance between nationalism and internationalism, a practical sense of what is feasible in today's world, and a well-defined crafted hierarchy of Indian priorities on the global stage.

### LAW MINISTER KIREN RIJJU'S SUGGESTION TO CJI DY CHANDRACHUD ON APPOINTMENT OF JUDGES: THE CONTEXT AND BACKGROUND, EXPLAINED

Union Minister for Law and Justice Kiren Rijju has written to the Chief Justice of India (CJI) "suggesting" that a nominee of the government should be included in the collegium that makes



recommendations for the appointment of judges. The letter offered the suggestion since the Memorandum of Procedure (MoP) is “pending finalisation”.

What is the MoP, and why is the government making suggestions on it?

### **Appointments playbook**

The MoP is the official playbook agreed upon by the government and the judiciary on the appointment of judges. It is a crucial document that governs the collegium system of appointing judges.

Since the collegium system evolved through a series of ruling by the Supreme Court, and is not based on legislation, the MoP is the bedrock of the process of appointments.

Three decisions of the SC, the First Judges Case (1981), Second Judges Case (1993), and Third Judges Case (1998), form the basis of the peer-selection process for the appointment of judges.

### **Process of renegotiation**

The MoP was sought to be re-negotiated after the SC on October 16, 2015 struck down the constitutional amendment that had brought in the National Judicial Appointments Commission (NJAC).

The NJAC, which was cleared by Parliament earlier that year, would have changed the system of appointment of judges to the higher judiciary, and given the government a foot in the door. The Act passed in Parliament had provided for a six-member panel, including the Law Minister and two independent persons, to appoint judges to the SC and the High Courts.

After the NJAC Act was struck down, the SC directed the government to finalise the existing MoP by supplementing it in consultation with the Supreme Court collegium, taking into consideration eligibility criteria, transparency, establishment of a new secretariat and a mechanism to deal with complaints against proposed candidates.

Draft MoPs were exchanged between the government and the collegium during 2015-17. A key point of contention was the inclusion of a “national security” clause that could thwart an appointment.

However, before the document could be finalised, the Supreme Court in a judgment observed that that “there is a need to revisit the process of selection and appointment of Judges to the Constitutional Courts.”

The SC observation came in a July 2017 ruling by a seven-judge Bench in a suo motu contempt proceeding against Justice C S Karnan, who was then a judge of the Calcutta High Court.

“This case, in our opinion, has importance extending beyond the immediate problem. This case highlights two things, (1) the need to revisit the process of selection and appointment of judges to the constitutional courts, for that matter any member of the judiciary at all levels; and (2) the need to set up appropriate legal regime to deal with situations where the conduct of a Judge of a constitutional court requires corrective measures — other than impeachment — to be taken,” Justice J Chelameswar, who was part of the Bench, said in a judgment written for himself and Justice Ranjan Gogoi, that concurred with the main judgment.





Incidentally, Justice Chelameswar was the lone dissenting judge in the 4-1 verdict of the five-judge Bench in the NJAC case of 2015.

#### **Government's stand**

Officially, the government's stand is that the MoP is "pending finalisation".

Last year, the Department of Justice told the Parliamentary Standing Committee on Law and Justice that the "Government of India has conveyed the need to make improvement on the draft MoP to the Secretary General of the Supreme Court vide letter dated 11.07.2017. The MoP is under finalisation by the Government in consultation with the Supreme Court Collegium."

In its 123rd Action Taken Report presented to Rajya Sabha in December 2022, the Standing Committee said that it was "surprised to note that the Supreme Court and the Government have failed to reach at a consensus on revision of the Memorandum of Procedure (MoP) for appointment of Judges to the constitutional courts, though the same is under consideration of both for about seven years now".

The Committee said that it "expects the Government and the Judiciary to finalize the revised MOP, which is more efficient and transparent, in terms of the Supreme Court's observation..."

#### **Law Minister's suggestion**

Rijiju's "suggestion" to the CJI comes in the backdrop of an ongoing tussle between the government and judiciary on the issue of appointment of judges. The Supreme Court has initiated a contempt case against the government for not adhering to the timelines set out in the MoP and court rulings. Five names recommended by the collegium on December 13 for appointment as judges to the Supreme Court are pending with the government.

### **SUPREME COURT REVEALS GOVT OBJECTIONS: 'GAY... POSTS CRITICAL OF PM MODI'**

The Supreme Court Collegium headed by Chief Justice of India D Y Chandrachud reiterated its decision Thursday to appoint five advocates as High Court judges.

Significantly, in at least three cases, it made public both its reasons for reiteration and the government's objections: A candidate's sexual orientation and his "foreign-national" partner; an advocate sharing content critical of Prime Minister Narendra Modi and another's views on social media critical of the government.

The five candidates: senior advocate Saurabh Kirpal for appointment as judge of the Delhi High Court; advocate Somasekhar Sundaresan as judge of the Bombay High Court; advocate R John Sathyan for the Madras High Court; advocates Sakya Sen and Amitesh Banerjee as judges of the Calcutta High Court.

The government had sought reconsideration of these names on November 25 last year. Apart from the CJI, the Collegium also consists of Justices Sanjay Kishan Kaul and KM Joseph.

The most detailed Collegium statement is in the case of Kirpal, who if appointed, could be India's first openly gay judge.

Kirpal was first recommended by the SC Collegium on November 11, 2021, nearly three years after it first considered his candidature in 2018.



In February 2021, then CJI SA Bobde had written to then Minister Prasad seeking a clarification on the intelligence inputs that the collegium had on Kirpal. The Indian Express had reported that the government wrote back reiterating its objections on the nationality of Kirpal's partner.

On advocate Somasekhar Sundaresan, the Collegium statement said that the government had sought reconsideration of his name on the grounds "that he has aired his views in the social media on several matters which are the subject matter of consideration before the courts."

Sundaresan was recommended by the Collegium on February 16 last year. Underlining that all citizens have the right to free speech and expression, the Collegium said that "expression of views by a candidate does not disentitle him to hold a constitutional office so long as the person proposed for judgeship is a person of competence, merit and integrity."

"The manner in which the candidate has expressed his views does not justify the inference that he is a 'highly biased opinionated person' or that he has been 'selectively critical on the social media on the important policies, initiatives and directions of the Government' (as indicated in the objections of Department of Justice) nor is there any material to indicate that the expressions used by the candidate are suggestive of his links with any political party with strong ideological leanings," the Collegium statement said.

The statement added that Sundaresan "has specialized in commercial law and would be an asset to the Bombay High Court which has a large volume of cases of commercial and securities laws, among other branches."

On Sathyan, the Collegium statement quoted from a report by the Intelligence Bureau: "As per open sources, two posts made by him, i.e. sharing of an article published in 'The Quint', which was critical of the Prime Minister, Narendra Modi; and another post regarding committing of suicide by medical aspirant Anitha, who ended her life in 2017 since she was unable to clear NEET, portraying it as a killing by 'political betrayal' and a tag stating 'shame of you India' came to notice."

The SC Collegium had first recommended Sathyan on February 16, 2022 along with five others. While four were appointed, the government returned the files on Sathyan and Abdul Hameed on November 25.

On advocates Amitesh Banerjee and Sakya Sen, the statement said that the "inputs which have been furnished by the Department of Justice in the file on 25 November 2022 do not contain any fresh material or ground." "Moreover, after the Supreme Court Collegium reiterated the proposal on 01 September 2021, it was not open to the Department to repeatedly send back the same proposal which has been reiterated by the Supreme Court Collegium after duly considering the objections of the Government," the statement said.

Banerjee is the son of former Calcutta High Court judge UC Banerjee. Both Banerjee and Sen were first recommended by the Collegium on July 24, 2019 and have been reiterated twice.

**COLLEGIUM VS CENTRE: ON ELEVATION OF A GAY JUDGE, CONSTITUTIONAL MORALITY VS MAJORITARIAN MORALITY**

The independence of the judiciary is not the private right of judges; it is the right of citizens. Ultimately, judicial legitimacy rests on public confidence in the courts. Judicial primacy in the appointment of judges is seen as a crucial mechanism to achieve judicial independence. Judges



must be independent of the executive and senior judges, and in their ideology. Today, 132 countries have decriminalised homosexuality but only 32 have legalised same-sex marriages. But can judges be independent of majoritarian sexuality as well? Does a person's sexual orientation make him ineligible for the appointment as a judge of a constitutional court? Can the government and judiciary differ on moral questions? Is the government the best judge of people's opinions and preferences?

The reiteration of a five-year-old recommendation of the Delhi High Court collegium (October 13, 2017) about the elevation of Saurabh Kirpal, which was approved by the Supreme Court on November 11, 2021, raises several of these questions. The recommendation was referred back by the government on November 25, 2022. The SC Collegium reconsidered the matter and in a two-and-half-page long reiteration rejected the government's objections about Kirpal's sexual orientation.

The R&AW had expressed concerns about Kirpal's partner being a Swiss national and that he is "in an intimate relationship" and is open about his sexual orientation in 2019 and 2021. In April 2021, the Union law minister wrote to the Collegium that though "homosexuality stands decriminalised in India, nonetheless same-sex marriage remains bereft of recognition either in codified statutory law or uncodified personal law in India". It is not clear whether Kirpal had a same-sex marriage — live-in relationships are, after all, legal. The other concern the minister expressed was about Kirpal's impartiality in view of his "ardent involvement and passionate attachment to the cause of gay rights" and therefore, the government is unable to rule out bias and prejudice. Are we to assume heterosexual judges cannot be biased and prejudiced?

In response, the Collegium said the Swiss partner is no threat to national security since even R&AW has not explicitly raised the issue of national security. The Collegium said Switzerland is a friendly country and even in past, there were several holders of constitutional offices who had a foreign national as a spouse. As for sexual orientation, it pointed to its judgment in Navtej Singh Johar (2018) that held every individual is entitled to maintain their own dignity and individuality, based on sexual orientation. The Collegium said Kirpal possesses "competence, integrity and intellect" and his appointment would provide "inclusion and diversity" and "his conduct and behaviour has been above board". Rarely has there been such a strong recommendation for any candidate.

Did the apex court have any option but to abide by its own judgment, wherein it had partially struck down Section 377 of the IPC? The Court had said English law's conception of anal and oral intercourse was firmly rooted in Judeo-Christian morality. In fact, ancient India did not look down upon such sexual choices; RSS chief Mohan Bhagwat recently spoke in favour of the rights of the LGBTQ community.

In his judgment, then CJI Dipak Misra had said an individual in the exercise of his choice may feel that he/she should be left alone but no one should impose solitude on him/her. Misra said attitudes and mentality have to change to accept the distinct identity of individuals and respect them for "who they are" rather than compelling them to become "who they are not". Misra also talked of "constitutional morality" and said it is not confined to the provisions and literal text that a constitution contains – rather, it embraces within itself virtues of a wide magnitude such as that of ushering in a pluralistic and inclusive society. The Court said freedom of choice cannot be scuttled on the mercurial stance of majoritarian perception as the Constitution is not supposed to protect just the majority.



Justice Chandrachud too raised a few pertinent questions. What is “natural” and what is “unnatural”? Who decides the categorisation into these two ostensibly distinct and water-tight compartments? Should the state be drawing the boundaries between permissible and impermissible intimacies between consenting adults? The Court expanded the prohibited grounds of discrimination under Article 15 to include “sexual orientation”. The court had held different sexual orientations as absolutely natural. Justice Indu Malhotra went to the extent of seeking an apology for the non-recognition of the rights of sexual minorities.

The Court thus had laid down the law that no one is to be punished for consensual homosexuality. The Modi government seems to have no problem with the mere decriminalisation but does not want to go beyond that. But it seems to have reservations about such people holding constitutional positions. The fact is that most democratic governments, elected on popular majorities, rightly claim to reflect the majoritarian morality.

There is another angle to this controversy. The Collegium has not spoken on this subject in the last two years but for a few strong oral observations on the delay in clearing the recommendations of the Collegium. In the last few weeks, the Union law minister and Vice-President of India had been questioning the collegium system. It seems, in response, the Collegium has deliberately picked up an issue on which the liberal and libertarian sections of the society would stand by it. Of course, it has also reiterated a few other names. Many critics of the collegium system may support the SC Collegium on this issue. But the government can go to the masses and claim it is committed to majoritarian morality but the Collegium is encouraging western and alien values and if the government is not allowed a say in the choice of judges, it could lead to the moral degradation of the whole society. In its response to the Navtej Singh Johar judgment, the RSS rejected same-sex marriages as against Indian traditions and cultures. Muslim and Christian clergy are on the same page with the RSS on this issue.

#### CASE IN SUPREME COURT: CAN AN UNDERAGE MUSLIM GIRL MARRY AFTER ATTAINING PUBERTY?

The Supreme Court on Friday (January 13) agreed to examine a decision of the Punjab and Haryana High Court holding that a Muslim girl can marry a person of her choice after attaining puberty. A bench headed by Chief Justice of India D Y Chandrachud said the HC's decision should not be relied on as a precedent in any other case.

In October last year, another bench of the Supreme Court had agreed to hear an appeal on the case and appointed senior advocate Rajshekhar Rao as an amicus in the case. The SC intervention opens up the issue of regulating the minimum age of marriage for women and the impact it has on personal law.

#### **What is the Punjab and Haryana HC ruling?**

In October last year, the Punjab and Haryana High Court while hearing a Habeas Corpus petition ruled that a Muslim girl is free to marry a person of her choice after attaining puberty, unless she is under the age of 18.

A 26-year-old Muslim man who had married a 16-and-a-half-year-old girl had moved the High Court seeking custody of his spouse. The Punjab police had taken custody of the girl since she was a minor.





Justice Vikas Bahl examined the girl's statement and noted in the judgment that "she had run from the house along with the present petitioner out of her own will as the dentenu is fond of the petitioner and wished to marry him."

The girl, referred to as the dentenu, also told the Panchkula magistrate in her statement under Section 164 of the Code of Criminal Procedure that she "had run away from her house along with the present petitioner out of her own will and has stated that her family members forcefully engaged her with her maternal uncle and she has performed Nikah with the present petitioner on 27.07.2022 in a Mosque at Manimajra and she does not want to stay with her family and in fact, is married to the petitioner and wishes to reside with him."

Under these circumstances, the HC allowed the marriage of the girl as per her free, especially since under Muslim law, a girl can be married after attaining puberty.

#### **What is the Muslim law on the age of marriage for a woman?**

The HC ruling quoted the Principles of Mohammedan Law by Sir Dinshah Fardunji Mulla, on the capacity for marriage. It states:

#### **Capacity for marriage:**

Every Mahomedan of sound mind, who has attained puberty, may enter into a contract of marriage.

Lunatics and minors who have not attained puberty may be validly contracted in marriage by their respective guardians.

A marriage of a Mahomedan who is of sound mind and has attained puberty, is void, if it is brought about without his consent.

Explanation. Puberty is presumed, in the absence of evidence, on completion of the age of fifteen years.

#### **What is the challenge?**

The National Commission for Protection of Child Rights had moved the Supreme Court against the HC ruling. Solicitor General Tushar Mehta, appearing for the child rights' body, argued that the High Court's ruling essentially allowed a child marriage, and this was in violation of the Prohibition of Child Marriage Act, 2006.

The plea argued that the Child Marriage Act is a secular legislation and would apply to all religions, overriding their personal law.

#### **What is the law on child marriage?**

Under the Prohibition of Child Marriage Act, 2006, any marriage below the prescribed age of 18 years for women and 21 for men is illegal, and the perpetrators of a forced child marriage can be punished. However, child marriages are illegal but not void. It is voidable at the option of the minor party. This means, the marriage can be declared void by a court only if the minor party petitions the court.





The NCPCR also argued that since the Protection of Children from Sexual Offences Act, 2012 does not recognise consent for sexual activity by minors, marriages on attaining puberty cannot be allowed.

**Several High Courts have ruled differently on this issue.**

The Karnataka High Court, in a 2013 ruling in the case of Seema Begam D/O Khasimsab vs State Of Karnataka (2013), said that “no Indian citizen on the ground of his belonging to a particular religion, can claim immunity from the application of the P.C.M”.

In February 2021, the Punjab and Haryana High Court granted protection to a Muslim couple (a 17-year-old girl married to a 36-year-old man), holding that theirs was a legal marriage under personal law. The HC examined provisions of the Prohibition of Child Marriage Act but held that since the special law does not override personal laws, Muslim law will prevail.

In 2021, the Centre introduced a Bill to increase the age of marriage for women, and ensure harmony in the age limit across religions.

**What is the proposed law?**

Union Minister for Women and Child Development Smriti Irani had introduced a Bill in the Lok Sabha to amend the Prohibition of Child Marriage Act, 2006 to increase the age of marriage for women, and ensure harmony in the age limit across religions. The Bill was subsequently referred to a Parliamentary Standing Committee.

“All women from all faiths, under Hindu Marriage Act or the Muslim Personal Law, should get equal rights to marry,” Irani had said while introducing the Bill.

During the debate, E T Mohammed Basheer of the Indian Union Muslim League said the Bill was unconstitutional and was violative of Article 25 of the Constitution, which guarantees the freedom of conscience and free profession, practice and propagation of religion.

#### ‘LET THE MOTHERS VIEW THE FILM, RESOLVE THE DISPUTE’: DELHI HC ON PLEA AGAINST RELEASE OF HANSAL MEHTA’S ‘FARAAZ’

Quoting a couplet by noted poet Ahmed Faraaz, the Delhi High Court on Tuesday asked the parties to consider resolving their issues while hearing a plea challenging a single-judge order that dismissed restraint on the release of Hansal Mehta’s “Faraaz”.

The film is based on the 2016 terrorist attack at a cafe in Dhaka in which 29 people were killed including two girls, whose mothers are now the petitioners.

The matter was heard by a division bench of Justices Siddharth Mridul and Talwant Singh, approached by the two mothers seeking a stay on the release of the movie, claiming right to privacy with respect to their deceased daughters. The mothers had challenged the single-judge order of October last year that refused to grant interim relief against the release of the movie.



## WHAT DOES CENTRE WANT IN BHOPAL GAS CASE?

### The story so far:

The Union of India calls the Bhopal gas leak tragedy the world's largest industrial disaster. On the intervening night of December 2-3, 1984, methyl isocyanate (MIC) gas escaped from the Union Carbide India Limited (UCIL) plant in Bhopal, Madhya Pradesh, leading to hundreds of deaths. Thirty-nine years after the incident, a Constitution Bench of the Supreme Court led by Justice S. K. Kaul has reserved its judgment on a curative petition filed by the Centre in November 2010 to enhance the \$470 million (about ₹725 crore at the then exchange rate) compensation fixed in a 1989 settlement reached with Union Carbide Corporation (UCC), now a wholly owned subsidiary of Dow Chemicals, with the imprimatur of the apex court. The government has sought an additional amount of ₹675.96 crore in compensation from the pesticide company. The UCC has refused to pay a "farthing more". The court made it clear that it would not "try" the curative petition like an ordinary suit and reopen the settlement.

### What is the basis for the plea for more compensation?

The basis of the \$470 million settlement reached on May 4, 1989 was that there were only around 3,000 death cases in the gas leak incident. The government's curative petition in 2010 said the actual figure is 5,295 deaths. However, a fortnightly report submitted by the Welfare Commissioner, Bhopal Gas Victims, and which is a part of the case records in the Supreme Court, shows the number of deaths have increased to 5,479 as on December 15, 2022. The Commissioner's report further said the number of cases of cancer and renal failure were 16,739 and 6,711, respectively. Likewise, the curative petition said the estimated numbers for temporary disability and minor injury cases were 20,000 and 50,000, respectively, in 1989. But they are actually 35,455 and 5,27,894. The government's chart in the apex court shows that the total number of cases of deaths, disability, injuries, loss of property and livestock have increased to 5,74,376 from the 2,05,000 "assumed" on May 4, 1989.

### What do the victims say?

The Bhopal Gas Peedith Mahila Udyog Sanghathan, a body formed by the gas leak victims, and Bhopal Gas Peedith Sangharsh Sahayog Samiti, composed of responsible citizens, both represented by senior advocate Sanjay Parikh, have told the court that the Bhopal Memorial Hospital and Research Centre has medical records of over 4.5 lakh gas victims spanning 22 years.

On an average, every day about 2,000 gas victims undergo medical treatment at the Centre. Another 4,000 victims undergo treatment at the six hospitals and 19 clinics run by the Gas Relief Department of the Madhya Pradesh government.

These victims cannot be dismissed as merely suffering from "minor" injuries nearly 40 years after the tragedy.

### Is more relief possible in a curative petition?

The firm stand voiced by the Constitution Bench against re-opening the 1989 settlement between the government and UCC finds its roots in the limits placed on curative jurisdiction. The curative plea is a remedy evolved by the Supreme Court in the 2002 judgment in the Ashok Hurra versus Rupa Hurra case. It is the rarest-of-rare remedies when "the duty to do justice shall have to prevail



over the policy of certainty of a judgment and declining justice would be oppressive to judicial conscience and perpetuate an irremediable injustice”.

A party can take only two limited grounds in a curative petition — one, that he or she was not given an opportunity to be heard, and two, that the judges were biased. A curative petition, which follows the dismissal of the review petition, is the last legal avenue open in the Supreme Court. The government had not filed a review petition, but directly came for curative relief in 2010.

#### **What are the rival contentions?**

Attorney General of India R. Venkataramani has urged the court to look beyond the conservative principles of law, that is, look beyond the restrictions of the curative jurisdiction, to deliver complete justice to the victims by directing the UCC to pay up. The top law officer has argued that the government did not want to “re-open” the 1989 settlement but “add” to it. The government said the Parliament had placed it in the role of the protector of the victims by enacting the Bhopal Gas Leak Disaster (Processing of Claims) Act of 1985. It has an obligation to protect the victims’ interests “effectively and equitably”.

The UCC, through senior advocate Harish Salve, countered that the settlement was arrived at on the basis of a “consent decree” sourced from a suit. If the decree was set aside, the suit proceedings should be restored. The liability of UCC for the tragedy was never established. There was no “re-opener clause” in the settlement. More and more liability cannot be piled on to his client as and when fresh data was revealed. Fresh documents and material cannot be inserted into the court record in the limited jurisdiction of a curative petition.

#### **What did the court observe during the hearing?**

At the heart of the legal dispute is a paragraph from the October 3, 1991 order of the Supreme Court. The paragraph discussed the “unlikely event” of the 1989 settlement funds being found insufficient to satisfy the claims of all the victims.

While stressing that the victims should not be left to “fend for themselves”, the court, in 1991, had said the “reasonable way to protect the interests of the victims is to hold that the Union of India, as a welfare state and in the circumstances under which the settlement was made, should not be found wanting in making good the deficiency, if any”.

The government has interpreted these words by saying that it has done its duty by coming to the court with a plea to direct the UCC to top-up the compensation amount. The court, in turn, said if the government, as a welfare state, felt the victims were entitled to more, it should pay them.

“It is not that we are not sensitive. Nobody doubts the enormity of the tragedy. People suffered... but the court cannot act like a knight in shining armour granting panacea for all. We are bound by the constraints of law,” the Constitution Bench said, reserving the case for verdict.

### **INTERESTED PARTY**

A proposal by the Ministry of Electronics and Information Technology that seeks to force social media platforms to take down content “fact-checked” by the Government’s Press Information Bureau (PIB) as false needs to be opposed without even a second look. The proposed amendment to the IT Rules opens the door for the PIB or any other agency “authorised by the central government for fact checking” for the purpose of such takedowns. This is problematic at many



levels, with deep implications for free speech and information. At the most basic level, the question to be asked is how a wing of the “nodal agency of the Government of India”, whose job is “to disseminate information to the print and electronic media on government policies, programmes, initiatives and achievements”, could be the deciding authority on what is factual and what is not. The disturbing absurdity of an interested party also playing the judge cannot be missed. It is a really nasty world of disinformation out there but one would have to be delusional to think that governments do not have an axe to grind. If the proposal is implemented, the government can play the super censor at will.

While this proposal signals a new low in the administration’s thinking on matters of regulating news and information, things were not rosy prior to this either. The government in recent years has given enough indications that it wants to control the news sphere. The reworked IT Rules in early 2021 are an example of this. A similar mindset was reflected in the provisions of the data privacy Bill that gave government agencies a free pass. Defending the government and its institutions in the public sphere by putting out data or statements is very much within the PIB’s ambit and logically defensible; but fact-checking is a very different thing. This is not to say that the PIB’s fact check unit has not debunked rumours circulating on various social media platforms. It has, but it has done so as the agency of the government. Making its “fact-checks” binding on news disseminating platforms is something else. With this, the government will have a tool with which to easily throttle voices opposing it. Indeed, it will be the sole arbiter of truth. The Editors Guild of India has rightly criticised the proposal by pointing out that “determination of fake news cannot be in the sole hands of the government and will result in the censorship of the press”. Fake news has to be dealt with in an appropriate manner, but the proposal in question will only make the task harder.

#### WHY IT’S DRAFT RULES ON PIB’S FACT CHECKS CAN DO WITH A FEW MORE CHECKS

Under the new draft of amendments to Information Technology Rules announced Tuesday by the Ministry of Electronics and IT (MeitY), the above posts would have to be removed by online entities, without any recourse or avenue for redressal.

The proposal on “fake” news inserted as a postscript to the rules on online gaming further says that content that has been marked misleading by “any other agency authorised by the government for fact checking” or “in respect of any business of the Centre” will not be allowed on online intermediaries.

While The Indian Express sent detailed questions to both MeitY and PIB, the government Thursday said that the draft amendments to IT Rules were circulated for consultation with stakeholders. “As is the practice meticulously followed by the government, these amendments will also be put through open consultations – to reflect, discuss and deliberate on these amendments or any other such effective means through which we can prevent misinformation/ patently wrong information circulated on the Internet by State/ Non-State actors,” Minister of State for Electronics and IT Rajeev Chandrasekhar said in a statement.

The PIB’s fact-check unit has redflagged more than a thousand ‘unverified’ reports so far. Sources said it takes cognisance of such reports suo motu and also when citizens send queries on its portal, or through email or Whatsapp. While PIB’s fact-checks routinely debunk dubious WhatsApp forwards and social media posts, its ‘fake news’ stamps on some posts raise questions.





For instance, in the case involving the Intelligence Bureau notice, the PIB fact check unit claimed on December 16, 2020, that a recruitment notice issued by the Bureau was misleading, and stamped the picture with a 'fake' banner. A day later though, the Publications Division of the Ministry of Information and Broadcasting (MIB) issued a correction on PIB's 'fact-check' and said the picture of the recruitment notice was genuine.

"Attention is drawn to the action taken by the PIB Fact Check Unit on December 16, 2020, whereby the advertisement of Intelligence Bureau (Ministry of Home Affairs, Government of India) appearing on pages 6 and 7 of Employment News scheduled to be released on December 19, 2020 has been stamped as 'fake'. The Intelligence Bureau has confirmed in writing that the advertisement is genuine," the Publications Division had said in its clarification to PIB's fact checking effort.

Then on June 19, 2020, there was a news report that the Uttar Pradesh Special Task Force (STF) had directed its personnel and their family members to delete 52 mobile apps, with alleged China-links, from their mobile phones for security reasons. The list included apps like popular short video platform TikTok, messaging app WeChat and apparel marketplace Shein. Reacting to these reports, PIB's fact check unit claimed that the STF had not issued any such advisory. However, the task force's Inspector General Amitabh Yash subsequently confirmed he had indeed passed such an order. UP ADG (Law & Order) Prashant Kumar had told The Indian Express that the order was meant for the "STF only as directed by the IG on his (Yash) own initiative". Days later, the Centre did ban 59 apps with alleged China-links, and that list included the apps that STF officer Yash had mentioned earlier.

In the July 2020 case, The Indian Express reported that the Special Commissioner of Delhi Police (Crime) had issued an order to Investigating Officers which stated that the arrests of "some Hindu youth" from riot-hit areas in Northeast Delhi had led to a "degree of resentment among the Hindu community" and "due care and precaution" must be taken while making arrests. The same day, PIB fact check unit's twitter handle called the story 'misleading', without denying any of the facts reported. It simply relied on a Delhi Police rejoinder which said that it "ignores the spirit of the order".

Incidentally, while the ministry had initially set out to introduce rules on online gaming in January beginning, the proposal on "fake" news was inserted subsequently without it having any direct relation to online gaming. On January 2, MeitY had first released the rules for online gaming and invited stakeholder comments until January 17. But that evening, it extended the consultation period until January 25 and also uploaded a new draft of amendments to the Information Technology Rules, 2021, to include regulations for online gaming platforms. It was along with these changes, that it added the proposal to disallow information online that has been debunked by PIB. However, industry stakeholders have also quietly raised concerns over the way the latter was brought into the draft amendments.

"We will now have to send them another submission on the latest proposed amendment," a stakeholder said.





## WHY PM MODI HAS DISTRIBUTED LAND TITLE DEEDS TO BANJARAS, AN SC GROUP IN KARNATAKA

On Thursday (January 19), Prime Minister Narendra Modi symbolically distributed Hakku Patra (land title deeds) to five families of the Banjara (Lambani) community, a nomadic Scheduled Caste group, at an event organised by the state Revenue Department at Malkhed, in the Kalaburagi district of Karnataka.

The five families were among the 50,000-plus families to whom land title deeds were distributed during the programme. Modi hailed this programme as “a big day” for the community, and alleged that previous governments had done nothing when it came to converting Banjara thandas (habitations) to revenue villages. The Lambanis are traditionally nomadic tribes with a large population in the backward districts of the Kalyana Karnataka region in north Karnataka.

### **What are hakku patras or title deeds?**

A title deed is a property ownership document, and the bearer of the document owns the land. The title deeds enable owners to avail of bank loans with the said document. They will also be eligible to buy or sell land to which the title deed is granted by the government.

### **Was this done for the first time in Karnataka?**

In 2017, the Congress government passed a law that granted ownership of houses to agricultural labourers residing in unrecorded habitations, and it was expected to benefit two lakh people living in Lambani thandas and other settlements of different backward communities, such as Kurubarahattis, Haadis, and Palyas. The Revenue Department said that 300 habitations on government land were being converted into revenue villages.

Back in 2009, the BJP government launched the Karnataka Thanda Development Corporation for the development and modernisation of 3,395 thandas and grants were regularly released for the purpose. According to a response tabled in Lok Sabha, more than Rs 430 cr was released for the development of thandas from 2014-15 to 2018-19. In the past too, title deeds have been provided to various landless groups, including the Banjara community in the state.

### **What was the controversy over PM Modi distributing the deeds?**

Days before the event where PM Modi was scheduled to distribute these title deeds, JD(S) leader and former Karnataka Chief Minister HD Kumaraswamy raised questions on why this was being done by the PM. “Such title deeds are normally distributed by MLAs,” he said. He had also criticised the expenses incurred for the programme, noting that it was funded by the state exchequer.

The decision by the BJP government to have the PM distribute these title deeds is being seen in the context of state elections in Karnataka. Modi is expected to launch more projects in the state in the run-up to the polls due later this year.

The PM has already visited the state twice in January and more visits by him are lined up in the coming months, where he is expected to inaugurate a slew of projects, including the Bengaluru-Mysuru expressway, a new metro line, an airport at Shivamogga, among others.

Many have drawn parallels with the election campaign carried out in Gujarat last year for the 2022 state elections, where the PM was seen distributing appointment letters to candidates selected for



government jobs. Opposition parties had said this was usually done by under-secretary-grade government officials.

#### **What do the numbers say about the Banjara community?**

The Banjaras are a key scheduled caste sub-group in Karnataka, although they are considered to be a tribal group in terms of the lives they lead. The Scheduled Castes and Scheduled Tribes together make up nearly 24 per cent of the state population, becoming an important group for political parties like the BJP.

In October last year, the BJP announced a two per cent hike in government reservations for jobs and education for Scheduled Castes, taking the reservations for the group from 15 to 17 per cent in the state. The efforts to woo and consolidate the support of the SC/ST community are seen as part of efforts by the BJP to compensate for a possible division of its Lingayat caste support base in Karnataka and to prevent SC/ST groups from drifting their support to the Congress – which has traditionally enjoyed the backing of Other Backward Classes, the SC/STs and minorities.

The Lingayats, who make up nearly 17 per cent of the state population and have supported the BJP in recent years, are currently seeing a demand within some in the community (a sub-sect) for higher quotas.

### INDIA'S NEW PROPOSAL FOR MIGRANT VOTING

#### **The story so far:**

The Election Commission of India (ECI) could not demonstrate a prototype of its new Remote Electronic Voting Machine (RVM), which would allow domestic migrants to vote in national and regional elections, after the Opposition raised concerns about the logistical and administrative challenges to remote voting. The Congress had earlier urged the poll body to first “restore trust in the electoral system” and systematically address fears of the misuse of existing EVMs.

#### **How do existing EVMs work?**

EVMs started being used on a larger scale in 1992 and since 2000, have been used in all Lok Sabha and State Assembly elections. There have been three iterations of the machine with improved features, the latest one being the M3 model which was manufactured from 2013 onwards. Multiple political parties in 2010 approached the ECI to come up with a mechanism that could help verify that the EVM had recorded the vote correctly as intended by the voter. The ECI, thus, developed along with two Public Sector Undertakings (PSU), the Voter Verified Paper Trail Audit (VVPAT) machine to have a paper trail in the voting process. The use of VVPATs has become universal in elections since mid-2017.

The current EVM setup has a Balloting Unit (BU) which is connected to the VVPAT printer, both of which are inside the voting compartment. The VVPAT is connected to the Control Unit (CU), which sits with the Presiding Officer (PO) and totals the number of votes cast, on its display board. Only once the PO presses the ballot button on the CU, does the BU get enabled for the voter to cast her vote by pressing the key corresponding to the candidate on the ballot paper sheet pasted on the BU. The VVPAT, which is essentially a printing machine, prints a slip with the poll symbol and candidate name, once the voter presses the key on the BU. This slip is visible to the voter on the VVPAT's glass screen for seven seconds after which it gets dropped off in a box inside the VVPAT.



Once a vote is cast, the BU becomes inactive till the PO schedules the next vote by enabling it again from the CU.

#### **What are the concerns about EVMs?**

Concerned civil society organisations, civil servants who have overseen elections, academicians, journalists, former judges, and political figures formed the Citizens' Commission on Elections (CCE) in 2020, which conducted analysis, recorded depositions from national and international field experts and released a report in 2021 titled, 'Is the Indian EVM and VVPAT System Fit for Democratic Elections?'.

The report highlighted the widely recognised 'democracy principles' to be adhered to while conducting public elections. It stated that the election process should not only be free and fair but "also be seen to be free and fair", meaning instead of being told to trust the process the general public should be provided with provable guarantees to facilitate this trust. The report points out that the details of the EVM design, prototype, software, and hardware verification are not publicly available for technical and independent review, rendering it available only for a black-box analysis, where information about its inner workings is not accessible.

However, the ECI says that unlike other countries, Indian EVMs are standalone, are not connected to the internet, and have a one-time programmable chip, making tampering through the hardware port or through a Wi-Fi connection impossible. Multiple computer scientists have demonstrated that this claim does not stand up to scrutiny as it does not take into account 'side-channel', insider fraud, and trojan attacks. Besides, the OTP chip which cannot be rewritten, also has a flip side, even pointed out by BJP leader G. V. L. Narasimha Rao in his 2010 book Democracy at Risk! Can we trust our Electronic Voting Machines?. The ECI sends the EVM software to two foreign chipmakers (in the U.S. and Japan) to burn into the CPU and the manufactured chips are then sent to India for assembly into machines by the two PSUs (BEL and ECIL). This means that the manufacturers cannot read back the contents of the software to ensure its integrity is intact. Functionality tests done by manufacturers can only reveal if the machine is working properly.

#### **What are the problems with VVPAT?**

Dr. Subhashis Banerjee, the head of IIT-Delhi's computer science department and a member of the CCE, told The Hindu that for the voting process to be verifiable and correct, it should be machine-independent, or software and hardware independent, meaning, the establishment of its veracity should not depend solely on the assumption that the EVM is correct. Ronald Rivest, an MIT professor and the inventor of encryption, defined in his seminal 2008 paper that "a voting system is software (hardware) independent if an undetected change in software (hardware) cannot lead to an undetectable change in the election outcome," or even if the voting machine is tampered, the same should be detectable in an audit. Dr. Banerjee explained that a simple way to keep the process software or hardware independent is to keep another record, which in a crude or weak way, he said, is done by the VVPAT, which, he added, has its own set of problems.

Dr. Banerjee contends that the current VVPAT system is not voter verified in its full sense, meaning, while the voter sees their vote slip behind the VVPAT's glass for seven seconds, it does not mean they have verified it. That would happen if the voter got the printout in their hand, was able to approve it before the vote is finally cast, and was able to cancel if there is an error. Former IAS officer Kannan Gopinathan, who has overseen both Assembly and Lok Sabha elections, notes in his 2021 paper, that the "voter should have full agency to cancel a vote if not satisfied; and that the process to cancel must be simple and should not require the voter to interact with anybody".



Under the current system, if the voter disputes what they have seen behind the screen, they are allowed a test vote in the presence of an election officer, and if the outcome of the test vote is correct, the voter can be penalised or even prosecuted. Mr. Gopinathan and the CCE report argue that this penalisation is discouraging.

Additionally, the assurance given by the ECI that the EVM-VVPAT system is not connected to any external device has been questioned by former civil servants and multiple studies. For the VVPAT to be able to generate voting slips, the symbols, names and the sequence of the candidates need to be uploaded on it which is done by connecting it to a laptop. Mr. Gopinathan points out that to create a VVPAT sheet on the laptop, an application is either downloaded from the ECI server or copied from a local device. It is then uploaded to another device or the Symbol Loading Unit (SLU) through a nine-pin cable, which in turn is connected to the VVPAT for upload. This process raises questions. What is the communication protocol followed here? If the VVPAT is cleared and loaded with new information for every election, does this mean it has a programmable memory? These questions remain unaddressed.

#### **What are institutional safeguards?**

The ECI has said time and again that EVMs and their systems are “robust, secure, and tamper-proof”, owing to the technical and institutional safeguards in place. The ECI claims that the safeguards, such as the sealing of machines with signatures of polling agents, first-level checks, randomisation of machines, and a series of mock polls before the actual voting, cannot be circumvented. However, domain experts and former observers have shown that vulnerabilities can arise. For example, Mr. Gopinathan states in his report that since it is “known upfront that a fixed number of votes cast at the beginning of the polls in each polling station”, will be part of the third mock poll, “theoretically a hack can easily bypass the first few votes, thereby preventing detection of foul play as every key press in the EVM is date and time stamped”.

#### **How will RVMs be different?**

The EC states in its concept note that the Multi-Constituency RVM for migrant voting will have the same security system and voting experience as the EVM. This essentially means that the challenges mentioned above with regard to the current EVMs will persist when it comes to the RVMs.

Besides, the Commission says the RVM can handle multiple constituencies (up to 72) from a single remote polling booth. For this, instead of a fixed ballot paper sheet, the machine has been modified to have an electronic dynamic ballot display which will present different candidate lists corresponding to the constituency number of the voter read by a constituency card reader. The ECI has added a digital public display unit or a monitor to act as an interface between the constituency card reader and the BU display. As for the commissioning process of the machine, the electronic ballot will be prepared by the Returning Officers (ROs) of home constituencies of voters, and forwarded to the remote RO for uploading in the SLU.

This would raise questions about how these new devices communicate with each other — is there a device with programmable memory? At what point is the unit connected to an external device for symbol loading, and while the keys on the BU are mapped to the serial numbers, would it be possible to mess with the digital display to show a modified list to the voter?

Besides machine related concerns, Dr. Banerjee pointed out the logistical and administrative challenges that remote voting would present. These include questions on how voter registration





will take place in remote locations, how names will be removed from the electoral rolls of the home constituency, how remote voting applications will be made transparent etc.

## THE DELHI CM-LG STALEMATE CONTINUES

### **The story so far:**

The recent flashpoint between Delhi Chief Minister Arvind Kejriwal and Lieutenant Governor (LG) Vinai Kumar Saxena was triggered ahead of the January 6 election of the Mayor and deputy Mayor of the Municipal Corporation of Delhi (MCD). AAP has accused the LG of issuing orders on “practically everything” and bypassing the elected government.

### **What happened?**

The LG appointed Satya Sharma, a BJP councillor, to preside over the mayoral polls issuing a gazette notification for the same. The AAP alleged that the LG had bypassed the tradition of nominating or appointing the senior-most councillor as the presiding officer and has also bypassed the elected government’s recommendation. The LG also nominated 10 aldermen to the MCD who were persons who needed to have “special knowledge or experience in municipal administration”. The AAP said that the aldermen had political links to the BJP and accused the LG of giving them voting rights in the mayoral polls, which is prohibited according to the Delhi Municipal Corporation Act, 1957. The first meeting of the newly-elected House of the MCD ended with councillors of the AAP and BJP coming to blows.

### **What does the AAP allege?**

Mr. Kejriwal has accused Mr. Saxena of issuing orders on “practically every” subject directly to the Chief Secretary who gets them implemented, completely bypassing the elected government. In a letter to the LG, Mr. Kejriwal said that barring the three reserved subjects of police, public order and land, executive control over all other subjects (transferred subjects) lies with the elected government but the LG has been issuing orders on these subjects and having them implemented by the bureaucracy. The AAP’s stand is that the Supreme Court has said that the LG is bound by the aid and advice of the Council of Ministers on all transferred subjects. He can only invoke Article 239AA (4) of the Constitution if he differs with the decision of the Council of Ministers.

### **Where does the LG stand?**

Replying to letters written to him, accusing him of bypassing the elected government, by Mr. Kejriwal, Mr. Saxena said that there are Constitutional provisions, Statutes and Acts that outline the multi-layered scheme of administration in the National Capital Territory (NCT) of Delhi that emanated out of serious deliberations in the Constituent Assembly, State Reorganisation Commission, and Parliament of India, interpreted by various Supreme Court judgments.

His office released a statement with a point by point rationale for taking decisions that were pointed out by Mr. Kejriwal and said that these decisions were taken by him as he was the “administrator of NCT of Delhi”.

### **Do the LG and CM not meet regularly?**

The LG and the Chief Minister are supposed to have weekly meetings every Friday. However, since October, these meetings have not taken place with the LG accusing the Chief Minister of not being





available as he was busy with election campaigns in other States. Mr. Kejriwal met the LG after a long gap on January 13 but the meeting ended in a stalemate.

#### **What are the other flashpoints?**

Alice Vaz, Secretary, Information and Publicity, Delhi Government, has issued a notice to the Convenor of AAP to recover ₹164 crore spent on political advertisements of the Delhi Government that were published in the garb of government advertisements. Deputy Chief Minister Manish Sisodia said that the Central government was misusing its control over officers through the “services department” to target AAP and its leaders in false cases. He questioned why bureaucrats of other States which advertise in newspapers outside their State do not send recovery notices to their Chief Ministers. The LG had directed the chief secretary to recover this money in December last year.

The LG also sent back a file from the government seeking permission to send teachers from Delhi government schools on an international teacher training programme to Finland, asking for a cost-benefit analysis. The Delhi Government saw this as a direct attack on its education model questioning why the LG was not approving a proposal that has been made by the elected government which had won a clear majority to fulfill the aspirations of the people of Delhi. The LG’s office said it had not stopped the proposal but had asked for a cost-benefit analysis.

### **WHAT LED TO THE GOVERNOR-CM RIFT IN T.N.?**

#### **The story so far:**

The Tamil Nadu Assembly witnessed unprecedented scenes on January 9 when Governor R. N. Ravi, while delivering his customary address to the House, omitted certain paragraphs from the text prepared by the State government. Chief Minister M.K. Stalin later moved a motion to take on record only the transcript distributed to legislators, prompting the Governor to walk out of the House.

#### **What has been the reaction?**

Mr. Ravi did not wait for Mr. Stalin to finish reading the resolution’s text to walk out. Since then, there has not been any respite from the political discourse on the relationship between the Governor and the Chief Minister. While the ruling Dravida Munnetra Kazhagam (DMK), its allies and a section of jurists, have been critical of Mr. Ravi’s acts of omitting certain paragraphs from the text prepared by the State government and subsequent walk-out, the AIADMK and the BJP have defended the Governor saying the events in the House constituted a “personal attack” on him. Both sides claim there has been a violation of Assembly traditions. On January 12, a delegation of representatives of the Tamil Nadu government, including Law Minister S. Regupathy called on President Droupadi Murmu in Delhi and handed over Mr. Stalin’s letter to her, which sought her intervention to ensure that the Governor acts as per Article 163 (1) [Council of Ministers to aid and advise Governor] of the Constitution. The same day, in Chennai, Mr. Ravi hosted an event at Raj Bhavan to mark the Pongal festival, which was boycotted by the ruling DMK and its allies.

#### **What led to the face-off?**

In four months of Mr. Ravi assuming charge in September 2021, DMK parliamentary party leader T.R. Baalu demanded his resignation for not forwarding to the then President Ram Nath Kovind a



Bill, adopted by the Assembly, seeking to exempt government seats in undergraduate medical and dental courses from the National Eligibility-cum-Entrance Test (NEET). Even though the legislation is now awaiting Presidential assent, there are many other Bills which are awaiting the Governor's nod. The Tamil Nadu Prohibition of Online Gambling and Regulation of Online Games Bill, also on the waiting list, had been cleared in the form of an ordinance by Mr. Ravi on October 1, 2022. Days before the Assembly began its proceedings, the Governor kicked up a debate by expressing his preference for the term 'Tamizhagam' to refer to the State, instead of Tamil Nadu.

**What did Mr. Ravi leave out in his address?**

He left out the references to national and regional stalwarts, and the phrase "Dravidian model of governance", which gained currency after the DMK returned to power in May 2021. He skipped describing Tamil Nadu as "a haven of peace" in the context of the law and order situation; its ability to attract "numerous foreign investments" and "becoming a forerunner in all sectors." According to Mr. Stalin, the text of the address was approved by him before its distribution to the members.

**How many times has Tamil Nadu faced such a situation?**

This was the first time that a Governor chose to skip certain paragraphs. Even when relations between Governor M. Channa Reddy and Chief Minister Jayalalithaa during 1993-95 were at the lowest ebb, nothing of this sort happened. In neighbouring Kerala, however, at least three Governors had skipped sections during their Assembly address since January 1969.

Though a walkout by a Governor is a first for Tamil Nadu, in February 1965, the then West Bengal Governor, Padmaja Naidu, walked out of the Assembly without addressing the House, annoyed by the Opposition's interruptions.

**What are the larger constitutional issues being discussed?**

The issue of deviation from the prepared text was immediately raised. Tamil Nadu Industries Minister Thangam Thennarasu, in his interaction with the media after the Governor's walkout, touched upon the matter of Presidents having to read out what the Centre had prepared.

On February 8, 1960, the then President Rajendra Prasad made certain corrections in the printed copies of the Hindi and English versions of the address which were received at the Lok Sabha Secretariat, an hour before the commencement of his address to the two Houses of Parliament, according to Practice and Procedure of Parliament by M.N. Kaul and S.L. Shakdher.

In his My Presidential Years, former President, R. Venkataraman, who held the post between 1987 and 1992, mentioned that when he delivered his address to both the Houses of Parliament on February 22, 1988, he changed the expression "My government" to "The government" as the original practice was a part of the British legacy. Else, he pointed out that "since the entire address is a statement of government policies and programmes, I left it to the government to present it in the form and manner it preferred."

One of his successors, Pranab Mukherjee, in his The Presidential Years 2012-2017, reinforced Venkataraman's position on the substance that went into the address and went on to state that he had "followed the rule book and conventions in both letter and spirit."

He did not shy away from making suggestions at the appropriate fora, but that there was "not a single occasion in the five years of my tenure as president that my addresses created a controversy or embarrassed the government of the day."



## WHY IS KERALA OPPOSING THE NEW ELECTRICITY RULES?

### The story so far:

The gazette notification on the Electricity (Amendment) Rules, 2022, came out on December 29. Ever since the Union Power Ministry shared the draft rules with the States last August, the CPI(M)-led government in Kerala had fiercely objected to Rule 14 which permits distribution companies (Discoms) to automatically recover from consumers, on a monthly basis, the expenses arising out of variations in fuel price and power purchase costs.

### What are the new rules?

The Centre introduced the Electricity (Amendment) Rules, 2022, to amend the Electricity Rules, 2005. Rule 14 of the Rules requires the State electricity regulatory commission to specify a price adjustment formula for automatically passing on the costs through the consumer tariff on a monthly basis. "Fuel and power purchase adjustment surcharges shall be calculated and billed to consumers, automatically, without going through the regulatory approval process, on a monthly basis, according to the formula, prescribed by the respective State Commission," it says.

### What has been Kerala's stand?

The State government has argued that giving Discoms the freedom to automatically pass on the aforementioned costs through the electricity bill endangers consumer interests. The amendment spawns an "unstable pricing situation" in the power sector, akin to that of petrol and diesel prices. Consumers would be subjected, quite unfairly, to frequent price fluctuations, it said. It further observed that the crucial role played by the State Electricity Commission in fixing the surcharge would get diluted. Electricity Minister K. Krishnankutty declared that his department would seek legal advice on how best to enforce the rules without burdening the consumers of the state-run Kerala State Electricity Board (KSEB). On January 11, Mr. Krishnankutty blamed the Centre for ignoring the State's stand and going ahead with the amendment.

### What is the role of regulator?

Until now, KSEB would file petitions for collecting the thermal fuel surcharge before the Kerala State Electricity Regulatory Commission on a quarterly basis. Since Kerala produces only 30% of its electricity demand within its borders, the power purchase expenditure, especially during the summer months when demand soars, is quite substantial. In the normal course of things, the Commission finalises a decision on the KSEB plea after holding a public hearing. According to the State government, doing away with this prudence check would put the general public at the receiving end.

### What next?

With the Centre notifying the Electricity (Amendment) Rules, 2022, Mr. Krishnankutty convened a high-level meeting on January 10 to discuss measures to be adopted in the State. He directed the Power department to examine whether potential tariff fluctuations arising out of the new arrangement can be balanced through reduced tariffs during the State's extended monsoon months when power purchases and consumption levels are on the lower side. During rainy seasons, hydropower generation is high, meeting over 50% of the demand. The Minister has also suggested that, in the remaining months, power purchase costs should be kept to a minimum to avoid burdening the consumers. But experts argue that such safeguards would only work in a



situation where a State-run entity like the KSEB is at the helm of things. They state the real concern lies in the future when they could get dumped in a scenario where private players enter electricity distribution in Kerala.

#### WHY RETAINING TALENT IN INDIA WILL REQUIRE MORE THAN FOREIGN CAMPUSES

At a time when the government is embarking on far-reaching reforms in the higher education sector, including instituting enabling measures for foreign universities to set up campuses in the country, data compiled by the US State Department and the non-profit Institute of International Education provides interesting insights. An analysis of the data in this newspaper reveals that an increasing number of Indian students studying in the US are staying back after their degree to join that country's workforce. In 2021-22, nearly 35 per cent of the 1.99 lakh Indian students in American universities enrolled in the Optional Training Programmes that allow foreign students with F-1 visas to join paid or voluntary work for up to three years in the US. One takeaway from this is that merely paving the way for campuses of prestigious foreign universities may not be enough to retain talent in the country. Planners need to find ways to link the reforms in education with the job market. But this task cannot be left only to the government — industry bodies will also need to contribute to this endeavour.

The trends related to Indian students in US campuses hold for their peers who seek education in other parts of the developed world. Last year, an OECD report on international migration patterns pointed out that Indians studying in economically developed countries are the most likely among all foreign students to join the local workforce. The transition rates from study permits to work permits were far higher in Indians compared to the Chinese — students from the two countries constitute the lion's share of the foreign students in campuses in the US, UK, Australia and other developed countries.

For decades, engineering institutes held the highest attraction for Indian students in the US. The trend began to change about seven years ago. Data for the last academic year, 2021-2022, show that 38 per cent of Indian students in American campuses study mathematics and computer sciences and about 30 per cent are enrolled in engineering courses. The OECD report shows that this trend holds for Indian students attending universities in other parts of the developed world. This, of course, is in line with the increased demand, globally, for skills related to digital technology, data analysis and cyber security. The role of Indian talent in powering global technology powerhouses is well-known. At the same time, the country that aspires to become a \$5 trillion economy by 2025 cannot afford to keep losing home-grown talent. In the coming months and years, as planners give shape to the NEP's vision, addressing this vexing question cannot be postponed.

#### ASER REPORT HAS SIGNIFICANT POINTERS ON REVERSING POST-PANDEMIC EDUCATIONAL LOSSES

The findings of the first nationwide ASER survey in four years offer significant takeaways. Covering nearly seven lakh children in the age group of 6 to 16 in 616 districts, it frames the impact of the pandemic on learning outcomes. As expected, the report card in this respect is not too good. But ASER 2022 also belies fears that the prolonged closure of schools — amongst the longest in the world — would set back the steady rise in enrollment over the past 10 years. More than 98 per cent of 6-16 year-olds are in school. It's heartening that the proportion of out-of-school girls has fallen to 2 per cent. The uncertainties and exigencies of the pandemic years do not seem to





have diminished the importance that parents, across social groups, attach to sending children to school.

ASER recorded a steady rise in learning outcomes between 2014 and 2018. But the lack of classroom interaction with the teacher seems to have reversed these incremental gains. The percentage of Class 3 students who can read a Class 2 book has fallen by nearly 7 percentage points since the last nationwide ASER survey in 2018. The loss in numerical skills is less steep — about 2.3 per cent. But these figures seem less grim when seen from another perspective — 2022 was the first year in a physical classroom for these students. The report suggests that despite wide variations in how children accessed technology during the pandemic years, most schools — even in rural areas — “attempted to keep learning going with digital resources”. Here, too, a significant contribution seems to have been made by mothers and fathers. The percentage of young parents who have been to school has gone up appreciably in the past 10 years and they may have actively participated in overcoming some of the challenges caused by the pandemic-induced disruption, the report suggests. In the coming months and years, as states try to find different pathways to reach NEP 2020’s goal of achieving universal foundational literacy and numeracy, they would do well to work ASER 2022’s hypothesis on the role of parents into their plans.

A comparative analysis of learning outcomes during the pandemic and post-pandemic years in West Bengal, Karnataka and Chhattisgarh — states where the ASER was conducted during the health crisis — also offers hope. It shows that these states have reversed their losses significantly in 2022. Other studies, including that by the University of California’s Karthik Muralidharan on Tamil Nadu’s recovery, underline the significance of empowering teachers and reaching out to students in their homes. A system that synergises the roles of the home and classroom is the way to go.

#### SEXUAL HARASSMENT ALLEGATIONS: WRESTLING FEDERATION CHIEF MUST GO

After sexual harassment charges made by top Indian women wrestlers Vinesh Phogat and Sakshi Malik against Brij Bhushan Sharan Singh, the Wrestling Federation of India president and BJP MP from Kaiserganj must be asked to step down. Doing so is necessary. The grave allegations made against him must be taken seriously and the right thing done by India’s wrestlers, several of whom have joined the dharna begun by Phogat and Malik at Jantar Mantar in Delhi on January 18. Once Singh has stepped down from his position, the work of investigating the allegations must be taken forward — and also of putting in place and enforcing mechanisms that can address a problem with deep roots in power imbalances and lack of governance in sport.

This latest controversy comes after another case last month, when a junior athletics coach in Haryana accused the then state sports minister, Sandeep Singh, of sexual harassment. While an FIR was lodged against Singh and he resigned the sports portfolio, he remains Minister of State, Printing and Stationery, raising questions about the fairness of the investigation into charges against him. While Singh has denied the allegations against him and remains at the helm of the wrestling body, at the press conference on Wednesday, Phogat voiced fears about taking on “powerful people”, speaking of the “10-20 girls” she knows who have been “exploited in the national camp over the past 10 years” and who are too scared to fight back because they are “not powerful”. Her words paint a vivid picture of a sport that has, for too long, been dominated by one man: A six-term MP, five from the BJP and one from the SP, Singh has been the president of the WFI for almost 10 years. The chilling effect of his grip on power in the wrestling body is evident in the fact that even India’s most decorated athletes, with medals from the Olympics, Commonwealth Games, Asian Games and World Wrestling Championships, among others, felt the

**3<sup>RD</sup> FLOOR AND 4<sup>TH</sup> FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR**





need to sit on dharna in the bitter Delhi winter, rather than seek redressal through the internal complaints committee. It speaks to a lack of trust in the authorities to listen to their problems, and a sobering conviction that unless there's a public spectacle, they don't stand a chance.

Phogat, Malik and other young wrestlers like them have, for years, been celebrated for infusing a new vitality into the game. In overcoming deeply-ingrained gender biases and rising to the top in a traditionally male-dominated sport, they lit the way for generations of aspiring girls and women. As they step forward to take on Indian wrestling's most powerful figure, the state must take their concerns seriously, while ensuring that they do not suffer for breaking a silence.

## TEJASVI SURYA ROW: WHAT ARE EMERGENCY DOORS, AND WHY DO AIRCRAFT HAVE THEM?

Tejasvi Surya, national president of the BJP Yuva Morcha and the party's MP from Bengaluru South, allegedly opened the emergency exit of an IndiGo aircraft at Chennai airport on December 10 last year. The aircraft was on the ground at the time of the incident.

The airline released a statement on Tuesday (January 17), which did not name Surya; only mentioned "a passenger travelling on Flight 6E 7339 from Chennai to Tiruchirapalli on Dec 10, 2022" who had "accidentally opened the emergency exit". In a statement, civil aviation regulator Directorate General of Civil Aviation (DGCA) referred to a "mistake" by a passenger on the aircraft.

The aircraft was reportedly taxiing for takeoff when the emergency exit door opened. In accordance with protocol, the passengers were taken off and the aircraft left only after it had been thoroughly examined.

This is not the first time that a passenger has tried to open an aircraft's emergency door. The history of civil aviation is peppered with incidents in which passengers have tried to open an emergency door — not only on the ground but also mid-air.

### **Why do aircraft have emergency doors?**

Emergency doors, as the name suggests, are intended to help passengers and crew quickly evacuate an aircraft in an emergency — a ditching, crash-landing, a burning, when smoke fills the cabin, or any other event that may require an immediate evacuation in order to ensure the safety of passengers and crew on board.

The doors are to be opened only under specific orders by the crew to evacuate during an emergency — and under no other circumstances.

During testing and certification, aircraft manufacturers are required to demonstrate that all passengers, in maximum-seating capacity, can be evacuated within 90 seconds, factoring in malfunctioning devices or blocked doors, during an emergency.

In 2006, Airbus, during a mock emergency, demonstrated that 853 passengers and crew members could safely evacuate its superjumbo Airbus A380 in just 78 seconds, an impressive feat.

### **Where are the emergency doors located?**

In commercial jets, the doors are usually located above the aircraft's wings, accessible by passengers. Emergency doors are separate from, and in addition to, an aircraft's regular front and rear doors.



### **Should you be scared to sit next to an emergency exit?**

Not at all. In fact, the seats next to the emergency exits have more leg space, and are hence more comfortable. However, you must never try to open the door — it affects flight safety, constitutes a violation of regulatory rules, and you will be liable for action.

A member of the cabin crew always separately and directly briefs the passengers occupying the seats next to these doors on how to open them in an emergency. If the seats next to the emergency doors are empty, cabin crew members usually look for volunteers. A child or an elderly passenger who may find it difficult to open the emergency door is usually discouraged from sitting next to it.

### **Can a passenger open an emergency exit on the ground?**

As the Chennai incident illustrates, it is indeed possible for a passenger to open an emergency door when the aircraft is on the ground. There have been several instances around the world when a passenger has done so — some have even stepped out and walked on the aircraft's wings, and later told law enforcement that "the cabin was stuffy and they wanted some fresh air".

However, doing this constitutes a violation — unless authorised by crew members to do so during an emergency.

### **And can a passenger open a plane door mid-air?**

It happens only in movies. In reality, it is impossible for either passengers or crew to do so mid-flight. That's because humans don't have the strength to overcome the tremendous air pressure pushing against the door in a pressurised cabin. At cruising altitude, where the outside air is thin and contains less oxygen, aircraft cabins are pressurised to conditions that exist at about 8,000 ft above sea level, so that passengers can breathe normally.

According to airline pilot Patrick Smith, the author of 'Cockpit Confidential' and creator of the popular aviation website AskThePilot.com, "At a typical cruising altitude, up to eight pounds of pressure are pushing against every square inch of interior fuselage. That's over 1,100 pounds against each square foot of door. Even at low altitudes, where cabin pressure levels are much less, a meagre 2 psi differential is still more than anyone can displace... The doors are further held secure by a series of electrical and/or mechanical latches."

### **Before takeoff, and after landing, one hears the pilot tell the cabin crew to "arm" or "disarm" doors. What does that mean?**

When a door is 'armed', it means the inflatable emergency escape slide will deploy automatically and inflate if the door is opened. The slide deploys with huge force and can inflate in six seconds.

When a door is 'armed', it is ready for use in an emergency evacuation. When a door is 'disarmed', it means the inflatable slide has been deactivated.

"As an aircraft approaches the gate, you will sometimes hear the cabin crew calling out 'doors to manual' or 'disarm doors'. This has to do with overriding the automatic deployment function of the slides. Those slides can unfurl with enough force to kill a person, and you don't want them billowing onto the jet bridge or into a catering truck," writes Smith.



## WOMEN GET COMMAND ROLES IN THE INDIAN ARMY: WHY THIS IS A REMARKABLE ACHIEVEMENT

As many as 108 women officers in the Army are set to be cleared for the rank of Colonel (selection grade) by January 22 by a special selection board, which will make them eligible to command units and troops in their respective arms and services for the first time.

A total of 244 women officers are being considered for promotion against the vacancies — from the batch of 1992 to 2006 — in arms and services including Engineers, Signals, Army Air Defence, Intelligence Corps, Army Service Corps, Army Ordnance Corps and Electrical and Mechanical Engineers.

Until Thursday evening, 80 women officers had been cleared for the rank of Colonel from Lieutenant Colonel by the Special No. 3 Selection Board whose proceedings began on January 9.

Unlike other promotion boards, this one is being held every day for a particular batch, starting with the 1992 batch, and the results are being declared on the same day.

Every officer gets three chances for promotion and thus the reviews, too, are being held within three days of the declaration of the result.

### **Why is this significant?**

Most importantly, it grants women officers parity with their male counterparts. Earlier, with a limited period career in the force, there were no promotion avenues for women officers to become a Colonel and command a unit like male Army officers.

It is not that women officers did not reach the rank of Colonel or beyond in the past, but they were only in two branches — the Judge Advocate General (JAG) branch and the Army Education Corps — where they were granted permanent commission in 2008. However, these were staff appointments — which are more administrative in nature — and not purely command appointments in which an officer commands troops on ground.

The Supreme Court's order to grant permanent commission to women Army officers in February 2020 opened the doors for promotion to women officers across all streams of the Army, except pure combat arms. With a longer career in the Army, women officers will be considered for promotions, including to the rank of Colonel and beyond.

### **Women were inducted in the Army as early as 1992. Why did their Colonel promotions come so late?**

An officer in the Army is promoted to the rank of Colonel only after serving between 16 and 18 years, based on certain criteria such as annual confidential reports and various courses.

Women officers who were inducted into the Army were inducted as Short Service Commission (SSC) officers in 1992 and in the years after did not have the choice to opt for permanent commission. JAG and Army Education Corps were exceptions, where a permanent commission was opened for them in 2008.

For other arms and services, women could not become permanent cadre, and had to retire much before they completed the service period that is mandatory to become a Colonel.



### **What did the Supreme Court order in 2020?**

In 2019, the Army changed its rules allowing SSC women officers to opt for permanent commission who would have otherwise retired after 14 years of service. However, this was not retrospective, and applied only to the batches of women officers starting their career in the Army in 2020.

With the landmark Supreme Court judgment of February 2020, permanent commission was granted to women officers with retrospective effect. This opened the doors for their further growth and promotions in the Army, which has been of late opening leadership and higher management courses for women.

### **What exactly does commanding a unit mean?**

Once promoted to a Colonel, an officer is eligible to command troops directly in the Army, which is an acknowledgment of the leadership qualities of the officer. It is considered a coveted appointment because in no other rank — including higher ranks like Brigadier or Major General — does an officer interact directly with troops on the ground.

Multiple women officers told The Indian Express that for them it was a dream to reach this point in their career. Despite working at the grassroots level as junior officers, women officers hitherto did not get an opportunity to prove their leadership skills as they were not eligible to command a unit. For a woman officer, this is an empowering move.

### **In which arms and services will women officers command units?**

Women officers in many streams of the Army, including the Army Air Defence, Signals, Engineers, Army Aviation, Electronics and Mechanical Engineers, Army Service Corps, Army Ordnance Corps, and Intelligence Corps will be commanding units.

They are still not eligible in core combat arms such as Infantry, Mechanised Infantry and Armoured Corps, as the Army is not open to women fighting wars at the borders as foot soldiers. Much of this resistance stems from past instances of male soldiers being taken as prisoners of war and tortured by the enemy. However, the Army has recently decided to open the Corps of Artillery, a combat support arm, to women.

### **What about the Indian Navy and the Indian Air Force?**

Women officers have been inducted into all branches of the Navy, and they will be eligible for permanent commission in the future. Women officers can command shore-based units and, as they join the service and become eligible for permanent commission, they would be able to command ships and air squadrons.

The IAF has opened all branches for women officers, including the fighter stream and the new weapon systems branch. As they are granted permanent commission based on eligibility and vacancies, they will be eligible to command units in the future.

### **How many women serve in the Indian armed forces?**

The Army, being the largest of the three services, has the largest number of women officers at 1,705, followed by 1,640 women officers in the IAF, and 559 in the Navy. This data was submitted by the government to Parliament last year.



### Which other armies allow women to serve or command units?

All major countries including the United States, United Kingdom, Russia, and Israel, allow women in command positions of their national armed forces.

### AGNIVEERS BREATHE FIRE IN 'OPTIMISED' TRAINING

With the engagement period of the new set of soldiers far shorter than that of previous recruits, training module has been trimmed and duration has been optimised to between 24 and 31 weeks; for the moment, they focus on the intense drills, with Army relying on technology-based solutions

Against the expanse of a clear blue sky and surrounded by green mountains, 796 Agniveers train hard in Ranikhet's mid-morning winter sun. They are on the Somnath Sharma Parade ground at the regimental headquarters of the Kumaon Regiment. Here, they march, fall into formation and learn the use of weaponry. The ground is named after India's first Param Vir Chakra recipient, who, at 24, died in the Battle of Badgam on November 3, 1947 repulsing Pakistani infiltrators near the Srinagar airport.

The men training here, part of the first batch of 19,000, are younger, between 17 and 23 and will go into history as being a part of India's biggest military reform since Independence.

The Agnipath scheme, announced by Defence Minister Rajnath Singh on June 14 last year, involves recruiting soldiers, airmen and sailors, who will serve the forces for a contractual four-year period. Post their term of engagement, only 25% will be enrolled into the regular cadre. The rest, the Defence Ministry says, will "be released, duly empowered and up-skilled, for a second career in civil society".

Nearly 60 lakh applications were received (37 lakh for the Army, 15 lakh for the Navy and 7.7 lakh for the Air Force). There were 96 recruitment rallies in each of the States and Union Territories, at the end of which 40,000 Agniveers were selected. Of these, 3,000 are being trained for the Air Force, and 2,800 for the Navy. The second batch of Army trainees will see 100 women, while the Navy has inducted 270 women.

### ARMY HONOURS MULE FOR SERVICE IN TAWANG

Amid the latest military discourse about rightsizing the Army and the increasing redundancy of the force's Animal Transport units with the ongoing induction of modern technologies such as logistics drones, a mule with the force has received a Chief of Army Staff (COAS) Commendation Card on Army Day for the exemplary service it rendered at the sensitive Tawang sector.

Hoof No 122, a mountain artillery mule employed with the Army, was awarded the COAS Commendation Card, which the Army's Gajraj Corps said was an apt recognition of selfless service by unsung warriors.

As per the citation given for the decoration, the mule endured extremely tiring and inhospitable conditions and always stood at the forefront of Animal Transport convoys from Forward Patrolling Point to Yangtse, which is above 15,000 ft.

Yangtse, which lies close to the Line of Actual Control in the Tawang sector, had seen several clashes between Indian and Chinese troops in the past, including a major clash last month.





“His steadfast physical presence and extremely composed temperament had put calming influence on other panicky animals and was thus instrumental in ensuring zero casualty rate,” the citation read.

It further said that despite all odds of heavy rains and treacherously slippery track conditions, the mule displayed tremendous physical robustness, surefootedness and was ever willing for load lifting duties remarkably contributing to tough tasks like lifting vital Engineer/ Ammunition and ration loads during Advance Winter Stocking 2021.

“This six years old mule lifted load of around 6,500 Kilograms and covered a distance of 750 Kilometers,” the citation read, adding that his exemplary keenness, supreme dedication beyond the call of duty in uncongenial operational environment, rightly merits due recognition and has been awarded Chief of the Army Staff Commendation Card on Army Day 2023.

In a tweet, the Army’s Gajraj Corps said that mules of animal transport units have been a vital link in logistics chain in remote regions under most challenging conditions and one such hero is Hoof No 122.

#### ‘DOCTOR DIDIS’ CREATING SOCIAL CAPITAL IN RURAL JHARKHAND

In Agra village, about 45 km from Ranchi, Janu Devi, 27, dressed in her blue sari uniform, is excited about the ice box she has just received. She’s one of five pashu sakhis (friend of the animals) in Jharkhand’s Tamar block office to get the box that stores vaccination vials for goats, poultry, and pigs.

Ms. Devi is part of a team of about a thousand women across all 24 districts of Jharkhand, recruited since October 2013, for last-mile coverage of livestock management.

These women, formally called community animal care service providers and informally known as ‘doctor didis’, go door to door when called. They advise farmers about health check-ups for their livestock, vaccinations, de-worming, hygiene, breeding, feeding, and the management of animal waste.

The project, conceived under the National Rural Livelihoods Mission, was taken under its wing by the Jharkhand Opportunities for Harnessing Rural Growth in 2017-18 and the World Bank began funding it. World Bank data suggest there are now up to 57,000 farmers who benefit.

#### **Dip in mortality rate**

“With the help of the pashu sakhis, the mortality rate of goats has come down by about 30%, and of poultry by 40%,” said Pravin Singh, a senior official in the Jharkhand State Livelihood Promotion Society, a unit of the State’s Agriculture department.

The pashu sakhis are put through a three-level 30-day training programme over seven-day tranches on how to take care of poultry, goats, and pigs. About 30 pashu sakhis have also been trained with 45 days of additional training in livestock management. These are the master trainers.

“Up to 70% of those trained have been certified by the Agriculture Skill Council of India, which guarantees a high common standard of services,” said Tapas Ranjan Behera, the State’s head for skills, jobs, and enterprise.



## WHAT CONSTITUTES A TRADEMARK VIOLATION: SUBWAY VS SUBERB IN HC

A 'sub' is not only a sandwich from Subway, Delhi High Court ruled last week, and dismissed a case of trademark infringement brought by the global fast food chain against Suberb, a Delhi based restaurant. The term 'sub' is widely used for submarine sandwiches — a cylindrical bread roll slit lengthwise and filled — the court said on January 12.

### The case before the court

Subway moved the HC against Infinity Foods, which uses the name Suberb for its restaurants in Delhi. Subway claimed that the brand name and logo "Suberb", with a yellow and green colour scheme, was identical to its mark "Subway".

Subway owns trademarks in the brand name "Subway" as a whole, as well as for its sandwiches named "Veggie Delite" and "Subway Club". Subway also claimed trademark infringement of its menu card, outlet decor, and recipes by Suberb.

### What is a trademark

A trademark is a symbol, design, word or phrase that is identified with a business. When a trademark is registered, its owner can claim "exclusive rights" on its use.

The Trademark Act, 1999, governs the regime on trademark and its registration. The Act guarantees protection for a trademark that is registered with the Controller General of Patents, Designs, and Trademarks, also known as the trademark registry. A trademark is valid for 10 years, and can be renewed by the owner indefinitely every 10 years.

### Violation of trademark

Using a registered trademark without authorisation of the entity that owns the trademark is a violation or infringement of the trademark.

Using a substantially similar mark for similar goods or services could also amount to infringement. In such cases, courts have to determine whether this can cause confusion for consumers between the two.

There are several ways in which a trademark can be infringed. However, the trademark owner has to show that the trademark has a distinct character.

**DECEPTIVE SIMILARITY:** The law states that a mark is considered deceptively similar to another mark if it nearly resembles that other mark, confusing the consumer in the process. Such deception can be caused phonetically, structurally or visually.

**PASSING OFF:** Say, a brand logo is misspelt in a way that's not easy for the consumer to discern. In such cases, the infringing products need not be identical — but similarity in the nature, character, and performance of the goods of the rival traders has to be established. (Cadila Healthcare Limited vs Cadila Pharmaceuticals Limited, 2001) Essentially, for a claim of 'passing off', some form of deception, misrepresentation, or harm to goodwill and reputation to the owner of a mark has to be established.



The Supreme Court has said that passing off is a “species of unfair trade competition or of actionable unfair trading by which one person, through deception, attempts to obtain an economic benefit of the reputation which other has established for himself in a particular trade or business”.

In the Subway case, the HC did not look into the issue of passing off. Justice C Hari Shankar said that to establish passing off, Subway would have to demonstrate that a “person of average intelligence” would be confused between the goods and services of Subway and Suberb because of the manner in which the Suberb mark is used.

This, the court said, was not possible as Subway “commands a reputation in the market”, and that there was no person of average intelligence who wanted to purchase food from Subway but would walk into a Suberb outlet instead.

#### **What Subway argued in court**

Subway argued that the brand name and logo “Suberb” was deceptively similar to “Subway”, and that the combination of green and yellow in Suberb was identical to the Subway trademark.

In December 2022, Suberb offered to change the colour combination used in the signage, as well as the names of its sandwiches “Veggie Delicious” and “Sub on a Club” to “Veg Loaded Regular” and “Torta Club” respectively.

Suberb argued that Subway is a “well known brand”, and that a consumer would not walk into a Suberb outlet confusing it with Subway.

#### **Decision of the court**

In his 26-page verdict, Justice Shankar held that while the two terms do not sound the same, “Sub” (the first syllable/ part) is common to both marks and is used as an abbreviation for “submarine”, which represents a well-known variety of long-bodied sandwiches, generally 6 or 9 inches in length and are thus in common knowledge of the public.

Subway, the court held, cannot claim “exclusivity” or “monopoly” over “sub”, the first part of its trademark “Subway”, when used in the context of eateries which serve sandwiches and similar items. It also held that once the dispute over the “sub” part was resolved, there was “obviously no similarity” between the two others parts of the marks — “way” and “erb”.

The HC held that “sub” was common to both marks; however there was no likelihood of confusion to the public as the marks when considered as a whole did not sound the same. Since the two marks did not sound similar, and the defendants had agreed to change the lettering, font, and colour scheme, no case for deceptive similarity was made out.

### **WHERE DO INDIAN CITIES STAND ON TOXIC AIR?**

#### **The story so far:**

Four years since the Centre launched the National Clean Air Campaign (NCAP), analysts found that progress has been slow and pollution only incrementally reduced in most cities.

#### **What is the NCAP?**

Following years of evidence that many Indian cities were among the most polluted in the world, the government launched the NCAP that committed funds as well as set targets for 131 of India’s

**3<sup>RD</sup> FLOOR AND 4<sup>TH</sup> FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR**



most polluted cities on January 10, 2019. The 131 cities are called non-attainment cities, as they did not meet the national ambient air quality standards (NAAQS) for the period of 2011-15 under the National Air Quality Monitoring Program (NAMPP).

#### **What are the target levels?**

The country's current, annual average prescribed limits for the two main classes of particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) are 40 micrograms/per cubic metre (ug/m<sup>3</sup>) and 60 micrograms/per cubic metre. The NCAP initially set a target of reducing key air pollutants PM<sub>10</sub> and PM<sub>2.5</sub> by 20-30% in 2024, taking the pollution levels in 2017 as the base year to improve upon. In September 2022, however, the Centre moved the goalposts and set a new target of a 40% reduction in particulate matter concentration, but by 2026. To meet these targets, approximately ₹6,897.06 crore has been disbursed to the cities by the government. For administering funds, the Central Pollution Control Board (CPCB), which coordinates the programme, looks at a city's PM<sub>10</sub> levels — the relatively larger, coarser particles. However, PM<sub>2.5</sub>, the smaller, more dangerous particles, aren't monitored as robustly in all cities, mostly due to the lack of equipment. Cities were required to quantify improvement starting from 2020-21, which requires 15% and more reduction in the annual average PM<sub>10</sub> concentration and a concurrent increase in "good air" days to at least 200. Anything fewer will be considered 'low' and the funding, provided by the Centre via the Environment Ministry, consequently reduced.

#### **How effective has the NCAP been?**

An analysis of the four-year performance of the NCAP by the Centre for Research on Energy and Clean Air (CREA), found that only 38 of the 131 cities that were given annual pollution reduction targets managed to meet the targets for FY21-22. The CREA noted that 37 cities have completed the source apportionment studies (which list out and quantify the major sources of pollution in a city). However, most of these reports weren't available in the public domain and no city action plan had been updated with information from these studies, as they were supposed to be under the NCAP programme. The CREA estimates that India will need to install more than 300 manual air quality monitoring stations per year to reach the NCAP goal of 1,500 monitoring stations by 2024. Only 180 stations have been installed over the last four years.

#### **Has NCAP managed to reduce pollution?**

The NCAP Tracker, a joint project by two organisations active in air pollution-policy, Climate Trends and Respirer Living Sciences, have been monitoring progress in achieving the 2024 clean air targets set under the NCAP. Among these cities, the national capital of Delhi ranked the most polluted in 2022, with an annual average PM<sub>2.5</sub> concentration of 99.71 ug/m<sup>3</sup>. But Delhi's PM<sub>2.5</sub> levels have improved by over 7% compared to 2019. Most cities in the top 10 most polluted list of 2022 were from the Indo-Gangetic Plain. All three of Bihar's non-attainment cities, Patna, Muzaffarpur and Gaya, now feature in the top 10 most polluted cities on the basis of PM<sub>2.5</sub> levels. Nine of the 10 cities, which were the most polluted in 2019, have reduced their PM<sub>2.5</sub> and PM<sub>10</sub> concentrations though the levels in these cities remain much higher than CPCB's annual average safe limits for PM<sub>2.5</sub> and PM<sub>10</sub>. In September 2022, the Centre for Science and Environment reported that based on PM<sub>2.5</sub> levels, only 14 of 43 (NCAP) cities registered a 10% or more reduction in their PM<sub>2.5</sub> level between 2019 and 2021. Only 43 cities were considered as only they had adequate data to scientifically establish a long-term trend. On the other hand, out of 46 non-NCAP cities with adequate data, 21 recorded significant improvement in their annual PM<sub>2.5</sub> value with 5% or more decline between 2019 and 2021. There were 16 NCAP cities and 15 non-





NCAP cities that registered a significant increase in their annual PM2.5 levels — with near identical numbers. This suggested that non-NCAP and NCAP cities were as likely to be polluted, with the NCAP regime having limited effectiveness.

## JOSHIMATH: ISRO PULLS DOWN REPORT, GOVT TELLS TOP EXPERT BODIES NOT TO SPEAK TO THE MEDIA

The National Disaster Management Authority (NDMA) has instructed a dozen government institutes and scientific organisations not to interact with the media or share data on social media regarding ground subsidence at Joshimath in Uttarakhand, saying their “interpretation of the situation” is “creating confusion not only among affected residents but also among citizens of the country”.

A preliminary report released Friday by the Indian Space Research Organisation’s National Remote Sensing Centre, showing a “rapid subsidence” event in parts of Joshimath, was taken down from the NRSC website.

According to the preliminary report, while “slow subsidence” up to 8.9 cm within Joshimath town was recorded over a period of 7 months since April 2022, Cartosat-2S satellite data acquired by ISRO recorded “rapid subsidence” of around 5 cm in just 12 days since December 27.

On Saturday, NRSC officials were not available for comment on why the report had been taken down. An email sent to the ISRO spokesperson did not elicit a response.

But Uttarakhand cabinet minister Dhan Singh Rawat told The Sunday Express that there was panic in Joshimath over the ISRO report, so he spoke to the ISRO director and asked him to remove the report.

“There was this thing on the website that there is land subsidence, and that created a lot of panic here (in Joshimath). This is why I asked him to only give official statements and not post anything on the website just like that... I asked them to only speak the truth... and if that is not the case, then remove it from the website. I requested them to give official reports and not create panic unless there is an official report,” Rawat said.

He said the NDMA letter was issued after the Uttarakhand government told the agency that any report regarding Joshimath should first get approval from the Centre or the state government.

“We have requested the NDMA. I have personally spoken to the ISRO director... The main motive behind this is to make sure there is no panic among people. People here are already troubled,” Rawat said.

The NDMA office memorandum prohibiting interaction with the media or sharing of data on social media regarding Joshimath was issued Friday. It was marked to the Director, Central Building Research Institute (CBRI), Roorkee; DG, Geological Survey of India (GSI), Kolkata; Director, NRSC-ISRO, Hyderabad; Chairman, Central Ground Water Board (CGWB), New Delhi; Surveyor General of India, SOI, Dehradun; Director, Indian Institute of Remote Sensing (IIRS), Dehradun; Director, National Geophysical Research Institute (NGRI), Hyderabad; Director, National Institute of Hydrology (NIH), Roorkee; Director, Wadia Institute of Himalayan Geology (WIHG), Dehradun; Director, IIT Roorkee; ED, National Institute of Disaster Management (NIDM), New Delhi; Secretary, Uttarakhand State Disaster Management Authority (USDMA), Dehradun.





The NDMA said in its office memorandum: “It is observed that various Government Institutions are releasing data related to the subject matter in social media platforms and also they are interacting with media with their own interpretation of the situation. It is creating confusion not only among affected residents but also among citizens of the country.”

It stated that “the issue was highlighted during a meeting chaired by Honourable Union Home Minister on 12th January 2023”.

“Accordingly it was also discussed during a meeting chaired by Member Secretary, NDMA, held on 12th January 2023. Also an expert group has been formed for assessment of ground subsidence at Joshimath,” it stated.

“You are requested to sensitize your organization about this matter and refrain from posting anything on the media platform until the final report of the expert group is released by NDMA,” the NDMA said.

Questioning the NDMA order and the Uttarakhand government’s role in it, state Congress president Karan Mahara accused the state government of “hiding the fact that they never listened to the experts and none of the expert suggestions were ever implemented”.

Former Chief Minister Harish Rawat said, “This is unfortunate. What is happening in Joshimath is something that requires a lot of public awareness. All kinds of views should come. Only when all kinds of views and suggestions will come to the front, the other agencies will get into crystallising things. If alternate views are not welcomed, then this is not a good thing.”

“In this time of advanced technology, how are you going to hide what the ISRO has found? If not ISRO, then satellites of other countries will notice the same things. Those reports will then be published outside India and reach us. Wouldn’t that cause embarrassment to the ISRO and the country? Information coming from outside sources will create more panic. If the ISRO has something to say, that should reach the public. There is no panic in Joshimath. We assure you that we will work together on this and ensure the situation remains calm,” Rawat said.

#### ISRO LIKELY TO PUSH VENUS MISSION ‘SHUKRAYAAN I’ TO 2031

In a talk on January 9, P. Sreekumar, the Satish Dhawan Professor at the Indian Space Research Organisation (ISRO) and adviser to its space science programme, said that the organisation was yet to receive approval from the Union government for the Venus mission and that the mission could as a result be postponed to 2031.

ISRO’s Venus mission, Shukrayaan I, was expected to be launched in December 2024. The idea was born in 2012. Five years later, ISRO commenced preliminary studies after the Department of Space received a 23% increase in the 2017-18 Budget.

The organisation sought payload proposals from research institutes in April 2017.

Optimal launch windows from earth to Venus occur once around every 19 months. This is why ISRO has “back-up” launch dates in 2026 and 2028, should it miss the 2024 opportunity. But even more optimal windows, which further reduce the amount of fuel required at lift-off, come around every eight years.

Mr. Sreekumar, speaking at an Indo-French astronomy meeting at the Indian Institute of Astrophysics, Bengaluru, said that Shukrayaan I was “originally scheduled for a 2023 launch”, but



that “right now the 2031 window is very good”. He added that the mission was “waiting for formal approval and money”, which are required before spacecraft assembly and testing.

He said both the U.S. and the European space agencies had Venus missions planned for 2031 — referring to VERITAS and EnVision, respectively — while “China might go anytime: 2026, 2027, whenever they want to go”.

ISRO had originally hoped to launch Shukrayaan I in mid-2023 but cited the pandemic when it pushed the date to December 2024. Other ISRO missions, including Aditya L1 and Chandrayaan III, have also been affected by manufacturing delays and commercial launch commitments.

Shukrayaan I will be an orbiter mission. Its scientific payloads currently include a high-resolution synthetic aperture radar and a ground-penetrating radar. The mission is expected to study Venus’s geological and volcanic activity, emissions on the ground, wind speed, cloud cover, and other planetary characteristics from an elliptical orbit.

ISRO received an allocation of ₹13,700 crore in the 2022-23 Budget, marginally higher than the year before.

The bulk was diverted to the human space flight mission, Gaganyaan. Ahead of the forthcoming Budget announcement, and following recent reforms in the private space flight sector, various industry groups have drafted a wishlist, including boosts to local manufacturing and procurement.

#### NEPAL TEMPLE TO GIFT STONES TO CARVE RAM IDOL IN AYODHYA

**Two shilas (stones), around seven feet long and weighing over 350 tonnes, from the Kali Gandaki river in Nepal are set to arrive in Ayodhya, where they will be used to carve the idol of Lord Ram, said the priests from Janaki temple (Janakpur) in Nepal.**

In Ayodhya, there is still no clarity if the stones from Nepal will be used to build the idol, said an official from the temple trust.

A group of priests, local leaders and residents of the Beni Municipality gathered on the banks of the Kali Gandaki river in Myagdi district in Nepal on Sunday to perform a puja for the Himalayan stones.

Mahant Ramtapeshwar Das, chief of the Janaki temple, told The Hindu the huge pieces of stones were identified by experts after spending weeks on the ground. “The shortlisted stones, [weighing] around 350 tonnes, will be taken to Ayodhya as a gift. The stones would reach before the month-end,” he said.

#### RISKS AND REWARDS

The deaths of five men in Tamil Nadu in as many events of jallikattu and manjuviratu — in Madurai, Tiruchi, Sivaganga, Pudukottai and Karur districts — and injuries to dozens of persons this week, though unfortunate, are no surprise. Ever since the event resumed in January 2017 after a three-year ban and a massive agitation, participants and spectators alike have been its victims. According to the Animal Welfare Board of India, between 2008-14, there have been 43 deaths and thousands of injuries. As of now, zero human casualty remains an elusive goal, not to speak of the plight of the animal. The Supreme Court of India has reserved its judgment on a batch of petitions questioning the validity of the Prevention of Cruelty to Animals (Tamil Nadu



Amendment) Act of 2017. Organisers of jallikattu events must note the observation made in late November by the Constitution Bench, which heard arguments over the amendment, that the sport of jallikattu as such might not be brutal but the “form” in which it was being held in the State might be cruel. Proponents of jallikattu, who view the event as a sport, argue that the logic that is applied to football or boxing, where the probability of injury is high, should be extended to jallikattu too. Also, just as the occurrence of mishaps does not trigger the demand for a ban on these two sporting activities, the same yardstick should hold good for jallikattu, which is also justified in the name of culture, tradition and valour. But, what is overlooked is that in football or boxing, or even car racing, the whole game centres around humans, unlike in jallikattu.

At the same time, regulation and safety are being given greater importance. It is comforting that the authorities have tightened the rules. In Madurai district, which has 21 venues, an online registration system allowed bull owners to choose only one out of the three high-profile venues — Avaniapuram, Palamedu and Alanganallur. In Tiruchi, no more than 700 bulls can be released at each event. Of course, elaborate guidelines were issued by the State Animal Husbandry, Dairying, Fishing and Fishermen Welfare Department in late December, on the duties and responsibilities for each stakeholder. Though fairly extensive, the rules should also have stringent penal provisions. The authorities should focus on preventing deaths, at least among spectators, who should be behind impregnable barricades. Also, the government should end the practice of having fancy prizes, such as cars and motorcycles, to draw in youth. After all, jallikattu was originally meant to showcase strength and valour, and the rewards should not be seen as an incentive to overlook the risks to life and limb.

#### SPOT-BELLIED EAGLE OWL SPOTTED IN A.P.'S SESHACHALAM FOREST FOR THE FIRST TIME

A wildlife team recently stumbled upon a spot-bellied eagle owl (*Bubo Nipalensis*) for the first time in the Seshachalam forest, and for the third time in Andhra Pradesh.

The bird's habitat, found on large trees in thick forests, is spread across the Indian subcontinent. But it was sighted only twice in the State earlier, and both the times it was at Nagarjunasagar Srisailem Tiger Reserve (NSTR).

A team, comprising ornithologist K. Karthik Sai, wildlife photographer Gopi Lakkala and Bhakarapeta Forest Range Officer Dattatreya, spotted the bird on January 7 when it ventured into the Talakona forest area. The bold predatory bird, measuring 20-25 inches in length and weighing between 1.5 kg and 2 kg, feeds on small rodents and lizards.

“The bird makes a strange scream similar to humans and it is hence called the ‘ghost of the forest’ in India and ‘devil bird’ in Sri Lanka,” Mr. Karthik Sai told The Hindu.

The team also spotted a ‘Mottled wood owl’ (*Strix Ocellata*) last weekend in the fields abutting Chamala forest on the Tirupati-Annamayya inter-district border. Though both are labelled as ‘least concern’ in terms of population stability, the development assumes significance in view of their maiden sighting in the verdant Seshachalam ranges.



## VIVEKANANDA'S FOUR YOGAS

### Why in news?

— January 12 this year marks the 161st birth anniversary of Swami Vivekananda, observed as National Youth Day.

— Spiritual primacy is the central theme of Vivekananda's teachings, through which human beings can succeed in every sphere of their lives. Nevertheless, he urges people, especially the youth, to never let go of reason. Instead, he premises his philosophy, ideas and life work on the premise of reason. The three instruments of knowledge that he propounded are instincts, reason, and inspiration.

### KEY TAKEAWAYS

#### Vedantic Humanism

“The Vedanta philosophy, as it is generally called at the present day, really comprises all the various sects that now exist in India. Thus there have been various interpretations, and to my mind they have been progressive, beginning with the dualistic or Dvaita and ending with the non-dualistic or Advaita. The word Vedanta literally means the end of the Vedas — the Vedas being the scriptures of the Hindus... All the Vedantists agree on three points. They believe in God, in the Vedas as revealed, and in cycles.”

— Swami Vivekananda believed that there is only one Self in the universe. There is only one Existence. He saw the entire universe as a manifestation of the absolute One.

— On the coexistence of various faiths, he believed religious acceptance, and not tolerance was important. He claimed that tolerance comes out of a superiority complex.

— For Vivekananda, the most desirable path for self-realisation was the selfless service of man. Some ways through which the essential unity of all human beings can be realised are unconditional love for all, judicious detachment, and expansion of self through service of fellow humans despite any sectarian difference, he believed.

— He was an exponent of vedantic humanism. He did not propagate a world-negating concept of spirituality, rather he said that each and every chore of your life should be done with divinity. He articulated that external rituals of religion are of secondary importance but the spiritual essence of a religion should be preserved and accepted.

— Talking about Vivekananda's understanding of religion, Deepak Ji Purohit, a monk associated with the Ramakrishna Mission, said, “Religion is a topic of experience, peace can only last if people understand the real meaning of religion, practise it in their daily lives and feel one with it.”

#### Divinity within ourselves

“Infinite power is in the soul of man, whether he knows it or not. Its manifestation is only a question of being conscious of it. With the full consciousness of his infinite power and wisdom, the giant will rise to his feet.”



— Swami Vivekananda asserted that each soul is potentially divine. The goal of human beings should be to manifest this divinity within, which can be done by controlling nature, external and internal.

#### **Karma Yoga, Bhakti Yoga, Raja Yoga and Jnana Yoga:**

— Swami Vivekananda talked about the four pathways of attaining moksha from worldly pleasure and attachment in his books, we look at them.

#### **Karma Yoga**

— Swami Vivekananda, emphasising the importance of work, said that God can be attained through work. He said that in every society there are people whose minds cannot be concentrated on the plane of thought alone. He stressed that a lot of people fritter away a great amount of their energies because they are oblivious to the secret of work. The key to this secret lies in Karma Yoga, as it teaches how to employ to the maximum advantage all our energies in our work.

— Karma-Yoga teaches how to work for work's sake, unattached to the results. A Karma Yogin works out of her nature as she feels it is the right thing for her to do and that is the sole objective of her work. "Whatever you do, let that be your worship for the time being," he said.

#### **Bhakti Yoga**

— Bhakti Yoga teaches that love is a vital element of all human beings. It teaches how to love bereft of any ulterior motives. "All love is expansion, all selfishness is contraction. Love is therefore the only law of life. He who loves lives, he who is selfish is dying," said Swami Vivekananda.

#### **Raja Yoga**

— Raja Yoga opens up the psychological way to union with God. This Yoga teaches that in order to acquire knowledge, we'd have to use a method called concentration. Swami Vivekananda, to explain this Yoga, gives an example of a chemist who works in her laboratory, concentrating all the powers of her mind, bringing them into one focus, and throwing them onto the elements; the elements stand analysed and thus her knowledge comes.

"The more this power of concentration, the more knowledge is acquired. The stronger the power of concentration, the better will that thing be done."

#### **Jnana Yoga**

— Jnana Yoga is the path of knowledge. Weeding out the darkness of ignorance through the light of knowledge, it can bring the 'fire' and 'light' alive by burning all the impurities of the mind. The mind does not give up its attachment to worldly pleasures unless it has tasted something greater and higher. Self-knowledge, according to jnana-yoga, is true liberation.

#### **Faith in oneself**

— He emphasises that the ideal of faith in ourselves is of the greatest help to us as whatever "you think, that you will be. If you think yourselves weak, weak you will be; if you think yourselves strong, strong you will be." One has to know that all knowledge, power, purity, and freedom are in oneself.





— Swami Vivekanand also urges people to not shy away from taking responsibility for their actions. “We, as Vedantists, know for certain that there is no power in the universe to injure us unless we first injure ourselves. Let us blame none, let us blame our own karma. The effect is here and the cause is here too. We are to blame. Stand up, be bold, and take the blame on your own shoulders.”

**Read some of his most inspirational quotes:**

\* “Take up one idea. Make that one idea your life; dream of it; think of it; live on that idea. Let the brain, the body, muscles, nerves, every part of your body be full of that idea, and just leave every other idea alone. This is the way to success, and this is the way great spiritual giants are produced.”

\* “Arise! Awake! And stop not until the goal is reached.”

\* “Where can we go to find God if we cannot see Him in our own hearts and in every living being.”

\* “All the powers in the universe are already ours. It is we who have put our hands before our eyes and cry that it is dark.”

\* “Ask nothing; want nothing in return. Give what you have to give; it will come back to you, but do not think of that now.”

#### MUKARRAM JAH, TITULAR EIGHTH NIZAM OF HYDERABAD, DIES AT 89

**Born to Prince Azam Jah and Princess Durru Shehvar, the imperial princess of the Ottoman Empire, in France on October 6, 1933, Mukarram Jah was crowned as Asaf Jah the Eighth on April 6, 1967. He was living in Turkey.**

Mukarram Jah Bahadur, the titular eighth Nizam of Hyderabad, passed away on Thursday night in Istanbul, a statement issued by his office on behalf of the family said. He was 89. Jah, the successor and grandson of the last Nizam of Hyderabad Mir Osman Ali Khan Bahadur, was living in Turkey.

Born to Prince Azam Jah and Princess Durru Shehvar, the imperial princess of the Ottoman Empire, on October 6, 1933 in France, Mukarram Jah was coronated as Asaf Jah the Eighth on April 6, 1967, after the passing away of Mir Osman Ali Khan in February 1967.

“We are deeply saddened to inform you that Nawab Mir Barkat Ali Khan Walashan Mukarram Jah Bahadur, H.E.H The Eighth Nizam of Hyderabad, passed away peacefully in Istanbul, Turkey late last night at 10.30 pm (IST),” the statement said.

The family will allow his mortal remains to be kept at Hyderabad’s Chowmahalla palace on Tuesday. “As per his desire of being laid to rest in his homeland, his children are scheduled to travel to Hyderabad with the mortal remains of the late Nizam on Tuesday, 17th January 2023.”

The statement added that “on arrival (in Hyderabad) the body will be taken to the Chowmahalla Palace and after completing the required rituals the burial will take place at the Asaf Jahi family tombs. The schedule and other details will be released in due course.” The Asaf Jahi tombs are located at the entrance of the Mecca Masjid next to Char Minar.

After the accession of Hyderabad to the Indian Union, the seventh Nizam Mir Osman Ali Khan served as Raj Pramukh of the state from January 26, 1950 to October 31, 1956.



## BUSINESS & ECONOMICS

### A FORTUITOUS TREND

The last month of 2022 capped a year dominated by high inflation headlines on a seemingly amiable note. The average price rise faced by consumers during December slipped to its lowest since November 2021 at 5.7%. Data released on Monday show that wholesale inflation also fell to a 22-month-nadir of 4.95% from 5.88% in November. That December 2021 had registered a steep 14.2% wholesale price rise, exaggerated the cooling effect. Yet, this marked the seventh successive month of moderation in wholesale inflation since it hit an all-time high of 16.6% in May 2022, and the fourth straight month that retail inflation has eased from 7.4% in September 2022. Over November and December, retail inflation has stayed below the central bank's 6% threshold and wholesale price rise has been slower than consumer prices, signalling that pressures on producers to pass on higher input costs may be easing. The Government, gearing up for a pre-election Budget, the RBI, which has projected inflation to average 5.9% in the current quarter from 6.1% in October-December 2022, and consumers too, would be hoping this is a harbinger of lower prices this year.

However, these two months of milder inflation do not offer compelling comfort on this front simply because they have been disproportionately influenced by what some economists have termed an 'idiosyncratic' element — 'vegetable prices'. From about 8% inflation in October, prices for vegetables dropped 8% and 15% in November and December, respectively, as onions, tomatoes and potatoes turned cheaper. This pulled down food inflation but may not have lowered overall household expenses on food much. Inflation accelerated for the sixth straight month in the largest item of the food basket — cereals (at 13.8%, with wheat prices rising 22%). An uptick was also seen for pulses, milk, eggs, meat and fish, and spices, even as non-food items and services show stubborn price rise trends, be it clothing, footwear, personal care, household goods or health and education. Keeping volatile vegetable prices out, retail inflation in November was 7% and raced to 7.2% in December, belying the headline trend. Core inflation, which measures price rise minus food and energy, also inched up and needs attention, as reiterated by RBI Governor Shaktikanta Das amid a growing clamour for pausing interest rate hikes. With the Chinese economy rebooting from a strict zero COVID policy, global commodity and oil prices may well harden again. It is too early to take the eye off the inflation problem, which continues to hurt rural demand in particular, deterring much-awaited private investment plans.

### TRADE WINDS

December 2022 marked the steepest fall in two years for India's goods exports, with products worth \$34.5 billion shipped out — 12.2% lower than a year ago. This was the second time in three months that shipments dropped year-on-year and top Commerce Ministry officials sought to calm nerves by citing the global headwinds that were posing challenges for Indian merchandise. These include the clouds of recession blowing through Europe and the U.S., the COVID-19 situation in China and a reversion towards protectionism in some markets. To be clear, a high base effect also played a role in exaggerating the year-on-year export dip in December. December 2021 had clocked the second highest exports (worth \$39.3 billion) in 2021-22, when India's goods shipments crossed a record \$422 billion. The world's trade dynamics have been altered since then, as the momentum swung from a strong post-pandemic pent-up rebound to a stuttering growth trajectory amid soaring inflation and geopolitical muddling, with the Ukraine-Russia conflict counting as only one of the many shocks to the global economy through 2022.

**3<sup>RD</sup> FLOOR AND 4<sup>TH</sup> FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR**



Amid these tumultuous times, a month-on-month reading of export trends is perhaps a better way to gauge the situation. For now, December's export numbers, even if lifted by the last batches of pre-holiday festive shipments reaching their destined shores, hold up well on this front vis-à-vis October and November's initial trade estimates. The other silver lining is that imports also contracted 3.5% in December, the first such instance since November 2020, although they remained flat sequentially at around \$58.2 billion. For the first nine months of 2022-23, India's goods exports are still 9.1% higher than a year ago, slightly lower than the 11.1% rise recorded till November 2022. Some agencies expect the global recession to hit demand for Indian goods far harder in the current quarter so much so that the full year could still end up with a shrinkage in exports. In December itself, new export orders grew at the slowest pace in five months as firms struggled in key export markets, as per the S&P Global India Manufacturing Purchasing Managers Index. The latest data on U.S. retail sales signal the sharpest slump in 12 months even as industrial output has tanked, signalling that demand for finished goods or inputs is set to slacken further in India's top export destination. With China reopening, competition is expected to intensify even as demand shrinks. Some recent government moves such as fixing glitches in a duty remission scheme for exports and lifting curbs on iron ore shipments have helped, but more macro- and swifter micro-policy actions are warranted to keep the export engine chugging.

#### GOVERNMENT MUST EXAMINE REASONS FOR SHORTFALLS IN NON-TAX REVENUE AND DISINVESTMENT PROCEEDS, OPT FOR A MORE STRUCTURED APPROACH

Data released by the Ministry of Finance last week reaffirmed the healthy growth in the central government's tax collections this financial year. At the aggregate level, the government's direct tax collections upto January 10, 2023, stood at Rs 14.71 lakh crore, almost 25 per cent higher than over the same period last year. Adjusting for refunds, collections were up almost 20 per cent. To put these numbers in perspective — direct tax collections have already touched almost 87 per cent of the budget target of Rs 14.2 lakh crore for the financial year 2022-23. This only affirms the view that the tax collections will surpass the government's budget expectations by a considerable margin. However, even as tax revenue growth has been healthy, there are concerns over the government's non-tax revenues and proceeds from disinvestment.

For 2022-23, the Union budget had pegged non-tax revenues at Rs 2.69 lakh crore, down from Rs 3.13 lakh crore (revised estimates) in 2021-22. Of this, it had pegged the dividend/surplus of the central bank, the nationalised banks and financial institutions at Rs 1.13 lakh crore. While this was already lower than the revised estimates of Rs 1.47 lakh crore in 2021-22, so far this year, the Centre has garnered only Rs 68,254 crore. In May 2022, the central bank, after its board meeting, had said it will transfer Rs 30,307 crore as surplus to the government. And as reported in this newspaper, there is a possibility that the surplus available with the RBI for transferring as dividend to the government is likely to remain low in the current financial year. At the aggregate level, while the budget had pegged non-tax revenue to GDP to fall from 1.35 per cent of GDP in 2021-22 to less than 1 per cent in 2022-23, as per some analysts, non-tax revenues are likely to be even lower than budget expectations by around Rs 50,000 crore. A similar trend is observed in disinvestment proceeds. While the budget had already lowered the disinvestment target from Rs 78,000 crore in 2021-22 to Rs 65,000 crore for 2022-23, so far, total revenue through this route has been only around Rs 31,106 crore. This includes Rs 20,516 crore garnered through the sale of the government's stake in LIC. Some transactions are in the pipeline — for example, bids have been invited for selling the government's stake in IDBI Bank. However, despite that, analysts expect disinvestment proceeds at the end of the financial year to trail the budget target by a significant margin.



Considering these shortfalls, the government must reexamine the manner in which it formulates targets and plans for garnering revenues through these channels. It must opt for a more systematic approach, keeping in mind macroeconomic uncertainties. More resources at its disposal would certainly help it augment capital expenditure and manage the deficit.

## HIGH INTEREST COSTS MAY FORCE RBI TO CUT DIVIDEND TO GOVT

THE SURPLUS available with the Reserve Bank of India for transfer or the RBI dividend to the Union government is likely to remain low in the current financial year ending March 2023 because of higher expenditure incurred by the central bank due to rising interest rates and higher costs in managing surplus liquidity in the system.

While the RBI transferred a lower surplus of Rs 30,307 crore in FY2022 (Rs 99,126 crore in FY2021) to the government, the lowest in 10 years, the surplus this financial year is also likely to be on the lower side. The lower dividend could be due to higher interest payments to banks which parked their surplus liquidity in the reverse repo window.

Under reverse repo, the RBI borrows from banks, while under the repo window, RBI lends to banks. The reverse repo rate is 3.35 per cent and the repo rate is 6.25 per cent.

Further, mark-to-market losses on account of a fall in bond prices across the world are likely to impact the income of the central bank. The rupee too depreciated by over 10 per cent in the last 12 months. The RBI can bank on the Contingency Fund which was at Rs 3,10,986.94 crore as of March 2022 in the case of any emergency requirement. The central bank can tap the Currency and Gold Revaluation Account (CGRA) to manage the exchange and gold valuation losses.

The RBI had deployed as much as US \$ 361.8 billion in foreign securities as of September 2022.

Higher dividend transfer by the RBI, especially since 2018-19, had offered some relief to the government as it tackled an economic slowdown even before the pandemic spread its tentacles. Based on the Bimal Jalan committee, which looked into the RBI's economic capital framework (ECF), the central bank transferred an all-time high amount of Rs 1.76 lakh crore to the government in 2018-19 (July-June).

### Why RBI income may be lower

Several aspects affect the quantum of surplus generated by the RBI. One is the interest rate the central bank has to pay when banks park their funds with the RBI. Two, rupee depreciation against dollar. Three, as bond prices dropped with rising yields, RBI had to provide for mark-to-market losses.

The RBI normally pays the dividend from the surplus income it earns on investments and valuation changes on its dollar holdings and the fees it gets from printing currency, among others. The rupee depreciation against the dollar in recent months is also likely to weigh on the surplus transfer.

In the Investment Revaluation Account-Foreign Securities (IRA-FS), the foreign dated securities are marked-to market on the last business day of each week ending Friday and the last business day of each month and the unrealised gains or losses are transferred to the IRAFS.

The balance in IRA-FS decreased from Rs 8,853.67 crore as on March 31, 2021 to (-) Rs 94,249.54 crore as on March 31, 2022 because of increase in yields across the maturities for all major





markets. However, this loss was adjusted against the Contingency Fund and the balance in IRA-FS was nil as of March 2022. Bond yields had risen further since then in most overseas markets with the 10-year US bond yield rising by 185 basis points to 3.59 per cent in the last 12-month period. When the yield goes up, the prices of the bond drop, leading to a loss in mark-to-market holdings.

The balance in Investment Revaluation Account–Rupee Securities (IRA-RS) decreased from Rs 56,723.79 crore as on March 31, 2021 to Rs 18,577.81 crore as on March 31, 2022, due to net impact of hardening of yields across the yield curve leading to mark-to market losses and booking of unrealised gain into realised gain on sale of rupee securities. India's 10-year bond yield is now at 7.32 per cent.

Currency and Gold Revaluation Account (CGRA) provides a buffer against exchange rate/ gold price fluctuations. It can come under pressure if there is an appreciation of the rupee vis-à-vis major currencies or a fall in the price of gold. When CGRA is not sufficient to fully meet exchange losses, it is replenished from the CF.

During 2021- 22, the balance in CGRA increased from Rs 8,58,877.53 crore as on March 31, 2021 to Rs 9,13,389.29 crore as on March 31, 2022 mainly due to depreciation of rupee and rise in the international price of gold.

"We don't, however, expect it (the surplus) to be negative as the central bank has a lot of flexibility in managing its accounts. The surplus should be somewhere near to the last year's level," said Madan Sabnavis, Chief Economist, Bank of Baroda. "There was surplus liquidity of around Rs 6-7 lakh crore in the system till recently. Though the RBI's expenditure has gone up, they can easily manage it," he said.

#### STATE OF CONCERN: STATE GOVERNMENTS MUST ADDRESS FISCAL RISKS

After a marked deterioration during 2020-21, state government finances have been on the mend. In 2020-21, the consolidated fiscal deficit of states had risen to 4.1 per cent of GDP — the highest level since 2004-05. But by the end of next year, state governments had managed to bring down their deficits to 2.8 per cent of GDP. This year, they have pegged their consolidated fiscal deficit at 3.4 per cent of GDP, lower than the level of 4 per cent laid by the Centre as per the RBI's report on state budgets. However, considering the deviations in the past between budget expectations and actual trends, the deficit for this year may well end up being lower than what was originally planned for.

The RBI report also highlights a compositional shift in the general government capital expenditure. In 2021-22, capital outlay by state governments stood at 2.7 per cent of GDP, as against 2.3 per cent by the Centre. For 2022-23, states total outlay is actually budgeted to rise to 2.9 per cent of GDP. In fact, as per the RBI report, adjusting for the defence outlays, states' share in general government capital spending averages around 70 per cent. Though, so far this year, capital expenditure by states has been rather sluggish, barely registering a rise in the first seven months of the year.

There are, however, several areas of concern. First, the state debt to GDP ratio remains uncomfortably high. It is budgeted at 29.5 per cent by the end of March 2023, considerably higher than the 20 per cent level recommended by the Fiscal Responsibility and Budget Management (FRBM) review committee. Second, guarantees provided by state governments have also seen a sharp surge, having risen from Rs 3.79 lakh crore in 2014 to Rs 7.4 lakh crore in 2021. As per the



report, this has “implications for debt sustainability”. The debt position of state discoms is yet to be resolved. And then there is the fiscal risk from some states opting to return to the old pension scheme. “The annual saving in fiscal resources that this move entails is short-lived,” notes the report, adding that “by postponing the current expenses to the future, states risk the accumulation of unfunded pension liabilities in the coming years”. State governments must urgently address these risks, shun profligate policies, and strengthen their fiscal position to create the policy space needed to deal with possible economic shocks that may arise in the future.

## SOCIAL EQUALISER

The Union Cabinet’s recent decision to earmark ₹2,600 crore for providing banks with an incentive to promote digital payments has focused attention on India’s welcome push to broaden and deepen alternatives to the most widely accepted method of payment worldwide, cash. The Reserve Bank of India’s ‘Payments Vision 2025’ document observes that ‘payment systems foster economic development and financial stability’ while supporting financial inclusion. There can be no two views that the rapid and widespread adoption of digital payment methods, coupled with steps to bring more people into the banking system’s fold, has significantly helped cut the reliance on cash for low-value transactions, especially in metros and cities. At the heart of this payments revolution has been the National Payments Corporation of India and its Unified Payments Interface (UPI). The UPI’s function as a lynchpin transaction enabler has been key in undergirding this transformation. In December 2022, the total monthly volume of UPI-facilitated transactions aggregated almost 783 crore with the value exceeding ₹12.8 lakh crore. While this was a 71% jump in volume and a 55% increase in value from a year earlier, the UPI volume last month was close to 54 times the transactions in December 2017, and a staggering 98.6-fold of the value seen five years earlier.

The adoption of digital payment methods, while accelerated by the COVID-19 pandemic, has also been enabled by the widening number of banks which have backed the UPI system, as well as the indigenous RuPay credit and debit cards. A welter of private financial technology or fintech firms that offer tailor-made digital applications, and big technology and social media companies that have added payments with a view to enhancing stickiness with their core offerings have also been major enablers. The banking sector, however, has been at a relative disadvantage in leveraging the payments ecosystem for its core business growth as the spending on infrastructure to support and secure such payments has been disproportionately higher than for fintech and big tech rivals. The Government’s new incentive aims to level the field by offering payments in lieu of the commissions foregone by lenders in waiving the merchant discount rate they would otherwise have levied. Still, challenges abound. Policymakers need to urgently ring-fence the wealth of individual spending data being generated and constantly enhance security to safeguard the payments system from cyberthreats.

## LOAN LOSS PROVISION BY BANKS: WHY HAS RBI PROPOSED A NEW FORWARD-LOOKING APPROACH?

The Reserve Bank of India (RBI) on Monday (January 16) published a discussion paper on “loan loss provision”, proposing a framework for adopting an expected loss (EL)-based approach for provisioning by banks in case of loan defaults.



The RBI's proposal is based on the premise that the present "incurred loss"-based approach for provision by banks is inadequate, and there is a need to shift to the "expected credit loss" regime in order to avoid any systemic issues.

#### **What is loan-loss provision?**

The RBI defines a loan loss provision as an expense that banks set aside for defaulted loans. Banks set aside a portion of the expected loan repayments from all loans in their portfolio to cover the losses either completely or partially. In the event of a loss, instead of taking a loss in its cash flows, the bank can use its loan loss reserves to cover the loss.

Since the bank does not expect all loans to become impaired, there is usually enough in the loan loss reserves to cover the full loss for any one or a small number of loans when needed.

An increase in the balance of reserves is called loan loss provision. The level of loan loss provision is determined based on the level expected to protect the safety and soundness of the bank.

#### **What are the benefits of this approach?**

The forward-looking expected credit losses approach will further enhance the resilience of the banking system in line with globally accepted norms. It is likely to result in excess provisions as compared to shortfall in provisions as seen in the incurred loss approach, RBI said in the discussion paper.

#### **What is the problem with the incurred loss-based approach?**

The incurred loss approach requires banks to provide for losses that have already occurred or been incurred.

The delay in recognising expected losses under an "incurred loss" approach was found to exacerbate the downswing during the financial crisis of 2007-09. Faced with a systemic increase in defaults, the delay in recognising loan losses resulted in banks having to make higher levels of provisions which ate into the capital maintained precisely at a time when banks needed to shore up their capital. This affected banks' resilience and posed systemic risks.

Further, the delays in recognising loan losses overstated the income generated by the banks which, coupled with dividend payouts, impacted their capital base because of reduced internal accruals — which too, affected the resilience of banks.

### **DUOPOLY CONCERNS LOOM LARGE IN THE TELECOM SECTOR**

The fate of India's third-largest telecom, Vodafone-Idea, is hanging in the balance. In January 2022, the cash-strapped telecom had agreed to convert its adjusted gross revenues (AGR)-related dues worth ₹16,000 crore into government equity. With this move, the government would have become the largest shareholder with a 33% stake, reducing the promoter holding to 50%. However, despite the Cabinet's go-ahead, the conversion is yet to conclude. The delay has caused a severe fund crunch for Vodafone-Idea. While the government wants the promoters to infuse capital before taking a stake, the promoters — Vodafone Group plc and Aditya Birla Group — are not keen to pump in more money.

The financial woes of Indian telecoms are due to two reasons. One, intense competition led to tariff wars and shrunk the market from 15 players in 2010 to just four at present. If Vodafone-Idea



collapses, the sector will effectively become a duopoly. Two, AGR dues have further strained the pockets of older players such as Bharti Airtel and Vodafone-Idea. AGR refers to the dues related to licenses and spectrum charges paid by the operators to the Centre based on the revenues they earn.

Vodafone was the second-largest player for the most part of the last decade. With the merger, Vodafone-Idea occupied the top spot in 2018 with a wireless subscriber market share of 35.6%. But since then, it has been losing its share and is now a distant third. Jio has emerged as a market leader with 37%.

In the last four calendar years, Vodafone-Idea has lost over 173 million subscribers. From a high of 418.7 million in 2018, its subscriber base as of October 2022 was down to 245.6 million. While Airtel too lost subscribers in 2019, it has been gaining since 2020 and has acquired more subscribers than Jio on a yearly basis.

Apart from losing subscribers, Vodafone-Idea's average revenue per user (ARPU) per month has also failed to keep pace with that of its rivals. Jio's entry in 2016 disrupted the markets with cheap data and low tariffs, thus bringing down the ARPUs. But the rise in tariffs since FY20 has increased the ARPUs. Here too, Airtel has remained ahead of Jio. In FY23, Airtel's ARPU was ₹187 compared to Jio's ₹177 while Vodafone-Idea lagged behind with ₹130.

The falling subscriber base and cheaper tariffs impacted Vodafone-Idea's revenues and pending AGR dues and spectrum charges bloated its debt and further raised its expenses. Vodafone-Idea has made losses in every financial year since the merger. While its income from operations has dipped, its expenses have surged. Close to a third of its expenses are used to meet finance costs — the costs incurred by a company to borrow funds.

As of the quarter ending September 2023, Vodafone-Idea was saddled with a gross debt of ₹2,203.2 billion, while its cash and cash equivalents were merely ₹1.9 billion. There has been a significant rise in the telecom's gross debt since FY19, while its cash balance has remained low. A bulk of its debt is owed to the government in the form of spectrum and AGR dues.

#### GOOGLE AXES 12,000 JOBS OR 6% OF ITS WORKFORCE, TECH SECTOR LAYOFFS MOUNT

Google is laying off 12,000 workers, or about 6% of its workforce, becoming the latest tech company to trim staff as the economic boom that the industry rode during the COVID-19 pandemic ebbs.

Sundar Pichai, the CEO of Google's parent Alphabet, informed staff Friday at the Silicon Valley giant about the cuts in an e-mail that was also posted on the company's news blog. It's one of the company's biggest-ever round of layoffs and adds to tens of thousands of other job losses recently announced by Microsoft, Amazon, Facebook parent Meta and other tech companies as they tighten their belts amid a darkening outlook for the industry. Just this month, there have been at least 48,000 job cuts announced by major companies in the sector. Regulatory filings illustrate how Google's workforce swelled during the pandemic, ballooning to almost 1,87,000 people by late last year from 1,19,000 at the end of 2019.

#### AUTO EXPO & ITS ELECTRIFYING MAKEOVER: THE DIFFERENCE THAT 3 YEARS CAN MAKE

If its last edition in 2020 was almost entirely based around iterations of the internal combustion engine – models using the petrol or diesel mills – Auto Expo 2023 seemed to have undergone an

**3<sup>RD</sup> FLOOR AND 4<sup>TH</sup> FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR**





electrifying makeover. Multiple alternative powertrain technology were on display: an extended list of battery electric vehicle (BEV) unveilings that went beyond concepts and prototypes, a clear hybrid tech push that include self-charging hybrids and plug-in hybrids, as well as hydrogen internal combustion engine prototypes, hydrogen fuel cell vehicles and flex-fuel models that can run on multiple fuel types and mixes.

On display was both an acceptance of technological potential and a general readiness among the country's auto sector to embrace new technology. In the process, though, they also seemed to be delivering a clear missive to the government: the need to either offer a technology-agnostic level playing-field to players or alternatively lay out a clear roadmap on incentives based on technology platforms.

Currently the union government offers clear tax incentives for BEVs, with practically all other technological platforms clubbed together towards the upper end of the tax bracket. "We've got the tech; but we're waiting and watching", was a refrain that echoed across multiple carmakers. The other theme that resonated at this year's Expo was an affirmation of the steady upward shift in the price preference of customers – up from a median price of around Rs 5 lakh a decade ago to around Rs 10 lakh now – which was reflective in the choice of models on display across most pavilions.

### **The technology focus**

There were many firsts for India's largest automobile show. It was for the first time that platforms such as 'flex' fuel vehicles or the hydrogen ICE prototypes were on display. For the first time, there was an entire industry pavilion – the sugar industry that produces ethanol participated in the show and had a standalone presence. Pure-play ICE launches were the smallest ever. And one of the biggest showpieces incidentally came from a component manufacturer rather than a vehicle maker – the Indian arm of Columbus, Indiana-based diesel engine specialist Cummins announcing its plans to start producing a "fuel-agnostic engine systems" at its joint venture plant in Phaltan in Satara district of Maharashtra. Fuel-agnostic engines can run on hydrogen, bio-diesel, ethanol, CNG, LNG, and other fuels. A diesel truck can be retrofitted with a fuel-agnostic engine by swapping its existing diesel engine, and Cummins has tied up with partner Tata Motors to power the latter's commercial vehicles with these fuel-agnostic engine systems.

The country's other big commercial vehicle, Tamil Nadu-based Ashok Leyland, has tied up with Toyota Kirloskar Motor for the supply of a Fuel Cell Module to build fuel-cell commercial vehicles in India for proto examination and feasibility study purposes. Across the passenger car segment, alongside the wide array of tech options on display, there were the underpinnings of some clear tech preferences: Tata Motors, which had one of the most extensive vehicle range offerings at Expo 2023, both in terms of new offerings and technology prototypes, seems to be veering around to the view that the hydrogen value chain works best for commercial vehicles rather than passenger cars, while Toyota was seen pushing its manufacturing prowess – flex fuel, fuel cell, hydrogen ICE and BEV – across both the passenger and commercial vehicles segments. The country's largest carmaker Maruti Suzuki was frugal on new tech, with its biggest showstoppers being two traditional ICE vehicles, including the Jimny mini-SUV. Others such as South Korean manufacturer Hyundai Motor, the country's second largest passenger carmaker, are holding on to the old vanguard – the promise of the diesel mill. Chinese carmaker BYD made a strong EV push, with its blade battery technology (which boasts of Toyota Motor as a client) on display.



From a pan-pavilion basis, the two new tech priorities seemed to be the hydrogen platform and tapping the ethanol value chain using flex fuel engines, amid a growing realisation that for BEVs, vehicle charging infrastructure in India would be a constraint into the future, the tax incentives notwithstanding.

### **The Hydrogen Value Chain**

There are two broad technological platforms here: the hydrogen fuel cell tech and the hydrogen ICE platform. Traditionally a slow mover in the EV technologies, India has made an uncharacteristically early push in the race to tap the energy potential of the most abundant element in the universe, Hydrogen. This includes a National Hydrogen Mission and a roadmap for using Hydrogen as an energy source. And while proposed end-use sectors include steel and chemicals, the major industry that hydrogen has the potential of transforming is transportation – which contributes a third of all greenhouse gas emissions, and where Hydrogen is being viewed as a direct replacement of fossil fuels, with specific advantages over traditional EVs. As a supporting regulatory framework, the Ministry of Road Transport and Highways had, in late 2020, issued a notification proposing amendments to the Central Motor Vehicles Rules, 1989, to include safety evaluation standards for hydrogen fuel cell-based vehicles, and a recent Cabinet push for what is called the Green Hydrogen value chain. The biggest comfort factor for the auto sector in terms of policy support, though, seems to be the entry of two of India's biggest industrial groups – Reliance Industries and the Adani Group – into the green hydrogen value chain.

While Hydrogen's potential as a clean fuel source has a history spanning nearly 150 years, it was only after the oil price shocks of the 1970s that the possibility of hydrogen replacing fossil fuels came to be considered seriously. Hydrogen is an energy carrier, not a source of energy, and so has to be transformed into electricity by a device called a fuel cell stack before it can be used to power a car or truck. A fuel cell converts chemical energy into electrical energy using oxidising agents through an oxidation-reduction reaction. Fuel cell-based vehicles most commonly combine hydrogen and oxygen to produce electricity to power the electric motor on board. Since fuel cell vehicles use electricity to run, they are considered electric vehicles.

A big hurdle to the adoption of hydrogen fuel cell vehicles has been a lack of fuelling station infrastructure – even though fuel cell cars refuel in a similar way to conventional cars, they cannot use the same station. Safety is also flagged as a concern. Hydrogen is pressurised and stored in a cryogenic tank, from there it is fed to a lower-pressure cell and put through an electro-chemical reaction to generate electricity. Hyundai and Toyota maintain the safety and reliability of hydrogen fuel tanks is of a level similar to that of standard CNG engines. Scaling up the technology and achieving critical mass remains the big challenge. More vehicles on the road and more supporting infrastructure can lower costs. India's proposed mission is seen as a step in that direction.

### **Hydrogen ICE platform**

These are similar to conventional internal combustion engine vehicles, and have little in common with hydrogen fuel cell vehicles. Basically, they are ICE vehicles with a few tweaks made to prep them to run on hydrogen. Certain components of the engine like the fuel delivery system and spark plugs are modified or changed to enable compatibility for use of hydrogen, instead of petrol or diesel. When it comes to emissions, these vehicles are not zero-emission engines like the fuel cell vehicles as the combustion process in hydrogen ICE engines leads to the emission of toxic nitrogen



oxides while some carbon dioxide is also released due to burning of the engine oil. In comparison, FCEVs, which use hydrogen to power the fuel cell, are much cleaner.

#### **Flex Fuel tech**

A nationwide pilot is currently underway that aims to replicate the commercial deployment of this technology in other markets such as Brazil, Canada and the US. A flex-fuel, or flexible fuel, vehicle has an internal combustion engine, but unlike a regular petrol or diesel vehicle, this can run on more than one type of fuel, or even a mixture of fuels.

The most common versions use a blend of petrol and ethanol or methanol, but these engines are also equipped to run on 100 per cent petrol or ethanol as well. This is made possible by equipping the engine with a fuel mix sensor and an engine control module (ECM) programming that senses and automatically adjusts for any ratio of designated fuels. In a recent interview with The Indian Express, Union Minister of Road Transport and Highways Nitin Gadkari said the push to car makers to adopt flexible engines is part of a broader strategy to cut down on the country's dependence on imported crude in the medium-to-long run.

The most important benefit is that the use of ethanol blending sharply lowers harmful pollutants such as carbon monoxide, sulphur, and carbon and nitrogen oxides. Another obvious benefit is that blending will help cutback on oil imports for fueling vehicles.

But there are problems: a flex fuel car typically takes a small hit on fuel efficiency when using ethanol for motive power, ranging from between 4 per cent and 8 per cent. Another major problem with ethanol blending is that crops such as sugarcane are usually very water-intensive. Currently, around 9.5 percent ethanol blending with petrol has been achieved in fuel dispensed in pumps in most metros. But this is slated for a major bump up, with the government's 2025 target of 20 percent blending of ethanol in petrol envisaged in its National Biofuel Policy 2018.

**DreamIAS**



## LIFE & SCIENCE

### GALAXIES

Astronomers from the University of Missouri have used data from NASA's James Webb Space Telescope (JWST) Early Release Observations and discovered 87 galaxies that could be the earliest known galaxies in the universe.

The finding moves the astronomers one step closer to finding out when galaxies first appeared in the universe — about 200-400 million years after the Big Bang. "Finding such a large number of galaxies in the early parts of the universe suggests that we might need to revise our previous understanding of galaxy formation," Haojing Yan from the University of Missouri said in a release. "Our finding gives us the first indication that a lot of galaxies could have been formed in the universe much earlier than previously thought."

The astronomers searched for potential galaxies at "very high redshifts." The concept of redshifts allows us to measure how far away distant objects are in the universe by looking at how the colours change in the waves of light that they emit.

### JAMES WEBB TELESCOPE DISCOVERS ITS FIRST EARTH-SIZED EXOPLANET: WHAT ARE EXOPLANETS?

The National Aeronautics and Space Administration (NASA) on January 11 announced that the James Webb Space Telescope has discovered its first new exoplanet. Researchers have labelled the planet as LHS 475 b, and it's roughly the same size as Earth, the agency added.

Located just 41 light-years away, the planet orbits very close to a red dwarf star and completes a full orbit in just two days.

Researchers hope that in the coming years, owing to the Webb telescope's advanced capabilities, they will be able to detect more Earth-sized planets. So far, most of the discovered exoplanets are similar to Jupiter as Earth-sized planets are much smaller in size and harder to discover with older telescopes.

#### **What are exoplanets?**

Exoplanets are planets that orbit other stars and are beyond our solar system. According to NASA, to date, more than 5,000 exoplanets have been discovered. Scientists believe that there are more planets than stars as each star has at least one planet orbiting it.

Exoplanets come in a host of different sizes. They can be gas giants bigger than Jupiter or as small and rocky as Earth. They are also known to have different kinds of temperatures — boiling hot to freezing cold.

#### **Why and how do we study them?**

Studying exoplanets not only broadens our understanding of other solar systems but also helps us piece together information about our own planetary system and origin. However, the most compelling reason to learn about them is to find the answer to one of the most profound and thought-provoking questions of humankind — are we alone in this universe?





In a bid to understand the characteristics of an exoplanet, researchers look for its mass and diameter along with determining if it is solid or gaseous or even has water vapour in the atmosphere.

Another important element of the study is finding out the distance between an exoplanet and its host star. This helps scientists determine if a discovered world is habitable or not. If an exoplanet is too close to the star, it might be too hot to sustain liquid water. If it's too far, it might only have frozen water. When a planet is at a distance that enables it to have liquid water, it is said to be in the "Goldilocks zone".

With the launch of the Webb telescope, scientists believe that they would now be able to better study exoplanets as it is the only telescope that is capable of characterising the atmospheres of Earth-sized planets orbiting distant stars.

As report previously by The Indian Express, "Webb is sensitive enough to detect a range of molecules in LHS 475 b's atmosphere, but the researchers are yet to make definitive conclusions. In fact, it is even possible that the planet has no atmosphere."

#### **How are exoplanets discovered?**

Discovering exoplanets is quite tough as they are small and hard to spot around their bright host stars. Scientists rely on indirect methods, such as the transit method, which is "measuring the dimming of a star that happens to have a planet pass in front of it", according to NASA.

#### **What are red dwarf stars?**

As mentioned before, the newly discovered exoplanet orbits around a red dwarf star. Such types of stars are the most common and smallest in the universe. As they don't radiate much light, it's very tough to detect them with the naked eye from Earth. However, as red dwarfs are dimmer than other stars, it is easier to find exoplanets that surround them. Therefore, red dwarfs are a popular target for planet hunting.

### **EUROPE'S LARGEST KNOWN DEPOSIT OF RARE EARTH ELEMENTS FOUND IN SWEDEN: COULD THE DISCOVERY CHANGE GEOPOLITICS?**

Swedish state-owned mining company, LKAB, on January 12 announced that it has discovered more than one million tonnes of rare earth oxides in the northern area of the country. This is the largest known deposit in Europe, the company added.

During a press conference, also attended by Sweden's Energy Minister Ebba Busch, LKAB's President and CEO Jan Mostrom said, "This is good news, not only for LKAB, the region and the Swedish people, but also for Europe and the climate."

Currently, no rare earths are mined in Europe and it mostly imports them from other regions. According to a report in the BBC, 98 per cent of rare earths used by the European Union were sent by China. "Electrification, the EU's self-sufficiency and independence from Russia and China will begin in the mine", said Busch in a statement.

The discovery can also prove to be a significant turning point not just for the EU but also for other western countries as they have been trying to reduce their reliance on China for the import of these rare earth elements and other key industrial supplies, especially since the outbreak of the coronavirus pandemic.



### What are rare earths?

Rare earth elements or rare earth metals are a set of 17 chemical elements in the periodic table — the 15 lanthanides, plus scandium and yttrium, which tend to occur in the same ore deposits as the lanthanides, and have similar chemical properties.

The 17 rare earths are cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).

Despite their classification, most of these elements are not really “rare”. One of the rare earths, promethium, is radioactive.

### What are rare earths used for?

These elements are important in technologies of consumer electronics, computers and networks, communications, clean energy, advanced transportation, healthcare, environmental mitigation, and national defence, among others.

Scandium is used in televisions and fluorescent lamps, and yttrium is used in drugs to treat rheumatoid arthritis and cancer. Rare earth elements are used in space shuttle components, jet engine turbines, and drones. Cerium, the most abundant rare earth element, is essential to NASA’s Space Shuttle Programme.

In recent years, rare earths have become even more important because there has been an increase in demand for green energy. Elements like neodymium and dysprosium, which are used in wind turbine motors, are sought-after more than ever as wind mills across the world continue to grow. Moreover, the push for switching from internal combustion cars to electric vehicles has also led to a rise in demand for rare earth magnets — made from neodymium, boron, and iron — and batteries.

### What does the discovery mean for Europe and the world?

Against the backdrop of the fraught relations between China and other western countries, the new discovery of a deposit of rare earth elements in Sweden has come as a relief for the latter.

Over the years, China has repeatedly used its monopoly in the rare earths market for furthering its geopolitical agendas. For instance, in 2010, Beijing blocked Japan’s access to rare earth elements over Tokyo’s detention of a Chinese fishing trawler captain. A decade later, when the Trump administration tried to take action against telecom giant Huawei, China “threatened to include certain products using rare earths in Beijing’s technology-export restrictions”, according to a report by Politico.

Therefore, it didn’t come as a surprise when last year in August, the US and 10 other nations — Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea (South Korea), Sweden, the United Kingdom, and the European Commission — came together in a bid to break China’s dominance in the global market and formed the Minerals Security Partnership (MSP).

As per The Indian Express report, the alliance was “seen as primarily focused on evolving an alternative to China, which has created processing infrastructure in rare earth minerals and has acquired mines in Africa for elements such as Cobalt.”



However, China's monopoly is likely to persist for the next few years. Experts suggest that it can take years to start operations at the Kiruna mine in Sweden, where the deposits have been found.

According to a Reuters report, LKAB has planned to submit an application for an "exploitation concession in 2023" but it might take 10 to 15 years for it to potentially begin mining the deposit and shipping to market.

## NOISE POLLUTION AFFECTS DOLPHINS' ABILITY TO COMMUNICATE: WHAT NEW STUDY SAYS

A new study has found that noise generated by human activity makes it harder for dolphins to communicate and coordinate with each other. As the levels of underwater noise increase, these mammals have to "shout" to each other, it added.

Published last week in the journal *Current Biology*, the latest study, 'Anthropogenic noise impairs cooperation in bottlenose dolphins', has been authored by researchers Pernille M Sørensen (University of Bristol, UK), Abby Haddock (Dolphin Research Center, Florida) and others.

Dolphins are social mammals that communicate through squeaks, whistles and clicks. They also use echolocation in order to locate food and other objects. Therefore, anthropogenic noise coming from large commercial ships, military sonars or offshore drilling can severely impact their well-being.

### How was the study done?

To make their observations, researchers placed two dolphins, named Delta and Reese, at an experimental lagoon and trained them to press their underwater buttons located at either end of the enclosure within one second of each other. Both dolphins were also made to wear recording tags that documented their sound and motion.

Delta and Reese were released from a starting point during each trial, and in some trials, one was held back for five to 10 seconds while the other was released immediately. In case of delayed-release trials, the dolphins had to depend on just vocal communication to coordinate the button press.

### What are the findings of the study?

It was found that as it got noisier underwater, both dolphins changed their behaviour to communicate and work together. Apart from raising the volume and increasing the length of their calls, they also changed their body language — they turned their bodies towards each other and swam across the lagoon to be closer to each other.

Researchers noted despite these attempts to compensate for the noisy background, the dolphins had less success with the task. According to the study, "cooperative task success decreased in the presence of noise, dropping from 85 per cent during ambient noise control trials to 62.5 per cent during the highest noise exposure."

Previous studies have demonstrated that dolphins change their behaviour when they come across boats but, before the latest research, no one observed how anthropogenic noise can impact the coordination among these aquatic creatures.



### What are the consequences of noisy oceans?

Marine animals are known to use sound to navigate, find food and protect themselves. As sound travels faster in water than air, it makes for an important mode of communication because it can convey a lot of information quickly and over long distances. Scientists believe that fish species rely on sounds during reproductive activities, including mate attraction, courtship and mate choice.

However, several studies and incidents have shown that sounds made by drilling, commercial ships and military operations lead to disruption of marine life. In 2020, Australia witnessed one of its worst mass strandings of whales when around 200 of them died on Tasmania's west coast. Researchers suggest that mass strandings are linked to noise pollution in oceans.

A 2018 study by researchers at the University of Maryland found "that when there was more ambient sound, mostly from passing boats and ships, the dolphins switched to higher frequencies and streamlined their whistles", according to a report published by Mongabay.

Recently, The Guardian reported that the newly launched MV Ganga Vilas cruise, which will "make stops at about 50 tourist and heritage sites along the Ganga and Brahmaputra river systems", could severely damage the habitat of the Ganges river dolphin, which already face a number of threats, including water pollution and poaching.

Speaking to the newspaper, environmentalists and conservationists pointed out that these dolphins are "almost blind" and an increase in cruise tourism might result in their extinction.

### EXPLAINED: WHAT IS THE PACIFIC 'RING OF FIRE'?

The Hunga Tonga-Hunga Ha'apai volcano erupted over the weekend, sending ash and smoke thousands of feet into the air. The volcano, situated on an uninhabited island, became active in 2009. It lies along the Pacific 'Ring of fire', and is just over 60 kilometres from the island nation of Tonga.

The Pacific 'Ring of Fire' or Pacific rim, or the Circum-Pacific Belt, is an area along the Pacific Ocean that is characterised by active volcanoes and frequent earthquakes. It is home to about 75 per cent of the world's volcanoes – more than 450 volcanoes. Also, about 90 per cent of the world's earthquakes occur here.

Its length is over 40,000 kilometres and traces from New Zealand clockwise in an almost circular arc covering Tonga, Kermadec Islands, Indonesia, moving up to the Philippines, Japan, and stretching eastward to the Aleutian Islands, then southward along the western coast of North America and South America.

The area is along several tectonic plates including the Pacific plate, Philippine Plate, Juan de Fuca plate, Cocos plate, Nazca plate, and North American plate. The movement of these plates or tectonic activity makes the area witness abundant earthquakes and tsunamis every year.

Along much of the Ring of Fire, tectonic plates move towards each other creating subduction zones. One plate gets pushed down or is subducted by the other plate. This is a very slow process – a movement of just one or two inches per year. As this subduction happens, rocks melt, become magma and move to Earth's surface and cause volcanic activity.

In the case of Tonga, the Pacific Plate was pushed down below the Indo-Australian Plate and Tonga plate, causing the molten rock to rise above and form the chain of volcanoes.





Subduction zones are also where most of the violent earthquakes on the planet occur. The December 26, 2004 earthquake occurred along the subduction zone where the Indian Plate was subducted beneath the Burma plate.

#### WHY UAE'S SULTAN AL JABER, AN OIL COMPANY CEO, HAS CAUSED CONTROVERSY FOR HEADING CLIMATE CHANGE CONFERENCE

The United Arab Emirates, the host of COP28, has announced its Industry Minister Sultan Al Jaber will be the president of the two-week-long climate change conference.

The choice of the minister has invited sharp criticism from climate activists because Al Jaber, besides being the minister for Industry and Advanced Technology in the UAE government, also happens to be the CEO of the Abu Dhabi National Oil Company, the world's 12th largest oil company by production.

The fact that an oil company executive has been named to preside over a conference whose main objective is to get the world to move away from oil and other fossil fuels is being seen as a clear case of conflict of interest, and has annoyed a lot of stakeholders who are invested in the climate negotiation process. This is the first time that anyone having a direct connection to the fossil fuel industry has been appointed as president of the climate change conference.

#### Post of the COP president

The government of the host country holds the presidency of the COP for one year, till the conference is concluded. It usually names one of its ministers as the president. The role of the COP president is to facilitate and guide the negotiations. The president does not have any special powers, but does play a key role in prioritising the agenda of discussions and helping forge a consensus on important issues. They are usually extremely active behind the scenes, brokering deals and compromises, mediating conflicts, and acting as crisis managers.

For the past few years, COP presidents have also engaged in pre-conference diplomacy, travelling all over the world to hold discussions with governments in order to understand their priorities and to get a sense of the kind of agreement that could be realistically achieved at the conference.

While the COP president does have an influential role, the final decisions are always taken by consensus. The COP president, or any other individual or country, is unable to force through or impose any decision on others. There have been several instances when a single country — and not one from among the most powerful — has stood up and disagreed with the rest of the world, and the conference has had to accommodate its concerns.

#### A case of bad optics

It is an unrealistic apprehension that Sultan Al Jaber, or any other COP president, can single-handedly steer the negotiations in any particular direction. But his appointment as COP president is nonetheless bad optics. The industry he represents is likely to be directly affected by the decisions that are taken at the conference.

Tasneem Essop of CAN International said if the minister did not step down as CEO of the oil company, it would be “tantamount to a full scale capture of the UN climate talks by a petrostate national oil company and its associated fossil fuel lobbyists”.



And yet, the change that everyone seems to be asking for would be only cosmetic. One would need to have an ostrich's attitude to believe that the climate conference would deliver a better result if Sultan Al Jaber either stepped down from his role at the oil company, or was replaced by a ministerial colleague as COP president.

### **Storm in a teacup**

After all, Sultan Al Jaber's oil company is state-owned. The UAE remains one of the top producers of oil, and its economy, like those of so many other countries in the region, is based almost entirely on oil. The argument against Al Jaber could, therefore, be easily extended to suggest that UAE should never have been allowed to host the COP. The country is deeply invested in oil, and it would be difficult to imagine how any other UAE minister who would replace Al Jaber, could delink himself entirely from that interest. Also, the UAE is not the first oil producing nation in the Gulf to host the event. Qatar hosted COP18 in 2012.

The absence of strong outcomes from the climate conferences have had little to do with weak or compromised presidents so far, and a lot with the fact that the developed countries have, over the years, systematically weakened the process, while failing to meet their own obligations.

In a bid to transfer their burden on others, the developed countries have jeopardised climate goals, which seem distinctly out of reach now. None of the COPs in the last 15 years has produced an outcome that ensures actions commensurate with what science says is required to curb global warming. And the way the Paris Agreement is designed — with every country being asked to come up with what it thinks is its best effort — can only lead to a suboptimal outcome.

In fact, these climate conferences have never even expressly asked for a phase-out of fossil fuels, the main reason behind the global rise in temperatures. A proposal moved by India to this effect at the Sharm el-Sheikh meeting last year did not get the necessary backing.

Incidentally, Al Jaber also happens to be the chairman of the Masdar, a state-owned renewable energy company. If being a representative of an oil company disqualifies him from presiding over the conference, being representative of a renewable energy company should make him eligible. He is someone who is effecting a transition from fossil fuels to renewables, the same kind of transition that the entire world has to make. There are several fossil-fuel based companies, including in India, that are now venturing into renewable energies. They need to be welcomed, rather than being painted as villains because they continue their fossil fuel operations for the time being.

Also, Sultan Al Jaber is not new to the climate conferences. He has been UAE's special envoy on climate change for more than 10 years, and has attended these meetings in that capacity. He, therefore, is someone who would understand the process well.

The CEO of an oil company presiding over a climate conference is visibly jarring, no doubt, but to attribute a lacklustre outcome from the COP because of this reason would not be entirely accurate. The reasons for failures in climate action lie elsewhere.

## **IS HANDEDNESS INHERITED?**

We humans walk with two legs (called 'bipedal') and use two hands. The evolution of bipedalism began in our ancestors, the primates, about 4 million years ago. The primates not only gave us our blood groups, but our two feet and two hands as well. Primates exhibit characteristics that



distinguish them from less evolved mammals. These include adaptations to live in trees (as monkeys do), big brains, heightened sense of vision, opposable thumbs to grasp the four fingers in each hand, and more flexibility in shoulder movements.

#### **Four hands to two**

Dr. Tetsuro Matsuzawa of the Kyoto University, Japan, writes that the shared ancestor of primates moved into tree tops and developed four hands from the four legs possessed by the terrestrial ancestor. This was an adaptation to arboreal life; enabling the efficient grasping of branches and tree-trunks. Subsequently, early human ancestors left the trees to start walking long distances across the land, bipedally. Thus, we created two feet from four hands during the course of evolution from our primate ancestors.

The anthropologist Carol Ward of the University of Missouri, U.S. points out that the way we humans get around the world is different from any other animal on earth. We move around on the ground, upright on two feet, but in a unique way: with one foot after the other, holding our body fully upright in a characteristic series of motions. So, it's a big deal to figure out how and why we walk the way we do, and how our lineage really diverged so much from ape-like creatures.

The human brain is about three times as big as the brain of our closest living relative, the chimpanzee. Moreover, a part of our brain, called the cerebral cortex — which plays a key role in memory, attention, awareness and thought — contains twice as many cells as the same region in chimpanzees. We are, thus, smarter than apes.

#### **In your genes?**

Now comes the question of handedness. About 10% of us are lefties. How did this come about? This is still a hotly debated issue. There may be genetic influences: you are more likely to be a left-hander if your mother is left-handed than if your father is. Your chances rise to 50% when both your parents are left-handed. A group from the Sargodha University in Pakistan, writing in *The Journal of the Indian Academy of Applied Psychology (JIAAP)*, reported that left-handed participants were more intelligent than right-handed participants.

Dr. Chris McManus of the University of London, U.K. has, in 2019, published an authoritative article, 'Half a century of handedness research: myths, truths, fictions, facts; backwards, but mostly forwards', in the journal, *Brain and Neuroscience Advances*. He hopes that with new advances in gene sequencing and brain scanning techniques we will know more about human handedness in the coming years.

#### **Advantage lefties**

In sports, as we can imagine, lefties rule over righties. In international cricket, roughly 20% of the top-order batsmen are left-handers. So are 23% of Open-era Wimbledon champions. Gautam Gambhir and Sourav Ganguly in cricket, Rafael Nadal and Martina Navratilova in lawn tennis, and Lionel Messi in football. Mahatma Gandhi was ambidextrous, and so was Isaac Newton. You may add more names to these lists.

### **AGING FACTORY**

The last time China's population saw a decline was in 1961, in the midst of a devastating four-year famine following Mao's failed "Great Leap Forward" campaign. The latest decline in population,



however, is no blip. The shrinking of the world's most populous country by as much as 8,50,000 in 2022 marks a watershed moment with lasting consequences for China and the world. Beijing announced on January 17 that births in China last year dropped by more than 10% to 9.56 million, with 10.41 million deaths. The 1.411 billion population will certainly be overtaken by India's this year. China's population story holds lessons for countries that have tried robust interventions in social engineering. China has spent the greater part of two decades trying — and failing — to get families to boost birth rates that have been declining since the government introduced a harsh "one-child policy" in 1980. The belated introduction in 2016 of a "two-child policy" to course correct was not met with the enthusiasm that planners had expected for a relaxation announced with fanfare. A government survey found that 70% would not have more children citing financial reasons.

China's economy is already feeling the impact of demographic change. The 16-59 working age population (2022), was 875 million, a decline of around 75 million since 2010. Wages are rising, and labour-intensive jobs are moving out, predominantly to Southeast Asia. The above-60 population, meanwhile, had increased by 30 million to 280 million. The number of elderly will peak at 487 million by 2050 (35% of the population). China's National Working Commission on Ageing estimates spending on health care for the elderly will take up 26% of the GDP by 2050. Signs are China is already on track to follow Japan's example of a prolonged period of a shrinking workforce with declining growth. As a paper from Japan's Research Institute of Economy, Trade and Industry pointed out, the proportion of child and elderly populations in China as of 2020 was similar to Japan's in 1990. Moreover, China reached this inflection point faster, with its fertility rate falling from 2.74 to 1.28 in the preceding four-decade period, while Japan's fell from 1.75 to 1.29. The paper pointed out that India's proportion of child and elderly population in 2020 was similar to China's in 1980, just when its economic boom took off. That was made possible only by making the most of its demographic dividend by investing heavily in health care and education to fashion a workforce capable of powering what would become the world's factory.

#### PLAGIARISM AND MALICIOUS INTENT: DOES CHATGPT HAVE AN ETHICS PROBLEM?

In November 2022, OpenAI opened to users its most recent and powerful AI chatbot, ChatGPT, to test its capability. It amazed netizens all over the world with its range of answering questions across disciplines. The search interface could also generate fixes for broken code. The bot continues to attract diverse people to run experimental questions.

However, some users have been testing the bot's capability to do nefarious things. Illicit actors have tried to bypass the tool's safeguards and carry out malicious use cases with varying degrees of success.

Research outlet ArsTechnica shared some exchanges between several forum users and ChatGPT. These users claimed the chatbot helped them write malicious code even though they claimed to be amateurs.

ChatGPT is programmed to block obvious requests of writing phishing emails or code for hackers.

While it can close the gates for amateur coders looking to build malware, the more seasoned ones could trick the bot into correcting or enhancing malicious code they have partially developed.

They could get through the system by phrasing their request in an innocuous way.





### **A malicious code generator?**

OpenAI notes that asking its bot for illegal or phishing content may violate its content policy. But for someone trespassing such policies, the bot provides a starting point. Cybersecurity firm Check Point's researchers tested the bot by asking it to draft a phishing email for a fictional web-hosting firm. In response, ChatGPT gave an impressive 'phishing email'. The generated reply included a warning that read: "This content may violate our content policy. If you believe this to be in error, please submit your feedback — your input will aid our research in this area."

While surreptitiously asking ChatGPT to write malware is one problem, another issue several coders face is the inherently buggy code (buggy code refers to code which either already has bugs in it or is written in a way that will introduce bugs in the future) the bot spews out. Things have gotten so bad that Stack Overflow, a forum for software programmers, banned its users from using any AI-generated code on the platform. Check Point researchers also tested the bot on multiple scripts with slight variations using different wordings. They note that large language models (LLM) can be easily automated to launch complicated attack processes to generate other malicious artefacts.

"Defenders and threat hunters should be vigilant and cautious about adopting this [ChatGPT] technology quickly, otherwise, our community will be one step behind the attackers," the company noted.

### **Plagiarism alert**

Teachers and academicians have also expressed concerns over ChatGPT's impact on written assignments. They note that the bot could be used to turn in plagiarised essays that could be hard to detect for time-pressed invigilators. Most recently, New York City's education department banned ChatGPT in its public schools. The authorities have forbidden the bot's use in all devices and network connected to schools. It is not that plagiarism is a new problem in academic institutions; ChatGPT has changed the way AI is used to create new content. This makes it hard to single out copied content. "It's definitely different than traditional copy paste plagiarism. What we've noticed with AI writing, like these GPT models, is that they write in a statistically vanilla way," Eric Wang, VP, Artificial Intelligence at plagiarism detection firm Turnitin said.

Humans write based on metrics called "burstiness" and "surprise," while LLMs essentially fill in words based on a probability model. "They choose the most probable word in the most probable location far more often than a human writer," Mr. Wang explained. When the bot is controlled for these two metrics, the probability of a word in a particular spot jumps up and down, and is all over the place. Humans tend to deviate while writing, but models like GPT deviate much less on average. Turnitin's plagiarism detectors "can cue in that type of behaviour pretty reliably. And we have in the labs, detectors that are working quite well in terms of understanding student writing, versus GPT," Mr. Wang claimed. But there could be fewer such deviations in a more formal essay as such assignments demand a certain type of logical flow, which could be similar to a GPT-style response. So, in a scenario where the answers coming from a human and ChatGPT are in a similar zone, a different kind of pedagogy could help. Perhaps, looking beyond summarisation and reporting based on what is available on the Internet can help.

Comparing and contrasting something to modern events or writing own personal experiences aren't going to come from ChatGPT. So helping educators think through the different types of prompts to best assess students to help them stay away from using ChatGPT is important, Annie Chechitelli, Chief Product Officer at Turnitin, said.



## VIRAL NUTRITION: NEW STUDY REVEALS MICROBES NOURISHED BY CONSUMING VIRUSES

At various peaks of the COVID-19 pandemic, viruses have had a reputation as destroyers of public health systems and human lives. They have a peculiar biology — while inert outside a living body inside, they hijack the cellular machinery to feed, replicate and spread. This association with disease and death has come to define their form in the public imagination, redeemed not even by the fact that there are other microbes that destroy viruses. But a new study, published on December 27 by researchers at the University of Nebraska-Lincoln, offers to upend this.

The authors of the study have reported that a particular genus of plankton can consume viruses as well as “grow and divide given only viruses to eat”. We already know of other cells that can ‘consume’ viruses in an effort to destroy them — such as the macrophage cells of the human immune system.

The difference lies in being able to ‘eat’ viruses to fulfil one’s biological imperatives.

Plankton of the genus Halteria, they claim to have found, can each consume 10,000 to a million virus particles a day, increase their population using the metabolised energy, and provide more food for the zooplanktons that consume the Halteria. This could be significant for the marine food chain.

### What are plankton?

Plankton are microscopic organisms that can only move with a current. They don’t have any facilities to actively propel themselves. Halteria plankton are ciliates, meaning they have hair-like structures called cilia on their surface. Sometimes they can beat some of these cilia to jump short distances, but not often as it requires too much energy.

A type of plankton — the phytoplankton — is found nearer the surface of many water bodies. It is an autotroph, which means it can make its own food by consuming carbon dioxide, among other compounds, through photosynthesis. Small fish and larger plankton called zooplankton eat phytoplankton for their nutrition; they are in turn eaten by larger fish, and so forth.

When phytoplankton die, they drift around where they are, becoming part of a coastal nutrient cycle, or they drift down towards the seafloor, where they decompose. Their constituents then become available for microbes or are sequestered into the seafloor.

So, phytoplankton bring carbon and other nutrients from the atmosphere and sea surface down to the seafloor and help replenish the food chain (and also ‘trap’ carbon into their own bodies and as sediments). They are joined by bacteria that make their own food by oxidising sulphur, iron or hydrogen, in a process called chemosynthesis.

### The role of Halteria

Halteria plankton are found in large numbers in freshwater bodies. They are heterotrophs meaning they can’t produce their own food. Instead, they are well-known bacterivores — they consume bacteria to power themselves.

In the words of a noted 1999 paper, viruses “short-circuit” the process of nutrients moving up the food chain. They infect and kill both bacteria and plankton, releasing organic matter that dissolves in the water. Note that scientists have modelled this ‘viral shunt’ and studied it in the lab; investigations of its real-world impact are ongoing.

3<sup>RD</sup> FLOOR AND 4<sup>TH</sup> FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



In the new study's paper, the authors wrote that by also consuming viruses for nutrition, Halteria plankton can recover the nutrients lost in the viral shunt and bring them back into the food chain. "This flow would depend on virion size and nutritional content, which varies among strains," they added, "but it is already clear that viruses of a wide range of sizes can be taken up".

### **Redemption for viruses?**

Viruses are the single-most populous life-form on Earth; their cumulative biomass outweighs that of humans by a factor of 1010. In 2020, Curtis Suttle, a co-author of the 1999 paper, called them "fantastic nutritional sources".

The finding wasn't unexpected. In 2020, a group from the U.S. and Spain published a paper after 10 years of data-taking and study, positing that some protists (eukaryotes that aren't plants, animals or fungi; eukaryotes are organisms whose cells have nuclei) might be munching on viruses. They wrote that their findings "indicate that the viral shunt is complemented by a viral link in the marine microbial food web". There have been papers discussing this link since at least 1992.

In the new study, the researchers found that Halteria plankton reduced the population of chloroviruses 'fed' to them while growing their own numbers — whereas Paramecium ciliates consumed the chloroviruses but didn't proliferate. That is, to quote from their paper, "not all ciliates can grow on chloroviruses in these conditions, even when they consume them".

Second, as the population of viruses and Halteria changed over the course of their interaction (in the lab), the researchers used a modelling tool to understand if they fit what we already know about predator-prey interactions in the wild.

The model indicated that they did, but John DeLong, a biologist and the lead researcher, said in a press release: "Now, we have to go find out if this is true in nature." DeLong et al. also wrote that they don't yet know how Halteria feeding on viruses could have affected viral evolution.

## **STUDY FINDS 'HYBRID IMMUNITY' MOST EFFECTIVE AGAINST SEVERE COVID: THE FINDINGS, IMPLICATIONS EXPLAINED**

A recent study in the journal The Lancet Infectious Diseases held that "hybrid immunity" provides better protection against severe Covid-19, while all immunity against a re-infection wanes within a few months. The study is based on a meta-analysis of 11 other studies on the protective effectiveness of previous SARS-CoV-2 (Covid) infection and 15 studies on the protective effectiveness of hybrid immunity.

### **What is hybrid immunity?**

Hybrid immunity is gained from a previous infection plus vaccines – either the primary doses or both primary and booster doses. The study said that a hybrid immunity offers a "higher magnitude and durability" of protection as compared to infection alone, emphasising the need for vaccination.

However, with the faster-spreading omicron variants leading to more infections and consequently more people developing this hybrid immunity, the study suggested that booster doses may be delayed.