



# CURRENT AFFAIRS FOR UPSC

1ST TO 7TH OCTOBER 2023

DREAMIAS





## INTERNATIONAL

### FRACTURED COLLECTIVE

The “surprise” ouster of U.S. House of Representatives Speaker Kevin McCarthy from the top post of the lower chamber of Congress has once again left the Republican Party exposed as a fractured collective. The tenure of Mr. McCarthy, the first ever Speaker in U.S. history to be ejected from the chair, came to an end after Florida Congressman Matt Gaetz invoked a relatively rarely used clause called a “motion to vacate”, which was ironically a concession made by Mr. McCarthy to his Republican opponents to win them over during his arduous campaign to be Speaker in early 2023. The ensuing vote saw Mr. McCarthy, a lawmaker from California, defeated by 216 votes against 210 that supported his continuance as Speaker. Eight Republicans sided with the entire Democratic Caucus of the House to deny Mr. McCarthy his political ambitions in Congress. Particularly vociferous in their resistance to being governed by Mr. McCarthy were members of the Republican Freedom Caucus and their allies, who appeared to resent his cooperation with Democrats on critical policy matters. The most significant among these were bipartisan efforts to avoid a federal government shutdown by raising the debt ceiling. Towards this goal, Mr. McCarthy had signed off on a 45-day temporary spending bill, much to the chagrin of his Republican detractors in the House.

Therein lies an indication of the malaise gripping the Republican Party — that there is a vocal faction within the party that sees itself as closely aligned with the political outlook of former President Donald Trump, urging not only for smaller government and lower public expenditure, but also seeking to influence areas of U.S. foreign policy, for example by calling for cuts to U.S. funding to Ukraine in its war efforts against the Russian invasion. This group, described by some as the “GOP radicals”, rejects the notion of compromise, even when it comes at a potentially catastrophic economic cost, such as the shutdown of the government’s critical functions. Indeed, Mr. McCarthy tried to placate this group by denying President Joe Biden his request for \$6 billion in support of Ukraine and by announcing a plan to impeach the president on charges related to allegations of wrongdoing by the latter’s son, Hunter Biden, but failed. Ultimately, however, the recalcitrance of this group could prove to be politically costly for the entire party, as 2024 is an election year. This matters especially in the context of independent voters, who often carry the swing votes but would likely walk away from a party that has failed to put its house in order and present a united front at the hustings.

### HOW HAS NAGORNO-KARABAKH STANDOFF ENDED?

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

On September 20, Azerbaijan claimed full control over the contentious Nagorno-Karabakh region after local forces, mostly Armenians, agreed to disarm and disband. Hundreds of local Armenians fled the area overnight, fearing ethnic cleansing by Azerbaijan. While the disputed region is home to a majority population of ethnic Armenians and an Azeri minority, it is internationally recognised as a part of Azerbaijan.

#### **What happened?**

A fresh round of violence broke out in September when Azerbaijan launched an attack against ethnic Armenian forces in Nagorno-Karabakh. The fighting lasted one day, and a ceasefire was



announced a day later. In a statement, U.S. State Department spokesperson Matthew Miller said that the Secretary of State Antony Blinken spoke with the Armenian Prime Minister Nikol Pashinyan and expressed “deep concern for the ethnic Armenian population” in the disputed region.

### **What is the history of the conflict?**

Nagorno-Karabakh is located within the international borders of Azerbaijan. It is in the South Caucasus region between eastern Europe and western Asia, spanning the southern part of the Caucasus mountains that roughly includes modern-day Armenia, Azerbaijan, and Georgia.

The conflict between Azeris and Armenians goes back a century, when the Ottomans attacked the South Caucasus during World War I with the help of Azeris. They targeted ethnic Armenians during this attack, and the conflict between Azerbaijan and Armenia descended into a full-blown war in 1920. This war incorporated the region into the Azerbaijan Democratic Republic.

Soon after, both countries became part of the Soviet Republic, and Nagorno-Karabakh was made an autonomous Oblast (administrative region) in Azerbaijan’s territory. When the Soviet Union disintegrated in 1991, full-scale fighting again broke out between the countries as Armenian rebels declared Nagorno-Karabakh an independent territory. The war lasted till 1994 and killed around 30,000 people.

In 1994, Azerbaijan and Armenia entered a ceasefire brokered by Russia, but international borders for the countries were not demarcated.

A four-day war again broke out between the two countries in 2016, with no resolution being arrived at.

### **What happened in 2020?**

In 2020, Azerbaijan President Ilham Aliyev launched an offensive to take Nagorno-Karabakh back, leading the country into a fierce war with Armenia that lasted six weeks and killed more than 2,000 people. The Azeri forces attacked Armenian defences and took back 40% of Nagorno-Karabakh. Azerbaijan was backed by Turkey, and while Armenia’s ally Russia did little to support Armenia, it helped broker a ceasefire.

However, despite the ceasefire, Azerbaijan did not give up attempts to capture Nagorno-Karabakh. In December 2022, it blockaded the Lachin Corridor, the main road connecting Nagorno-Karabakh to Armenia and the rest of the world, adding to the economic misery of the region. The road was blocked under the pretext of environmental concerns.

### **How did Azerbaijan capture the area?**

Experts believe that Turkey had a big role to play in the latest developments in the Nagorno-Karabakh region. Turkey, however, denied any direct involvement in Azerbaijan’s offensive, Reuters reported, although it is a political and military supporter of Azerbaijan.

Russia’s absence in the Caucasus is owed to its war in Ukraine. As retaliation for Russia’s lack of help over the last few years, Armenia voted to join the International Criminal Court (ICC) despite Russia’s warnings (the ICC has issued a warrant for the arrest of Russian President Vladimir Putin). Over 1,00,000 ethnic Armenians from Nagorno-Karabakh, have fled to Armenia in the last one week, the WHO estimates. The exodus has triggered a massive humanitarian crisis.



## CHANGE IN MALDIVES

The Maldives has chosen a new leader, replacing President Ibu Solih, who won by a landslide in 2018, with Mohamed Muizzu, the Mayor of Male and the choice of the previous ruling party, the PPM. Mr. Muizzu won Saturday's presidential run-off that followed an inconclusive first round in which no candidate crossed 50% of the vote, winning nearly 54% to Solih's 46% in this round. Mr. Solih's electoral loss is being attributed to a heavy anti-incumbency sentiment and concerns over the post-COVID-19 economy that is dependent on tourism, the rift within Solih's party, the MDP, due to a rupture in his old friendship with former President Mohamed Nasheed, as well as concerns over "sovereignty" issues, whipped up by Mr. Muizzu's PPM that is behind an "India out" campaign to oust Indian military personnel. PPM chief and former Maldives President Abdulla Yameen, the chief architect of that campaign and serving a jail term of 11 years, was openly at odds with India during his tenure. He had paved the way for a free trade agreement with China and loans for infrastructure projects that the Opposition said had led the Maldives into a "debt trap". Mr. Solih turned the Maldives's international compass, committing publicly to an "India First" policy, as New Delhi undertook many infrastructure projects, assisted the Maldives during the pandemic, and helped it during the campaign to have Maldives Foreign Minister Abdulla Shahid elected President of the UN General Assembly. As a result, the Solih-Muizzu run-off was billed as an India versus China contest by commentators, who have sought to portray the result as a "setback" for India.

Prime Minister Narendra Modi was among the first to congratulate President-elect Muizzu on social media. New Delhi must avoid the impression that it has favourites within the Maldivian polity. The ball is now in Mr. Muizzu's court to take up the promise of keeping India-Maldives ties close — he has not himself criticised India in the way his party has. Among his tasks would be shoring up the Maldivian economy as debt repayments come due, and taking lessons from events in the neighbourhood such as Sri Lanka's handling of its economic crisis. It remains to be seen whether he will ensure the release of Mr. Yameen, and what control the previous President will have over the new government. Mr. Muizzu will have to preside over an upcoming referendum vote, which Mr. Nasheed has pushed for, to decide whether the Maldives will revert to a parliamentary system rather than the presidential one. Given its location in the Indian Ocean, along key shipping routes, Mr. Muizzu will have to balance traditional, strategic interests with India, which is its closest and most powerful neighbour, while engaging China and the United States, that keenly watch developments there. It is important that neither Delhi nor Male view these interests through the prism of "zero sum" games, as that has led to tensions between them in the past.



## NATION

### THE SHUTDOWN OF THE AFGHAN EMBASSY

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

On September 30, a statement carrying the seal of the Ministry of Foreign Affairs of the Islamic Republic of Afghanistan announced the closure of the Embassy of Afghanistan in Delhi. The announcement had been anticipated for a while, especially after a report which stated that a letter had been sent from the mission to the Ministry of External Affairs informing it of the impending closure. In its official communication, the Embassy of Afghanistan blamed multiple factors including lack of cooperation from the Government of India and a lack of resources to operate any further. Furthermore, the embassy has urged the Indian government to fly the flag of the Islamic Republic of Afghanistan over embassy premises. It has also asked New Delhi to hand over the mission to a “legitimate government” of Afghanistan sometime in the future.

#### **Is this a turning point for Afghanistan-India relations?**

The embassy represented the Islamic Republic of Afghanistan that was deposed through a military campaign by the Taliban on August 15, 2021. The Taliban fighters who quickly took over all the major cities and infrastructure of the country, as the U.S. forces carried out a messy withdrawal, were not recognised by India as de facto rulers. With the displacement of the Islamic Republic of Afghanistan, the embassy of Afghanistan in New Delhi had begun to work as a “stateless mission” as it did not represent the current rulers of Kabul, that is the Taliban, with whom India has no diplomatic relationship. In effect, the embassy of Afghanistan was performing a ceremonial or a symbolic role, helping out Afghan citizens and travellers in India deal with the difficulties they have been facing because of the lack of diplomatic relations between the two countries. The mission had stopped representing an active state since August 2021 and was working as a coordinating agency. Moreover, the ambassador of the previous regime of President Ashraf Ghani, Farid Mamundzay, left India and has not been seen for over three months.

#### **Will the move affect travel and trade between Afghanistan and India?**

Afghanistan has traditionally maintained an embassy in Delhi and two consulates in Hyderabad and Mumbai. The consulates in Hyderabad and Mumbai have not shut down and Zakia Wardak, the Consul General of Afghanistan (Islamic Republic) has come out with a statement defying the embassy’s announcement to close down the mission, stating that the consulate will continue to function as part of a “solemn commitment” towards thousands of Afghan students, refugees and traders. The announcement of the embassy of Afghanistan is expected to trigger confusion among Afghans in India but the consulates are expected to help them.

#### **Does this mean that India and Afghanistan have no relations?**

Despite the closure of the embassy in Delhi, India and Afghanistan are continuing engagement with each other in a curious way. India has been maintaining a “technical team” in Kabul where the staff provides visas to Afghan traders and travellers to India. There are two weekly flights that carry Afghan citizens and items to India. India uses the flights while sending humanitarian assistance to the Afghan people. That apart, some Indian goods are also entering Afghanistan through other countries like Iran and the UAE.



However, these are indicative of the informal nature of the relationship as formal diplomatic ties are unable to take off, because India refuses to recognise Taliban citing human rights abuses by the regime.

#### **Will India and the Taliban ever establish formal ties?**

India has not recognised Taliban formally but Indian diplomats have been engaged with the Taliban since the immediate aftermath of the fall of Kabul in August 2021. Indian diplomats have met the Taliban's representatives in multiple locations under multilateral initiatives like the recent Moscow format dialogue. On September 29, India sent a representative to Kazan, Tatarstan in Russia to engage with the Taliban under the Moscow format dialogue. That apart, Taliban is quickly gaining international recognition from rival powers like China which sent a new ambassador to Kabul in September. With Iran, Pakistan, the UAE, Russia, Qatar and China warming ties with the Taliban, there is obvious pressure on India to reconsider its position on the Taliban. The Taliban has been urging India to support it with its economic revitalisation through projects like electricity generation and road building works. India, however, has not yet indicated that it will review its position on the Taliban. The embassy of Afghanistan in Delhi is one of the oldest diplomatic addresses in the capital and India has never allowed the Taliban to operate from that address, even when it governed Afghanistan from 1996 to 2001.

### WHEN CAN A BILL BE DESIGNATED AS A 'MONEY BILL': SC TO HEAR CHALLENGE

Chief Justice of India DY Chandrachud said on Friday (October 6) that a seven-judge bench will soon be set up to hear a batch of pleas challenging the Centre's use of the Money Bill route to pass certain key legislations. The CJI's observation was made when he was hearing a plea specifically challenging certain amendments to the Prevention of Money Laundering Act (PMLA). The 7-judge bench will essentially examine whether a law was validly categorised as a Money Bill or only to circumvent scrutiny of the Rajya Sabha. What is a money bill, and which legislations are under challenge for being passed as a money bill?

#### **What is a Money Bill?**

Article 110 of the Constitution deals with Money Bills. A money bill is a bill that, in the opinion of the Speaker of the Lok Sabha, deals with taxation or the appropriation of public funds — the Consolidated Fund of India or the Contingency Fund of India. A money bill can only be introduced in the Lok Sabha, and the Speaker categorising a bill as a "money bill" means that it need not be passed by the Rajya Sabha. The union budget, for example, is a money bill.

According to Article 110 (3) of the Constitution, "if any question arises whether a Bill is a Money Bill or not, the decision of the Speaker of the House of the People thereon shall be final." This raises the question of the extent of judicial review possible on the Speaker's decision. However, the court in the 2018 Aadhaar case had said that the Speaker's decision will be subject to judicial scrutiny.

Under Article 110(1), a Bill is deemed to be a money Bill if it deals only with matters specified in Article 110 (1) (a) to (g) — taxation, borrowing by the government, and appropriation of money from the Consolidated Fund of India, among others. Article 110(1)(g) adds that "any matter incidental to any of the matters specified in Articles 110(1)(a)-(f)" can also be a Money Bill.

Citing this additional clause, the Modi government has introduced several key legislation as a Money Bill, bypassing the Rajya Sabha. The Opposition has argued that this was done only because the government did not have the numbers to get these legislations cleared in the Rajya Sabha.



### What will the larger bench decide?

The constitutionality of three key legislations, including the PMLA, will be examined afresh by the larger bench in the light of whether these laws qualified as a money bill. The other two are the Aadhaar Act and the 2017 amendments altering service conditions of Tribunals. While the PMLA, Aadhaar Act have been substantially upheld by the Court, the SC had struck down the tribunal amendments as unconstitutional.

#### 1. PMLA

In July 2022, a three-judge bench comprising Justices AM Khanwilkar, Dinesh Maheshwari and CT Ravikumar had upheld the PMLA and the vast powers of the ED. However, the bench had left the validity of amendments to the PMLA through the Money Bill route open for a larger Constitution bench to hear.

The Finance Acts passed in 2015, 2016, 2018 and 2019, brought in crucial amendments to the PMLA. Finance Bills passed during the budget are introduced as money bills under Article 110 of the Constitution.

#### 2. Aadhaar Act

The first major challenge on whether a bill qualified to be a money bill under the Constitution was in the Aadhaar case. In a 4:1 majority, the Supreme Court in 2018, had ruled in favour of the government and had cleared the Aadhaar Act as a valid money bill under Article 110 of the Constitution.

Incidentally, Justice Chandrachud had been the lone dissenter in the Aadhaar ruling of 2018, criticising the government for passing the Aadhaar Act as a money Bill. He had called it a “fraud on the Constitution” and “subterfuge”. The government had argued that since the subsidies distributed through Aadhaar flows from the Consolidated Fund of India, the law is validly categorised as a Money Bill.

#### 3. Tribunal reform

In November 2019, in Roger Matthew, versus union of India, the Supreme Court heard the challenge against tweaks in the service conditions of tribunal members which was also introduced as a money bill in the Finance Act, 2017. On the issue of tribunals, the government had argued that since salaries of members of Tribunals flow from the Consolidated Fund of India, the amendments were introduced as a Money Bill.

While a five judge bench of the court struck down the law as unconstitutional for interfering with judicial independence, it referred the money bill aspect to a larger constitution bench. In doing so, the court also expressed doubts over the correctness of a five-judge Constitution Bench’s 2018 verdict upholding the Aadhaar Act which had been passed as a money Bill.

### VICTORY FOR THE WEAK

A tribal community in Tamil Nadu that witnessed state-led brutality three decades ago has just won a battle that reinforces faith in the democratic process and the criminal justice system. This victory, on September 29 at the Madras High Court, signals a paradigm shift in Indian jurisprudence, for it is the first time that a community of 655 Adivasis defeated the collective might of the state. The people of Vachathi in Tamil Nadu’s Dharmapuri district, who for

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



generations lived in the idyllic foothills of Chiteri in the Eastern Ghats, had their lives altered on June 20, 1992. Police, forest and revenue officials — 269 in number — descended upon the village and accused the villagers of hoarding illegally felled sandalwood and allowing a conduit to smuggling. For the next three days, the villagers, women, the elderly and children included, were beaten up, their homes destroyed, wells poisoned and 18 women, including a girl, raped. All this happened under the watch of Jayalalithaa, who was the Chief Minister.

The state refused to register a case against its officials, forcing the villagers to approach the Madras High Court to seek a Central Bureau of Investigation inquiry. The CBI filed its charge sheet in 1996, and the case was tried by a Sessions Court in Dharmapuri for another 15 years. While the villagers won an unprecedented victory at the trial court in 2011 that convicted all the accused on charges ranging from rape to atrocities under the SC/ST (Prevention of Atrocities) Act, 1989, this order was stayed by the Madras High Court on appeals by the bureaucrats. Successive State governments under the DMK and the AIADMK, chose to protect their bureaucrats. At a time when the judiciary has been at odds with the government over attempts to maintain the autonomy of the three branches of governance, the High Court's judgment upholding the trial court's conviction, warns an elected government that it cannot rule with impunity. And while the SC/ST law has often been criticised for being ineffective, Vachathi is a rare instance where it has served its purpose. This judgment is also a pivotal moment in the long battle for Adivasi rights. It will be remembered as a case where despite India's stark inequities, the convergence of an alert civil society, committed lawyers, an independent judiciary and the resolve of victims seeking justice, could still work a democratic Constitution and the judicial system to their advantage.

## COUNTING DEATHS IN INDIA'S PRISONS

### The story so far:

In August this year, the Supreme Court Committee on Prison Reforms found suicide to be the leading cause of 'unnatural' deaths — deaths other than ageing or illnesses — among Indian prisoners, with U.P. recording the highest number of suicides between 2017 and 2021. The report stated that "...the number of custodial deaths has seen a steady rise since 2019, and 2021 has recorded the highest number of deaths so far." On the other hand, 'natural deaths' — 1,879 people in 2021 — were due to ageing and illnesses.

### How are prison deaths classified?

Every year, prison deaths are identified as 'natural' or 'unnatural' by the Prison Statistics India (PSI) report published by the National Crime Records Bureau (NCRB). In 2021, a total of 2,116 prisoners died in judicial custody, with almost 90% of cases recorded as natural deaths.

Ageing and illness account for 'natural' deaths. Illness has been further categorised into diseases such as heart conditions, HIV, tuberculosis, and cancer. As the prison population swells, recorded natural deaths have increased from 1,424 in 2016 to 1,879 in 2021.

'Unnatural' deaths are more diverse in classification. They include suicide (due to hanging, poisoning, self-inflicted injury, drug overdose, electrocution, etc.) and death due to inmates, assault by outside elements, fire, negligence or excesses and accidental deaths such as natural calamities (earthquakes, snakebites, drowning, accidental fall, burn injury, drug/alcohol consumption, etc.). The suicide rate among inmates was found to be more than twice the rate recorded in the general population, as per a report by the Commonwealth Human Rights Initiative





(CHRI). Additionally, while the NCRB data documents the socio-economic background of the inmate population, the caste or religious profile of people who die is unknown.

#### **What have the courts said?**

In a landmark Supreme Court judgment that drew attention to hostile prison infrastructure which results in custodial deaths, Justice M.B. Lokur said that the NCRB's distinction between natural and unnatural deaths is "unclear." "For example, if a prisoner dies due to a lack of proper medical attention or timely medical attention, would that be classified as a natural death [due to illness] or an unnatural death [due to negligence]?", he asked.

This ambiguity, coupled with the fact that prison deaths are under-reported and rarely investigated, results in a majority of deaths being classified as 'natural', media reports have noted.

During the pandemic, the PSI report classified deaths due to COVID-19 as 'natural' deaths. At the time, the occupancy rate of prisons was 118% of their capacity, and almost 40,000 more undertrials were held in prisons, in comparison with the previous year. The same year, the sanctioned strength of medical staff was around 1:125, but in reality, there was just one staff member to look after 219 inmates.

### EMERGENCY ERA

Even for a government that has shown itself to be intolerant of critical journalism, the actions by the Bharatiya Janata Party-led regime on the news website NewsClick smack of extreme vendetta and brazen harassment. The government has, thus far, disclosed no specific allegation on what exactly merited the arrest of the site's Editor-in-Chief Prabir Purkayastha and another person under the draconian provisions of the Unlawful Activities (Prevention) Act among others. Reportedly, the website is under investigation for a "terror case with Chinese links", but no article or content has been brought to light that allegedly suggests any link to "terror" or pro-Chinese propaganda. The news organisation has also said it has not been given a copy of the First Information Report or informed about the particulars of the offences it has been charged with. And yet, the journalists, contributors and employees associated with it have been subjected to raids, with many of their mobile phones and laptops seized. These actions against the website are not new — it has been under the scrutiny of the Enforcement Directorate (ED) and the Income-Tax Department since 2021, with seizures of electronic equipment, but no charge sheet was ever filed against it. The Delhi High Court, finding a prime facie case in favour of NewsClick, granted interim protection to Mr. Purkayastha from arrest and also deterred the ED from taking coercive action against the organisation. A lower court had dismissed a complaint filed by the Income-Tax department on a similar matter.

The trigger for the set of actions now is apparently an article in The New York Times that questioned the motives of an investor in NewsClick and alleges his proximity to the Chinese government, but it did not point to any specific article on the site that amounted to illegal propaganda against India. Government representatives first engaged in a systematic vilification and disinformation campaign against the site based on this article. Tuesday's actions seem driven by an impulse to scapegoat a media outlet and to bring about, therefore, a chilling effect on critical journalism. No government can or should so brazenly target journalists solely based on suspicion about its funding and thereby undermine the freedom of expression, which is guaranteed under the Constitution. Mr. Purkayastha was arrested and kept in jail during the Emergency in 1975 under the draconian Maintenance of Internal Security Act, on trumped up charges, when he was a



student-activist at Jawaharlal Nehru University. Today, history seems to be repeating itself, but without even the fig leaf of a declared Emergency.

#### WITH SANJAY SINGH'S ARREST, CENTRE MUST PAY HEED TO SC'S QUESTIONS ON SISODIA

The arrest of AAP's Sanjay Singh, Rajya Sabha MP, by the Enforcement Directorate, in connection with the Delhi excise policy case, raises questions that are, by now, all too familiar. The merits of the case will be decided by the due course it takes, of course, under the law of the land. The questions, however, have to do with a pattern that has been firming up over the last several years, of which Singh's arrest appears to be a part – of Central agencies, ED and CBI, overzealous in their targeting of leaders and parties of the Opposition, especially ahead of elections. The other side of the same story is the conspicuous silence and relative effete-ness of these agencies in states ruled by the BJP and the agencies rewriting their dossiers once the accused switches party lines. The jump in ED cases against politicians and the disproportionate numbers of Opposition leaders among them, and a similar surge in the share of Opposition leaders in the CBI net in the tenure of the Narendra Modi government, is as striking as it is disquieting. It has taken a high toll on the AAP in Delhi, especially. Three prominent leaders of the party that showed a dizzying rise in a political system with a very high threshold of electoral viability are now in jail – former senior minister and party No 2 Manish Sisodia, former minister Satyendra Jain, and now Singh, the party's face in Parliament and in negotiations with other parties. And the spectre of the excise policy case, which has led to the arrests of Sisodia and Singh, still overhangs the party.

The Delhi government's new excise policy, introduced in November 2021, allowed private licencees to run liquor stores, ostensibly to crack down on black marketing, increase government revenue and improve customer experience. It soon ran into controversy, with the L-G recommending a CBI probe, and the Arvind Kejriwal government itself rolling back the policy less than a year later, amid allegations of bending of rules, bribes and kickbacks allegedly funnelled into the AAP's electoral campaign in Goa. But the work of connecting the dots and laying out the money trail is evidently still not done. On Thursday, the Supreme Court, hearing a bail petition in the Sisodia case, pointed this out and asked some tough questions. The chain of evidence has not been fully established, it said. Where is the proof against Sisodia, except for a statement by a businessman who is himself an accused in the case and has turned approver, it asked.

The Centre, to which the CBI and ED report, must heed the court's questions. The corrupt need to be investigated and prosecuted as per law and due process; and of course, the need for probity in government should be a vital element of any political discourse in a democracy. But the Centre must know that the impression is gaining ground that its agencies are uncovering alleged irregularities selectively, to settle political scores. Trust in the state's fairness and impartiality, and the autonomy and credibility of its institutions, is at stake.

#### POWER OF INFLUENCERS: BAIYANPURIA'S VIDEO WITH PM IS NO ODDITY

In the online universe, where a great deal of influence is wielded by those who purvey fitness, make-up, financial and other kinds of advice, Ankit Baiyanpuria is a person of some renown. The 25-year-old fitness "influencer" has a following of over 5 million on Instagram and 1.82 lakh on YouTube. These impressive numbers no doubt contributed to Baiyanpuria's appearance in a 'Swachhata hi Seva' campaign video, released on the eve of Gandhi Jayanti, alongside Prime Minister Narendra Modi. In the parlance of celebrity culture of the pre-digital era, Baiyanpuria has "hit the big time".



Critics of social media often use the pejorative “influenza” to describe those like Baiyanpuria. But this can also be read as a grudging acknowledgement of their reach, wide enough to have caught the attention of brand managers, marketers, filmmakers and politicians. Many, like Kusha Kapila, Ranveer Allahbadia and Bhuvan Bam now have the kind of recognition that was once the preserve of blue-chip stars. In the new media landscape, where influencers are seen as moving into a space that traditional media has failed to seize or been forced to vacate, Baiyanpuria’s video with the PM is no oddity.

For the influencers, this recognition of their power can translate to movie roles and book deals, the opportunity to make a splash on red carpets and exclusive interviews. That these credentials are not of the traditional kind seems to matter little, especially at a time when conventional qualifications are — often correctly — being criticised as the product of privilege. For a nation hoping to make the most of its “demographic dividend”, it may not be wise to dismiss the power of today’s youth idols.

## THE IMPACT OF THE BIHAR CASTE SURVEY

### The story so far:

On October 2, the Bihar government published the ‘Bihar Caste-based Survey 2022’, which shows that extremely backward classes (EBCs) and other backward classes (OBCs) together add up to nearly 63% of the 13-crore population, making it the largest caste group in the State. Chief Minister Nitish Kumar who belongs to the OBC Kurmi caste (2.87%) and has nursed the EBCs for his political survival, had first raised the demand for a State caste survey in 2019.

### How did it come about?

The Bihar legislature unanimously passed a resolution agreeing to a caste census, twice: first on February 18, 2019 and then on February 27, 2020. On August 23, 2021, an all-party delegation, including the Bharatiya Janata Party (BJP), went to Delhi to meet Prime Minister Narendra Modi to urge him to conduct a caste census in the country. However, when the Union government later said in the Lok Sabha that as a matter of policy it had decided not to enumerate a caste-wise census, the Bihar government in June, 2022 issued notification for conducting a caste survey in the State on its own and subsequently allocated ₹500 crore from its contingency fund for the exercise. The two-phase counting exercise was completed in August this year involving around 2.64 lakh enumerators documenting details of 29 million registered households. All 214 castes mentioned in the survey form were allotted different individual codes and the survey was segmented into 17 points, to find out the socio-economic profile of the population.

### What are the outcomes of the survey?

The survey shows that the EBCs with 112 castes comprise the largest chunk of the population in the State with a 36.01% share; with 29 castes and a 27.12% share, the OBCs are the second largest contingent of the population. The Yadavs, with a 14.26% share, is the dominant caste in the OBC group. The Scheduled Castes population is pegged at 19.65% while the number of the general unreserved population is 15.52%.

### Will the report lead to an increase in the reservation quota in Bihar?

Yes, the reservation quota will be increased in the State as per the population proportion which has come out in the survey report, said ruling coalition alliance party Rashtriya Janata Dal (RJD)



chief Lalu Prasad. “Jiski jitni bhagedari, utni hissedari (greater the population, greater the share),” said the ruling grand alliance party leaders, while the Opposition BJP leaders dubbed the survey as an “eye wash” and “fake and faulty”. The census report is likely to pave the way for the political demand for doing away with the 50% ceiling on reservation imposed by the Supreme Court. With the general elections just months away, the caste survey of Bihar has impacted the BJP’s hopes to electorally cash in on the Women’s Reservation Act. The Congress has already demanded there should be OBC reservation within the quota for women. The BJP, which had earlier supported the caste survey in the State, seems to be now caught in a dilemma. Party leaders said they were not opposed to the caste survey but that the report has flaws and irregularities.

Political experts believe that the caste survey report would weaken “hindutva forces” in the upcoming elections in the country and the State as well. “The survey report has triggered a national debate over caste composition and its share and no party can afford to ignore it now,” said political expert Nawal Kishore Choudhary in Patna. It will lead to a revival of mandal versus kamandal (backward vs forward) politics in the State, said another political expert.

#### **Will this lead to more welfare schemes?**

According to experts on the field, the survey report would definitely force political parties to announce and initiate more welfare schemes for the poor and marginalised sections of society. “The OBCs, EBCs, SCs and STs make up 85% of the total population in the State, how can any political party ignore their welfare?” asked political expert Ajay Kumar. The BJP leaders in the State said their party has always been working for the welfare of this section as their Prime Minister himself comes from an OBC group. “Now, it will be difficult for those like Chief Minister Nitish Kumar who had carved out the EBCs from OBCs under his ‘social engineering plan’ to remain in power unless he gives the EBCs real representation in the government and the Assembly as well,” said senior State BJP leaders. Despite being Chief Minister since 2005, the EBCs have been the real “neglected” community and the caste survey report is now going to hugely “impact” State politics, BJP leaders said.

However, ruling coalition party leaders like Mr. Nitish Kumar, RJD chief Lalu Prasad, Deputy Chief Minister Tejashwi Yadav, have said that they would review the welfare schemes announced by the government for the development of the poor and marginalised sections — “what is needed, will definitely be done,” they said.

Significantly, the government is yet to release the socio-economic profile of the people surveyed. They have said that it would be released during the upcoming winter session of the State legislature.

**FOCUS ON FEMALE VOTER IS REASSURING. BUT SENSITIVE POLITICS IS NEEDED**

**There is a need to draw upon lessons learnt from other areas of social justice to ensure that the idea of representation and empowerment leads to a shared consensus, and does not become a tug of war that pulls women down rather than setting them free**

With Assembly elections slated to take place later this year in Madhya Pradesh, the Shivraj Singh Chouhan government’s decision to reserve 35 per cent of all government jobs for women, (with the exception of the forest department), is a welcome move. Over the last decade, with their increasing participation in the poll process, on occasion even overtaking that of men, women have emerged as a crucial voting bloc that parties now compete with each other to address.



The Madhya Pradesh government's decision is only one in a long list of many such initiatives by political parties across states. From free or subsidised transport and healthcare to housing schemes for women, provision of cheap cooking gas cylinders and increase in maternity benefits, these schemes show that the parties are finally taking cognisance of the entrenched faultlines that hold back one half of the electorate.

This renewed consciousness of the needs of the female voter is reassuring in a country where the discourse has invariably been male-centric and one-note. From the imagination of the Indian woman variously as “bachche banane ki machine (the bearer of children)” or “parkati mahilayein (emancipated women with short hair)” to the passing of the Constitution (One Hundred and Twenty-Eighth Amendment) Bill, 2023, making room for reservation of one-third of the total number of seats in Lok Sabha and state legislative assemblies for women — it has been a long and arduous journey.

The recognition of the necessity of top-down measures to reinforce bottom-up forces is crucial to the principle and idea of a level playing field and an eco-system that offers equal opportunities to all. In an aspirational economy, access to education, infrastructure, amenities and technology should be integral planks of affirmative policies. Care must be taken, however, to ensure that these policies open doors, instead of solidifying boundaries. Women must not be forced into women-only compartments or zenana dabbas. What is also required is a language of nuance mature enough to acknowledge that the framing of equal rights as protective benevolence towards “ma-behen-beti” is a disservice, marred by its tone of largesse.

The discussion on women's rights in India at every level requires careful attention, and safeguards need to be built in against a reductionist politics of labelling. There is a need to draw upon lessons learnt from other areas of social justice to ensure that the idea of representation and empowerment leads to a shared consensus, and does not become a tug of war that pulls women down rather than setting them free.

#### MIZORAM GOVERNMENT'S REFUSAL TO COLLECT BIOMETRIC DATA OF REFUGEES SHOWS GOOD JUDGEMENT

The Zoramthanga government's non-compliance with the Union Home Ministry directive to Mizoram and Manipur — to collect biometric details of refugees arriving from Myanmar — stems from the practicality of electoral compulsions as well as from a place of compassion. The Mizoram government, which had earlier refused to close its borders to incoming Chin refugees displaced by the 2021 military coup in Myanmar, is due for elections by the year's end. The Mizos share a common ethnicity with the displaced Chins and believe that the data may be used to “other” the incomers.

This is in stark contrast to the conduct of the N Biren Singh government in Manipur, where ethnic tensions between Manipur's main tribes, the Kukis and the Meiteis, continue to simmer. Manipur started the process of biometric data collection in July, calling for a year's extension only recently, citing unrest in the state. Through these troubled six months, the erosion of the Chief Minister's credibility, his inability to douse the fires in his state, has been glaring.

The schism between the primarily Kuki-Chin hill tribes of Manipur and the Meiteis who dominate Imphal's valley area has deepened also because of distrust in the impartiality of the administration. Singh has framed the unrest as a fallout of the state's illicit narco-economy, pinning the blame on “illegal” immigrants from across the Myanmar border, with whom Manipur's



hill tribes, too, share a common ethnicity. The crisis in trust has been magnified by Singh's decision to extend AFSPA for another six months in the hill areas of the state and his request to the Centre to end the free movement regime along the Indo-Myanmar border, which has been in place since 2018.

In the Northeast, borders that separate a refuge from a refugee run through homes and homesteads that were once common ground and have now congealed into fractious identities. The tug of kinship is hard to ignore in times of hyper nationalism and political churn. But while solidarity is a strong motivation, Zoramthanga's decision also reflects his growth as a leader.

In the aftermath of the pandemic and the NRC protests, he has emerged as a leader not just of all the tribes in his state, but also of the larger Kuki-Chin community, including those fleeing the junta in Myanmar and those escaping violence in neighbouring Manipur. The bogey of the outsider-infiltrator has been a convenient alibi for the Biren Singh government. Zoramthanga's righteous resistance offers a study in contrast.

## THE CONCERNS OF USING AADHAAR IN WELFARE

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

On September 21, credit rating agency Moody's Investor Service released a report, 'Decentralised Finance and Digital Assets,' which advocates for decentralised digital identity systems instead of centralised biometric systems like India's Aadhaar. Referring to "security and privacy vulnerabilities posed by centralised ID systems like Aadhaar", the report states "the [Aadhaar] system faces hurdles, including the burden of establishing authorisation and concerns about biometric reliability."

### **How has India reacted?**

The government has strongly refuted these claims. Terming Aadhaar as "the most trusted digital ID in the world," the government stated that "it is evident that the authors of the report are unaware that the seeding of Aadhaar in the MGNREGS database has been done without requiring the worker to authenticate using their biometrics, and that even payment to workers under the scheme is made by directly crediting money in their account and does not require the worker to authenticate using their biometrics."

### **What was the rationale for Aadhaar?**

Aadhaar is a unique identification number given to all Indian residents by the Unique Identification Authority of India (UIDAI). During enrolment for Aadhaar, demographic details of individuals along with their biometric fingerprints and iris scans are collected as they are considered to be unique identifiers of individuals. These details are stored in the Aadhaar database. The objectives of UIDAI were to ensure that all residents have a unique ID and to curb corruption in accessing welfare programmes by eliminating "ghost" and "fake" individuals. To understand this, consider accessing rations under the Public Distribution System. An individual is called a 'ghost' if they access rations in the name of a dead person, and a 'fake' if they access rations even though they are not officially entitled to it. To ensure that an individual accessing rations is not a ghost or a fake, the government linked the database of ration card holders with the Aadhaar database. When an individual tries to access rations at a ration shop, they have to do so using their biometrics or iris scans with the ration dealer. These are then sent through the internet to the Aadhaar database for authentication.



The government favours Aadhaar for several other government-to-citizen cash transfer programmes. By removing ghosts and duplicates, the government has claimed substantial savings in welfare schemes through the usage of Aadhaar.

#### **What is Aadhaar's role in cash withdrawals?**

To direct a payment using Aadhaar for MGNREGA, there are at least three steps. First, a worker's Aadhaar number must be linked to her job card. Second, her Aadhaar must be linked to her bank account. Third, the Aadhaar number must be linked correctly through her bank branch with a mapper of the National Payments Corporation of India, which acts as a clearing house of Aadhaar-based payments. Aadhaar becomes the financial address of the individual and cash transferred by the government gets deposited to the last Aadhaar-linked bank account. Individuals can withdraw money from their Aadhaar-linked bank account from private banking kiosks or through private banking correspondents who use their point of sale (PoS) machines to authenticate individuals using their biometrics. This platform is known as the Aadhaar-enabled Payment System (AePS).

#### **Why is Aadhaar's use concerning?**

In the case of rations for example, several organisations and researchers have provided evidence demonstrating that the main type of corruption is quantity fraud, which happens when, say the entitlement for a ration card holder is 35 kg of rice but the dealer only gives 30 kg. Aadhaar has no role in either detecting or preventing this fraud. In many rural areas, people have to make multiple trips to ration shops, to authenticate with no guarantee that the authentication will work. Lack of reliable internet, fading fingerprints among daily wage workers, lack of phone connectivity to get an OTP etc. lead to denials. The data on the number of attempts to authenticate and the extent of authentication failures are not public. A report by the Comptroller and Auditor General of India (CAG) from 2022 states "UIDAI did not have a system to analyse the factors leading to authentication errors."

In Aadhaar-based payments, error in any step results in payment failures. Different spellings in the job card and in the Aadhaar database can result in authentication failures. Most workers are unaware which account their Aadhaar was last linked to as financial institutions in rural areas tend to coerce workers to link their Aadhaar with bank accounts without consent. This leads to wages getting diverted to some account without the worker's knowledge. For example, Aadhaar payments of people got redirected to Airtel wallets causing much havoc. Misdirected payments through Aadhaar are difficult to detect and are nearly impossible to resolve. These happen when one person's Aadhaar number gets linked to somebody else's bank account. Researchers such as Jean Drèze, Reetika Khera, Rahul Lahoti and Anand Venkatnarayanan have demonstrated that the savings claims of the governments are misleading. Obtained through RTIs, the government has also claimed that using Aadhaar in MGNREGA has reduced delays in wage payments. A recent working paper using 31 million MGNREGA wage transactions demonstrates no statistical evidence of these claims and points to lack of sufficient funds as the reasons for delays.

#### **What are some security concerns with Aadhaar?**

Banking correspondents using the AePS operate without any accountability framework. Some of them ask individuals to biometrically authenticate multiple times. Each authentication gives access to the banking correspondents to operate the individual's bank account. Several studies and news reports have highlighted how using AePS, money from workers' accounts have been withdrawn or that they have been signed up for government insurance programmes without consent. The ₹10 crore scholarship scam in Jharkhand from 2020 exemplifies this.



### What is the current impasse?

The government's push to make Aadhaar-based payments mandatory in MGNREGA has faced resistance from workers and field officials. A recent paper by Chakradhar Buddha and Laavanya Tamang in the Economic & Political Weekly show that job cards of several active workers have been deleted on grounds of being "ghosts." Based on such dilutions of accountability in welfare due to Aadhaar, critics are concerned about the government's intentions of linking voter IDs with Aadhaar.

## HOW GOVERNMENT AGENCIES USE COMMERCIAL SPYWARE TO TARGET OPPONENTS

### The story so far:

Between May and September, former Egyptian MP Ahmed Eltantawy was targeted with Cyrox's Predator spyware sent via links on SMS and WhatsApp. Apple has since released an update for its products fixing the bug used in the attack. The attack on Mr. Eltantawy came after he publicly stated plans to run for President in the 2024 Egyptian elections, which is especially concerning since Egypt is a known customer of Cyrox's Predator spyware, Citizen Lab said in a blog post.

### Is this a first?

This was not the first time spyware was used for surveilling a political opponent in a country. In 2021, investigations under the Pegasus Project revealed the massive scale of potential targets of spyware — more than 50,000 phone numbers in 50 countries. Reports shared that victims of the spyware attacks were in India, Azerbaijan, Bahrain, Hungary, Kazakhstan, Mexico, Morocco, Rwanda, Saudi Arabia and the UAE. The Pegasus spyware was also reportedly used by the Kingdom of Saudi Arabia to target journalist Jamal Khashoggi's wife months before his death. Mr. Khashoggi, a U.S. resident, was murdered at the Saudi consulate in Istanbul. He was a known critic of the Saudi Arabian Crown Prince Mohammed Bin Salman.

However, in almost all known cases authorities either chose to deny allegations of the use of spyware or have been non-committal in their response.

### What is spyware?

Spyware is loosely defined as malicious software designed to enter a device, gather sensitive data, and forward it to a third party without the user's consent. While spyware may be used for commercial purposes like advertising, malicious spyware is used to profit from data stolen from a victim's device. Spyware is broadly categorised as trojan spyware, adware, tracking cookie, and system monitors. While each type of spyware gathers data for the author, system monitors and adware are more harmful as they may make modifications to a device's software and expose the device to further threats.

### What is commercial spyware?

Malicious spyware has been around since the 1990s. Earlier iterations of spyware were limited to being used by criminals to steal passwords or financial information. However, opportunities for governments and law enforcement agencies to use spyware as part of legal investigations led to the development of commercial spyware. Commercial spyware mainly targets mobile platforms and can legitimately be used against criminals and terrorists. However, the lack of global





regulations for companies developing spyware has led to their use by authoritarian governments to spy on political opponents.

Commercial spyware, such as the Pegasus spyware from the NSO group, can reportedly not only mop up information from mobile devices but also turn on the camera and microphone without the owner's knowledge, effectively turning handsets into a spying device.

#### **How are the devices targeted?**

Investigations by Citizen Lab and Google's Threat Analysis Group (TAG) revealed that spyware on the former Egyptian MP's device was delivered via network injection from a device located physically inside Egypt. The investigators, therefore, attribute the network injection attack to the Egyptian government with "high confidence".

Mr. Eltantawy's device was infected when he visited certain websites without 'HTTPS' from his phone using his Vodafone Egypt mobile data connection. When he visited these sites, his device was silently redirected to a website, that matches the fingerprint for Cyrox's Predator spyware — this is where his device was injected with the spyware, Citizen Lab shared in a blog post. Further investigation revealed that Mr. Eltantawy received several SMS messages in September 2021, May 2023, and September 2023 that posed as messages originating from WhatsApp.

In India, the Pegasus spyware was part of a \$2-billion "package of sophisticated weapons and intelligence gear" transaction between India and Israel after Narendra Modi became the first Indian Prime Minister to visit Israel, according to reports published in The New York Times. The spyware in India was used against at least 40 journalists, Cabinet Ministers, and holders of constitutional positions, according to reports in The Washington Post. The spyware was delivered to the victim's phones by exploiting zero-day vulnerabilities, which means even the device manufacturer was unaware of these exploits.

And while in all these cases, malicious links were sent to the victim's device, reports indicate that the spyware is capable of zero-click attacks. This means that they can infect a device without requiring users to click on a malicious attachment or link.

#### **Is the use of spyware increasing?**

Between 2011 and 2023, at least 74 governments contracted with commercial firms to obtain spyware or digital forensics technology, the Carnegie Endowment for International Peace, an independent international affairs think tank, shared in a blog post.

Autocratic regimes are more likely to purchase commercial spyware or digital forensics than democracies — 44 regimes classified as closed autocracies or electoral autocracies are known to have procured targeted surveillance technologies, the post said.

Earlier this year, an Indian defence agency was reportedly purchasing equipment from an Israeli spyware firm that is being billed as a potential Pegasus alternative, according to trade data reviewed by The Hindu. The firm in question is Cognyte Software Ltd, which faces a class action lawsuit in the U.S. from investors. In 2022, a report from The New York Times shared that the FBI in the U.S. had bought a version of the Pegasus spyware and that Mexican authorities had deployed NSO products against journalists and political dissidents. Similar uses have also been reported in the UAE and Saudi Arabia.



Inconsistencies in democratic governments' approach in tackling human rights abuses and lack of fragmentations in the regulatory framework are seen as enablers in the use of spyware by authorities. An example of this can be noted in the NSO Group establishing subsidiaries in Bulgaria and Cyprus to facilitate selling their products.

### **Do spyware firms face backlash?**

In 2021, after 16 media outlets formed a consortium known as the Pegasus Project and gained access to a list of fifty thousand phone numbers targeted by the NSO group's clients, the U.S. blacklisted the NSO Group, driving the firm to the brink of bankruptcy. However, patrons of the surveillance industry turned to other companies in the domain to accomplish their goals, leaving the spyware industry as a whole relatively unscathed.

Even before the Pegasus Project raised an alarm about the use of spyware by government agencies, Germany's FinFisher and Italy's Hacking Team were dominant players in the market. Products from both companies were linked to surveillance abuses in a range of countries. Israel is the leading exporter of spyware and digital forensics, but the country has not sufficiently prioritised human rights considerations in its export licensing regime, according to Carnegie.

### **How have tech companies reacted?**

Tech giants including Meta, Google, and Apple have taken concrete steps to address the problem of commercial spyware firms exploiting bugs in their software. In the case of Mr. Eltantawy, Apple and Google updated their software to fix the bugs exploited by Cyrox's Predator spyware. Apple with its iOS 16 also released a 'Lockdown Mode', which the company called an "extreme protection" designed for high-risk individuals. While the Lockdown Mode in Apple's software limits the device's functionality, it has proven to be a viable option to protect against spyware attacks.

Meta-owned WhatsApp has gone as far as pursuing a lawsuit accusing Israel's NSO Group of exploiting a bug in its software. The lawsuit filed in 2019 seeks an injunction and damages from the NSO Group. WhatsApp has alleged that the spyware firm accessed its servers without permission six months prior to installing the Pegasus software on victim's mobile devices. The current U.S. administration has urged U.S. justices to reject NSO's appeal against the lawsuit.

## **PROPOSED DIGITAL REGULATORY FRAMEWORK CHANGES COULD VEST MORE DISCRETION WITH CENTRE**

In August, the Digital Personal Data Protection Bill 2023 was passed by Parliament. This law is part of the regulatory framework being brought in by the government to govern the digital economy in India. The other elements of this architecture are the draft Digital India Bill, the draft India Telecommunication Bill 2022, and a policy to govern non-personal data. While the Digital India Bill is still to be finalised, reports in this paper have raised troubling questions over some of the changes in the current regulatory structure that are being considered in the Bill. As these changes would vest considerable power and discretion with the Union government, and given their far-reaching consequences, they warrant careful consideration.

Last week, a report in this paper outlined how the draft Bill could create greater space for the government to issue content-blocking orders to online platforms by "dropping language" that raises the legal guardrails around such orders. Under Section 69 (A) of the IT Act, orders to block content can be issued if it is "necessary or expedient" on account of national security and public



order, among other things. The change being deliberated upon removes the phrase “necessary or expedient”.

Another equally controversial change could vest with the government the discretion to decide which social media platforms should receive safe harbour protection — the legal immunity provided to these intermediaries vis a vis the content posted on their platforms. As per another report, the government is also planning to “regulate the deployment of emerging technologies”. It could bar new technologies if it perceives them to be a risk to users or to national security.

The consequences of each of these provisions, that are yet to be finalised, are troubling. Take, for instance, the matter of removing the legal guardrails around blocking orders. This comes at a time when there has been a dramatic expansion in takedown requests from India. As reported in this paper, government requests to social media platforms to take down content have risen from 471 in 2014 to 9,849 in 2020.

Seen in conjunction with provisions that could deny the immunity afforded to social media platforms by default, it raises concerns over the possibility of the government exercising greater control. While these platforms themselves have much to answer for — their decision-making has often been accused of being opaque — discretion regarding who is afforded safe harbour protection, and who is not, will create space for misuse, and opens up the possibility of taking down content that may be deemed critical of the government. And is the government the best arbiter of the risks new technologies pose?

Instead of providing a nurturing ecosystem for the development of new technologies, this approach could potentially rob the public of both the intended and unintended benefits stemming from their development and adoption. Just like the government reconsidered its approach on cross-border data flows, it must reassess the consequences of the proposed provisions of digital regulation and reexamine its position.

#### ARMY’S PROJECT UDBHAV TO REDISCOVER ‘INDIC HERITAGE OF STATECRAFT’ FROM ANCIENT TEXTS

The Indian Army has started an initiative, named Project Udbhav, to rediscover the “profound Indic heritage of statecraft and strategic thoughts” derived from ancient Indian texts of “statecraft, warcraft, diplomacy and grand strategy” in collaboration with the United Service Institution of India (USI), a defence think-tank.

In connection with this, USI will conduct a Military Heritage Festival on October 21 and 22, to acquaint “future thought leaders with the dynamics of comprehensive national security with special emphasis on India’s strategic culture, military heritage, education, modernisation of security forces and Atmanirbhar Bharat,” according to an Army statement.

“The project endeavours to explore India’s rich historical narratives in the realms of statecraft and strategic thoughts. It focuses on a broad spectrum including indigenous military systems, historical texts, regional texts and kingdoms, thematic studies, and intricate Kautilya Studies,” the statement said.

As part of this process, a panel on Friday discussed the “evolution of Indian military systems, war fighting and strategic thought”, exploring both current research in the field and the way forward.



The initiative stands testimony to the Army's recognition of India's age-old wisdom in statecraft, strategy, diplomacy, and warfare, the statement said, adding that Project Udbhav seeks to bridge the historical and the contemporary.

The aim of Project Udbhav is not limited to just rediscovering these narratives, but also to develop an "indigenous strategic vocabulary", which is deeply rooted in India's "multifaceted philosophical and cultural tapestry". The overall aim is to integrate age-old wisdom with modern military pedagogy, it stated.

## THE ROLLER-COASTER THAT WAS THE 2023 MONSOON

The "official" 2023 Southwest Monsoon season (June to September) has ended, though the withdrawal of the monsoon may continue till mid-October. This monsoon season has been erratic — it started with a severe deficit in the initial days of June, turned surplus in many days of July flooding several northern States, followed by the driest August since 1901, only for record September rains to compensate, leading to a "normal" monsoon.

The India Meteorological Department (IMD) attributes days with deficient rainfall this season to the impact of El Nino and the days of surplus rainfall, especially in September, to the positive Indian Ocean Dipole (IOD). El Nino is a climate pattern that describes the periodic warming of sea surface temperatures in the eastern and central Pacific, which is linked to below-normal monsoon rainfall in India. The IOD is defined by the difference in sea surface temperatures between the western part of the Indian Ocean (closer to the Arabian Sea) and the eastern part of the Indian Ocean. A positive IOD means that the western part is warmer than average while the eastern part is cooler than average. The positive IOD is associated with above-average monsoon rainfall in India.

The Long Period Average (LPA) is the average rainfall received between 1971 and 2020. Departure of -20% or lower points to deficient rainfall, departure of +20% or higher points to surplus rainfall, and anything in between is considered normal. There was a severe deficit in the first two weeks of June, which was compensated in July, and a severely dry August was later compensated in September, leading to a "normal" monsoon in the end.

The monthly percentage departure of rainfall from the LPA in India was -9% in June, +13% in July, -36% in August, and +13% in September. The chart also shows the region-wise split of the monthly departure as well. For instance, the northwest region received excess rainfall (>+19% departure) in the first two months of the monsoon, though it ran a deficit in August.

Meteorological sub-division eastern Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, south-interior Karnataka and Kerala — ended with a deficient rainfall. The subdivisions Saurashtra & Kutch, and West Rajasthan ended with a surplus rainfall. The rest of India recorded a normal rainfall (within the +19% and -19% range)

This monsoon season, many weather agencies along with the IMD had predicted a below normal rainfall as it was an El Nino year. Yet, its effects were minimised due to favourable conditions in the Indian Ocean. Moreover, the Indian monsoon season can be impacted by other regional and global atmospheric patterns as well such as the Eurasian snow cover. Not all El Nino years result in deficient rainfall and not all La Nina years result in increase, showing that other factors do influence the Indian monsoons.



## SIKKIM WARNING: HYDROELECTRICITY PUSH MUST BE ACCOMPANIED BY SAFETY MEASURES

At least 14 persons lost their lives and more than 100 others, including 23 army personnel, are reportedly missing in Sikkim after the Teesta river went into spate on Wednesday. The flash floods seem to have been triggered by a combination of factors. A cloud burst ripped apart the South Shonak Lake — a glacial body in the state's northwest. According to Sikkim's Disaster Management Authority (SDMA), the Teesta has inundated at least four districts in the state. The calamity was aggravated by the release of water from the Chungthang dam — initial reports suggest that the breach was caused by water rushing from the mountains. Disaster management authorities are also investigating the possibility of the event being triggered by an earthquake in Nepal on Tuesday. The probe is likely to throw more light on the immediate causes of the flash flood but one thing has long been clear — states in the Himalayan region must respect the fragile ecology of the mountains and put in adequate safeguards to mitigate the damage caused by increasingly frequent extreme rainfall events.

For years, studies have red-flagged the South Shonak Lake's expansion due to glacial melting and warned that the water body is susceptible to breaches. In 2021, for instance, a study by scientists from IIT Roorkee, Indian Institute of Science Bangalore, University of Dayton, USA, University of Graz, Austria, and the Universities of Zurich and Geneva in Switzerland recommended regular monitoring of the lake's growth and continuous assessment of the region's slope stability. The National Disaster Management Authority guidelines also say that risk reduction has to begin with mapping such water bodies, taking structural measures to prevent their breach and establishing mechanisms that can alert people about glacial lake outbursts. The IMD has collaborated with the US National Weather Service to warn people about six to 24 hours before a flash flood. But the system doesn't seem to have come to terms with the Himalayan region's idiosyncrasies.

The Northeast has a key place in the hydel power push of successive governments at the Centre. The Chungthang Dam is a part of the 1,200 MW Teesta Stage 3 Hydroelectric Project. The government claims that such projects are climate-friendly because of their low emissions intensity. Hydroelectric power is also a major source of revenue for Sikkim. Ecologists, however, caution against the adverse effects of dam construction — it increases the volatility of rocks in the Himalayan region. Wednesday's disaster is a warning to take such caveats seriously and install robust safety mechanisms.

## DELHI GOVERNMENT HAS DONE WELL TO PREPARE FOR POLLUTION. IT NEEDS TO FRAME LONG-TERM SOLUTIONS

On Sunday, the Delhi government began implementation of the Graded Response Action Plan (GRAP) to check the city's notorious winter pollution. Like the past seven years, the plan is a combination of preventive and punitive measures. The plan indicates a welcome awareness of the need to collaborate with Punjab and Haryana to check stubble burning.

But the mere expression of intent will not be enough. A coordination mechanism between Delhi and its neighbouring states to make sure that the air in the region doesn't turn foul during the winters has been in the works for far too long. Delhi's latest plan indicates that people could be at the mercy of emergency measures even this year.



Last year, the Commission for Air Quality Management underlined the need for a round-the-clock air quality monitoring network in the NCR. It stated that for NCR districts, the CPCB and state pollution control boards need to identify new sites to monitor pollution.

But as a report in this paper, last week, pointed out, half of these stations in the region are in Delhi. Going by the CPCB's list, at least nine of the monitoring units do not work. Only 20 of the 65 manual monitoring stations have the capacity to keep a continuous track of PM 2.5. Going ahead, NCR governments will have to identify monitoring shadow areas and plug the gaps.

The Delhi government claims its policies have led to 40 per cent reduction in pollution since 2015. It's right to an extent. But the fact also is that the plans have been found wanting several times when meteorological conditions turned unfavourable. Last year, Delhi experienced its cleanest Diwali in seven years, largely because winds blowing at 6-7 km/h prevented the accumulation of pollutants.

In less than four days, any hope of the smog not keeping its date with the capital was belied. Less than two months later, in early January this year, Delhi's residents were breathing toxic air again. Like in the past two years, the Delhi government has done well to frame its action plan at the beginning of the season. This early start must now be used to frame long-term solutions.

#### WHY BSL-3 LAB FOR NIPAH CONFIRMATION IS UNNECESSARY

On September 11, samples sent to Calicut Medical College for testing were confirmed as Nipah virus. But only on September 20, after 323 samples were tested for the virus, did ICMR permit Kerala to use Truenat for Nipah testing. Even the belated permission came only after Kerala "strongly demanded" for Truenat during discussions with ICMR, Health Minister Veena George said during a press conference.

Truenat for Nipah virus testing was granted an emergency use authorisation (EUA) by the Indian regulator in September 2021 days after the third Nipah outbreak in Kerala. The EUA was based on validation of the Truenat test to detect the virus and the Trueprep AUTO lysis buffer (to inactivate the virus) by NIV Pune in 2018 and 2019 in Kerala and external validation at an institute in Dhaka, Bangladesh. As per a 2021 published paper, the sensitivity of Truenat was 97% and specificity was 100%. Trueprep AUTO lysis buffer was found to be very effective in inactivating the Nipah virus. An April 2020 study at NIV found both the lysis buffer and the transport medium highly efficient at inactivating the SARS-CoV-2 virus.

"The Truenat test for Nipah virus was already developed and ready as our idea is to work on diseases that have the potential to become a pandemic if not diagnosed early," says Dr. Chandrasekhar Nair, Director and Chief Technology Officer at Molbio Diagnostics Pvt Limited.

Despite the validation as a point-of-care test by NIV and an EUA granted in 2021, ICMR did not permit Kerala to use Truenat till September 2023. A senior scientist based in Kerala tells The Hindu that it is the Indian regulator and not the ICMR that is authorised to approve the use of Truenat for Nipah testing. With an EUA granted in 2021, States should have been free to use Truenat without any permission from ICMR, the scientist says.



## IS THERE A TB DRUGS SHORTAGE IN INDIA?

### The story so far:

TB drug shortage began last year when Rifampicin — a medicine used for treating drug-sensitive TB — was not available in many parts of India. Since June this year, three important medicines used for treating drug-resistant TB — Linezolid, Clofazimine, and Cycloserine — too faced a stockout. On September 26, a PIB press release said that some media reports alleging shortage of anti-TB drugs in India are “vague and ill-informed, without any specific information on the availability of anti-TB medicines in stock”. But in the same release, it also said that “in rare situations, States were requested to procure few drugs locally for a limited period by utilising the budget under National Health Mission (NHM) so that individual patient care is not affected.”

### Is the news about TB drugs shortage true?

On August 23, The Hindu reported the Tamil Nadu State TB Officer Asha Frederick saying that the Union government had “not supplied adequate doses of Rifampicin and some drugs used for treating people with multidrug-resistant TB (MDR-TB), and the States have been asked to procure the drugs themselves but no additional funding has been provided”. Several media reports quoting TB patients in different States facing drug shortage have also been published.

### Has the government procured TB drugs?

In a September 26 press release, the government claimed that all drug-sensitive TB drugs are “available with sufficient stocks ranging six months and above”. In the case of drug-resistant TB drugs, it shared the stocks available at the national level and in Maharashtra without explicitly saying how long the stocks would last.

Based on the stocks of MDR-TB drugs said to be available in Maharashtra in the press release, Vaishnavi Jayakumar, a member of IsthmUS (a pan-Indian network of volunteers focusing on life-sustaining medical supply access during a crisis), pointed out in a tweet that Maharashtra has less than a month’s stock of two MDR-TB drugs. While 79,926 capsules of Clofazimine were said to be available in stock, she pointed out that the monthly requirement was 97,408; the stock available would not last even a month. In the case of Linezolid, the stock available in Maharashtra was put as 86,443 while 1,34,958 medicines are needed in a month. At the national level, she calculated the stocks of different MDR-TB drugs from the data of tenders available on the Central Medical Services Society (CMSS)’s website. While the stock of Clofazimine (100mg) as on September 26 was found to last for over three months, the stock of Cycloserine (250mg) would last only for one month and just over two months for Linezolid (600 mg).

Ms. Jayakumar told The Hindu that as per the 2021 guidelines for programmatic management of drug-resistant TB in India, the Centre procures TB drugs which remain at the Central Medical Services Society (CMSS) warehouse, and supplied to States when demands are raised. In the case of MDR-TB drugs, at the district level, the drugs are sorted keeping in mind the particular requirement of each MDR-TB patient, which is called a patient-wise box. “Such patient-wise boxes are to be prepared for each MDR-TB patient and handed over to them,” she said. “Apart from the logistics of distributing the drugs to the States, the MDR-TB drug boxes for each patient have to be prepared. According to the 2021 guidelines, at the State-level, there should be two months’ stock of medicines and one month stock of patient-wise boxes at a minimum. So a minimum stock of three months is needed, as per the guidelines.”



**Were there shortages of any other TB drugs?**

Ms. Frederick told The Hindu in August that the short-course drug combination regimen of Isoniazid-Rifapentine given once weekly for 12 weeks (3HP) to prevent TB in people with latent TB infection was never supplied to States. The new drug regimen was launched by Prime Minister Narendra Modi in March this year.

**Is this the first time that India has faced a nationwide TB drugs stockout?**

No. In September 2021, India faced a shortage of MDR-TB drug Delamanid. In 2013, India faced a TB stockout of first-line TB drugs Rifampicin and Isoniazid, and paediatric TB drugs.

**UNLOCKING THE SECRETS OF THE PARSI GENE: WHAT MAKES THEM LIVE LONGER, PROTECTS THEM FROM CERTAIN CANCERS**

Why do Parsis in India live longer than other communities? Why do they have relatively fewer cases of lung, head or neck cancer, but present an increased prevalence of Parkinson, Alzheimer and other neurodegenerative diseases?

Questions such as these saw Perviz Bhote, a retired English literature professor, sign up for the '10,000 Avestagenome Project' in 2008 to discover more about her genetic history. The 72-year-old recalls giving "blood samples and details of her family's medical history" to the project's researchers nearly 15 years ago.

The project, started by a Bangalore-based life sciences firm, seeks to identify genetic risk factors within the Zoroastrian Parsi population that predispose individuals to cancers and diseases with high morbidity. While the genetic make-up of most humans is 99 per cent same, having an endogamous community (people who marry within their own community) like Zoroastrian Parsis as a reference population gives researchers the unique ability to understand how diseases occur in the general population.

The project, which aims to collect samples from 10,000 Zoroastrian Parsis across the world by 2025, has so far uncovered 217 unique variants linked to longevity and 41 associated conditions like cancers, and neurodegenerative and rare diseases.

**parsi India live longer**

Fifteen years on, samples of 4,700 Zoroastrian Parsis are now a part of the project's biobank (data and samples collected for research). And nearly two decades since the project started, Avesthagen Limited, the company founded by Dr Viloo Morawala-Patell, has completed the genome analysis of 400 samples in the hope of explaining why the median life expectancy of Parsis is higher than other communities in India. According to various epidemiological studies, the average Parsi in India lives till the age of around 85 years, nearly 10 years more than members of other communities in the country.

Besides their higher life expectancy, the project researchers said the Zoroastrian Parsis are the ideal control group for research into tobacco-related cancers since the community, which follows Zoroastrianism, has historically abstained from smoking. Though elements of creation — fire, water, air, earth and ether/space — are important in Zoroastrianism, there is special emphasis on fire. Researchers said this veneration for fire has kept most Parsis from smoking for centuries.





“Because of this social practice, the Zoroastrian Parsi genes can help us characterise biomarkers (genes showing the presence of specific biological conditions) that predict diseases caused by tobacco use, like lung, head and neck cancer. We are validating our results to develop a test for chain-smokers to understand their risk of developing lung cancer,” Kashyap Krishnasamy, the project leader, told The Indian Express.

He added that the project’s foray into the cutting-edge field of liquid biopsy-based diagnostic developments has uncovered a cache of genetic codes for molecular mechanisms for regulating cellular proliferation and death. The researchers have found an interesting interplay of these mechanisms, which contribute to the prognosis of lung cancer.

Parsis, who moved to India from Iran over 1,000 years ago, have remained highly endogamous. This, according to the project researchers, has ensured that disease-causing mutations that normally get diluted in other populations get amplified in the Zoroastrian Parsis. According to the 2011 Census, there were nearly 60,000 Zoroastrians, both Parsis and Iranis, in India. The community is also spread across Pakistan, Iran, North America, Canada, Britain and the Middle East.

#### MORE THAN A POET’S DREAM

The government finally wakes up to announce the Dada Saheb Phalke Award for seasoned actor Waheeda Rehman whose grace and gravitas have enamoured and inspired generations.

A natural performer, Ms. Rehman has essayed path-breaking roles and understated performances, all striking a chord with film lovers. Negotiating a space between the idealism of Mother India (1957) and the diffidence of Main Chup Rahoongi (1962), her Rosie (Guide, 1965) and Hirabai (Teesri Kasam, 1966) are deeply conflicted characters who eventually sacrifice their flawed relationships so that their art and soul can survive. No less is her poignant portrait of Reshma (Reshma Aur Shera, 1971), which won her the national film award. Reshma betrays her love for stopping bloodshed between clans.

In Chaudhvin Ka Chand (1960), Shakeel Budayuni describes Ms. Rehman’s beauty as a shayar’s khwab (poet’s dream). Indeed, she is a picture of boundless charm and elegance but her poise emanates from her strong convictions and bold choices.

#### SARAKKA CENTRAL TRIBAL UNIVERSITY APPROVED FOR TELANGANA: THE FIGURES OF SAMMAKKA-SARAKKA, THEIR SIGNIFICANCE

On Wednesday (October 4), the Union cabinet approved a tribal university for Telangana – the Sarakka Central Tribal University, which will come up in Mulugu district at a cost of Rs 889 crore.

Though the University was a commitment made by the Central government as a part of the Andhra Pradesh Reorganisation Act, 2014 – wherein both Andhra Pradesh and Telangana would get support to establish a tribal university each – the Telangana tribal university faced significant challenges as land allocation of 500-600 acres could not be done in time.

During his visit to poll-bound Telangana recently, Prime Minister Narendra Modi announced that the university would be named after Sammakka-Sarakka – a mother-daughter duo revered among the local tribal community.



### **The legend of Sammakka and Sarakka**

Sammakka is said to have been married to Pagididda Raju, a feudal chief of the Kakatiyas (a Deccan dynasty) who ruled the Warangal area. She had two daughters and one son – Sarakka or Saralamma, Nagulamma and Jampanna, respectively. In the battle against the local rulers in protest against the taxes, Saralamma died, while Sammakka disappeared into the hills and the local tribals believed that she metamorphosed into a vermillion casket.

Mulugu holds a biennial festival – the Sammakka Saralamma Jatara – which is considered among the largest gatherings of tribal people in the world. The event commemorates the battle of the 13th-century mother-daughter duo against the local rulers in protest against the imposition of taxes on the Koya people. The Jatara (yatra, or pilgrimage) begins at Medaram, and the rituals are conducted by the Koya priests, in accordance with their customs and traditions.

Until 1955, about 2,000 people used to visit Medaram, mostly from the Koya tribe. But down the line, it has assumed the form of a large Hindu religious festival, so much so that it is believed that after Kumbha Mela, the Sammakka Saralamma Jatara attracts the largest number of devotees in the country. In 2008, nearly 80 lakh people are estimated to have attended the festival, which went up to a crore in 2012.

### **Political and social resonance**

Considering the footfall of the festival, the Samakka-Sarakka Jathara was declared a state festival in 1996. Until 1998, the only way to reach Medaram, where the festival is held, was on a bullock cart. But in 1998, the state government (the undivided Andhra Pradesh at the time) constructed a motorable road.

Since then, the Sammakka Sarakka Jathara has become one of the most famous tribal festivals in the world and close to 1.5 crore devotees from various tribal and non-tribal communities participate in this festival, including those from Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, Maharashtra, Karnataka and Jharkhand. It is often referred to as the Kumbh Mela of the tribals.

The festival also sees regular participation by the Ministry of Tribal Affairs, as much as by the state government of Telangana, including Chief Minister K Chandrashekhara Rao. The Centre released Rs 6.25 crore for the yatras held in 2018, 2020 and 2022. Apart from this, the Ministry of Tribal Affairs sanctioned Rs 7 crore in 2019-20 and Rs 5 crore in 2021-22 for establishing community shelters and other infrastructure in and around Medaram.

The Ministry of Tourism, as a part of the Tribal Circuit under the Swadesh Darshan Scheme, sanctioned Rs. 75.88 crore for the integrated development of a tribal circuit of Mulugu-Laknavaram-Medavaram-Tadvai-Damaravi-Mallur-Bogatha Waterfalls where the temple of Sammakka-Sarakka is located.

Mulugu, a reserved Scheduled Tribes (ST) assembly seat, has a population of around 2.6 lakhs as per the 2011 Census with a 75 per cent ST population. The UNESCO World Heritage Site of Ramappa Temple is located about 15 km from Mulugu.



## WHY MAHATMA GANDHI'S DIET PLAN IS RIGHT FOR YOU: WITH MILLETS, FRUITS, VEGETABLES AND FASTING ROUTINES, IT CAN TAKE CARE OF DIABETES & CHOLESTEROL

We keep on trying so many fad diets and lifestyles but forget Mahatma Gandhi's way of life, which is actually minimalistic, simplistic and goes with the flow and rhythm of nature. If I were to sum it up, all it takes is waking up early with the sunshine, sleeping early and eating frugally. He always went for small, simple vegetarian meals and eating as much as Nature intended man to eat. Eating for him was not about indulgence but a necessary duty to your body, helping it to sustain itself. He always advocated eating regional and seasonal foods, including a lot of fruits, dry fruits, vegetables, herbs, wholesome foods, simple-cooked food that didn't destroy inherent nutrients and drinking clean water. He promoted the use of cow and goat milk, incorporating pure ghee and jaggery.

The Gandhian regime also advocated fasting to give the body a break and detoxify itself. So, he would incorporate a day of fruit juice and liquid diet intermittently. His argument was once your body feels light and fit, you can focus on positive insights and meditation comes easy. It activates the process of autophagy, which helps prevent various ailments.

The Gandhian way of life is also about being physically active and walking as much in the open air as possible. Doing rhythmic breathing with the help of pranayama, super light exercises in the evenings and resting between busy schedules, all have a tranquilising effect. Breathing right, sleeping in a clean place under the open sky when possible is also beneficial.

The Gandhian way of eating emphasizes fruits, vegetables, whole grains, millets, legumes, herbs and condiments. We can adapt his food logic in daily life.

The Gandhian way is about being aligned with Nature. Along with the right foods and nourishment and what to eat, when to eat and how much to eat, longevity is possible.

Very few people knew that Gandhiji had set up a nature cure hospital and Seva Gram. He ploughed the fields, nursed lepers with care and love, set up daily discourses on moral values, food, yoga, made people meditate, and took them on the path of naturopathy. He also propagated sahaja yoga or simple yoga routines that can be adapted by everybody. Sunbath, mud/clay bath, water therapy are beneficial as they can help promote good health.

## GOLD RUSH

On a super Sunday of drama, determination and domination, India comfortably moved past the 50-medal mark while it continued to chase 100 medals at the Asian Games in Hangzhou. Sunday also saw India taking 15 medals, a record for a single day at the Asiad, with nine of them from athletics. Avinash Sable, with a fine frontrunning style that left the rest of the field numb in the 3000m steeplechase, brought the country's first athletics gold with a Games record. In contrast, Asian record-holder Tajinderpal Singh Toor, who had struggled with a groin injury the last few months, was a picture of determination as he retained his shot put gold with a last-round effort. There was plenty of drama too as Jyothi Yarraji was first disqualified along with another Chinese athlete Yanni Wu for a false start in the 100m hurdles, then allowed to run under protest and later saw her bronze medal being upgraded to silver after Wu, who had in fact jumped the gun, was disqualified. Athletics had been a gold mine for India at the last Asiad in Jakarta 2018, bringing half of the 16 golds that India won overall and this time shooting has been a major contributor too, bringing seven golds, five of them in team events.



There were some wonderful stories too, such as the equestrian dressage team striking gold after 41 years, and Sift Kaur Samra — who dropped out of the MBBS course to focus on shooting — taking the women’s 50m rifle three-position gold with a world record. And the women’s cricket team winning the title on its Asiad debut should go a long way in making cricket a global sport. Cricket was played at the 2010 and 2014 Asiad, in China and South Korea, but the Board of Control for Cricket in India did not send its teams to these Games. There were some stunning moments too, with India’s Sutirtha Mukherjee and Ayhika Mukherjee shocking host China’s World champions Chen Meng and Yidi Wang on their way to the women’s doubles semifinal in table tennis and the 10-2 hammering of Pakistan in a men’s hockey league game, India’s biggest margin of victory against its arch-rival. Host China is way above the rest, its gold count is nearly 10 times more than India’s, but it looks like India’s young stars have learned to adapt to the big stage better and this augurs well for the future. The badminton, squash, tennis, golf, rowing and sailing stars have all contributed with their good show. And the next few days promise to be eventful ones too.



# DreamIAS

**BUSINESS & ECONOMICS****REVENUE RIDDLES**

Halfway through the financial year, India's gross revenues from the Goods and Services Tax (GST) stand at over ₹9.92 lakh crore, marking an 11.1% increase over collections between April and September 2022. The average monthly revenues in 2023-24 are a healthy ₹1,65,418 crore, with four of the six occasions that the GST kitty has crossed ₹1.6 lakh crore occurring in this fiscal. At almost ₹1.63 lakh crore, September's GST collections were a tad below the average, but 2.3% over August's inflows that had marked a three-month low. With the festive season kicking in, collections over ₹1.6 lakh crore may persist through this quarter. The government appears comfortably placed regarding GST revenues in the fiscal context, with room to spare for some moderation in inflows during the January-March 2024 quarter when the central bank expects real GDP growth to slow to 5.7% from 7.8% in the first quarter. Beyond the macro resilience that these numbers indicate, a few areas of concern deserve closer scrutiny from policymakers and the GST Council which convenes today.

One, there is a discernible slowdown in the growth of GST inflows, which dropped to 10.2% in September, the slowest uptick since July 2021. The average growth between July and September dipped to 10.6% in the second quarter from 11.5% in the first. Growth from domestic transactions and services imports has slowed to 14% over the past two months, from 18% in June. It is important to note that revenues in September, based on transactions undertaken in August, also include pending dues from businesses since the start of the GST regime in 2017-18 as the deadline to remit them was September 30. Moreover, e-invoicing became mandatory for all firms with a turnover of over ₹5 crore since August 1, so there was another compliance push at work. Distilling these effects is necessary to gauge the extent of growth that stemmed from actual consumption and production upticks. That a record 9.34 crore e-way bills generated during August did not translate into the highest-ever revenues may suggest that transaction sizes have shrunk, for instance. Another puzzling trend is seen in revenues from goods imports that have shrunk four times this year. Of course, the lower goods import bills recorded this year will reflect in lower GST intakes. However, imports hit a nine-month high of \$58.6 billion in August, 10.75% over July's import bill. Yet, revenues collected in September were 5.7% below the previous month's kitty. This does not add up. Authorities must dig deeper to check for revenue leakages from imports.

**DATA REVEALS HEALTHY DIRECT TAX COLLECTION, LITTLE RISK OF NOT MEETING FISCAL DEFICIT TARGET**

Data on central government finances released a few days ago by the Controller General of Accounts paints a healthy picture of the government's finances, dousing concerns over tax collections falling short of expectations. At the aggregate level, the Centre's gross tax collections, which had been subdued in the first four months of the year (April-July), grew at a staggering pace in August. As a consequence, tax collections in the year so far (April-August) have grown at a healthy pace of 16.5 per cent. This is higher than the growth that was factored in the Union budget. While the momentum in collections may moderate in the second half, the fiscal arithmetic so far looks manageable.

The disaggregated data shows that the sharp uptick in collections has been driven by healthy direct tax revenues. So far this year, direct taxes have grown at 26.6 per cent, while indirect taxes have grown at a subdued 7.5 per cent.

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



Under the rubric of direct taxes, income tax collections have grown by a robust 35.6 per cent, while corporate tax collections, which till July were lower than levels seen last year, have grown handsomely in August, pushing up overall growth this year to 15 per cent. On the indirect tax side, goods and services tax collections have continued to hold steady. GST collection rose to Rs 1.62 lakh crore in September, up 10.2 per cent over those last year.

Excise collections though are lower than levels seen last year. Revenue from disinvestment also continues to disappoint. As against a budgeted target of Rs 61,000 crore, the government has so far garnered only Rs 6,949 crore through this route. However, robust growth of non-tax revenue, driven largely by the higher-than-budgeted dividend from the RBI, could in part help offset this shortfall. On the expenditure side, the government has maintained its spending momentum — capital spending is up 48 per cent so far this year. However, some expect the momentum to moderate in the second half of the year as the country approaches the national elections.

The momentum in the economy is expected to slow down in the second half of the year. As per the RBI's projections, GDP growth is likely to fall from 7.2 per cent in the first half of the year to 5.9 per cent in the second half. This could have implications for the government's tax revenues. And on the expenditure side, there is the possibility that additional allocations will have to be made for NREGA. However, as per analysts, there is little risk of the government not meeting its fiscal deficit target for the year. The government's market borrowing numbers of Rs 6.55 lakh crore for the second half of the year also seems to indicate so.

#### HAVE HOUSEHOLD SAVINGS REDUCED?

The release of the Reserve Bank of India's (RBI) Monthly Bulletin in September revealed that households' net financial savings had fallen to 5.1% from 11.5% in 2020-21. Financial liabilities of households rose faster than their assets, with many writers highlighting this trend as an indication of rising indebtedness and increasing distress. The government, however, countered these claims. The Finance Ministry explained that while household financial savings may be reducing, it did not imply total savings were falling, since households took advantage of low interest rates after the pandemic to invest in assets such as vehicles, education and homes. These are two contrasting narratives, one of pessimism and distress, the other of optimism. What does data tell us about the state of the economy?

##### **The optimistic claim**

There is evidence to support the government's narrative of a shift from financial to physical assets. Post-COVID, there has been an increase in household construction. Between 2020-21 and 2021-22, the construction sector was the fastest growing sector, growing at nearly 15% (when measured in 2011-12 prices), and 10% between 2021-22 and 2022-23. Only the trade, hotels, transport and communications sector grew faster in the latter period. Housing loans from Scheduled Commercial Banks (SCBs) grew at double-digit rates in all years between 2018-19 and 2022-23, with loans from housing finance companies growing almost 17 times between 2019-20 and 2022-23.

Liabilities in other non-financial assets have also increased. Education and vehicle loans from SCBs increased significantly between 2021-22 and 2022-23, growing at 17% and around 25% respectively. This has led to significant changes in the composition of household savings. The share of physical assets — excluding gold and silver — is almost 60% of households' total net savings, with the share of financial savings reducing from 39.6% in 2017-18 to 38.77% in 2021-



22. That is, by taking advantage of the low interest rates set by the RBI in the wake of the pandemic, households may have increased their liabilities not to fuel consumption, but to purchase non-financial assets such as houses.

#### **The pessimistic claim**

Other evidence points to a slightly different picture. The fall in household net financial savings was driven largely by a rise in liabilities. Gross financial assets declined marginally as a share of GDP between 2021-22 and 2022-23 from 11.1% to 10.9%. Gross liabilities, remaining steady at roughly 3.8% of GDP between 2019-20 and 2021-22, increased to 5.8% of GDP in 2022-23. This rise in liabilities would not imply households have reduced savings if increasing loans financed the construction and purchase of homes. However, there is evidence to the contrary. While loans for housing, education and vehicles have no doubt increased, other components of personal loans have risen even faster. The share of housing loans in total non-food personal loans from SCBs — including priority sector lending — has fallen from 51.08% in 2018-19 to 47.4% in 2022-23. The share of education loans has fallen from 3.32% to 2.37%, while vehicle loans have remained constant at around 12%.

In contrast, outstanding credit card loans increased from 3.8% to 4.7% over this period, with loans against gold jewellery rising from 1.07% to 2.16%, and the category of “Other Personal Loans” — which excludes loans for purchasing consumer durables — showing the largest rise from 24% to 27.42%. While one cannot say what these loans are being used for, these categories of loans do not necessarily indicate that they are being used solely for asset creation. Households may be taking on credit card debt and taking loans against jewellery to finance consumption. The biggest contributor to the large rise in financial liabilities between 2021-22 and 2022-23 has been loans from non-banking institutions, which grew by almost ten times in just the last year, contributing to 32.1% of the total rise in financial liabilities over this period.

#### **The road ahead**

An examination of the data reveals that even though housing loans increased, other forms of loans which might possibly be used for consumption increased even faster. But does this imply distress? It is difficult to say from just one year's data, for we do not know if this is a trend or a one-time event. One could say that households are borrowing to maintain consumption in the face of income loss after COVID and high inflation. On the other hand, it could also be that pent-up demand during the pandemic is being realised in the form of debt-financed consumption, with households optimistic about future repayment.

However, even if the optimistic narrative is true, there are grounds for concern. The U.S. Federal Reserve's commitment to maintaining higher interest rates to combat inflation would have a knock-on effect on interest rates around the world. Rising interest rates in India would cause significant stresses for households to meet increasing liabilities. If households have invested in real estate, rising interest rates would curtail their consumption spending and reduce aggregate demand in the economy. If, however, the narrative of distress borrowing is true, households would be subjected to further stress if interest rates rise. Policy must be observant of the myriad pitfalls facing the Indian economy.



## FOUR REASONS WHY BANK CREDIT GROWTH IS EXPECTED TO MODERATE IN FY24

Banking sector credit growth is likely to be lower at 13-13.5 per cent in fiscal 2023-24, according to domestic rating agency Crisil Ratings. This expectation comes after bank credit clocked a robust 15.9 per cent in fiscal 2022-23 driven by a broad-based economic recovery, stronger, cleaner balance sheets and the lower base of the preceding two fiscals.

This credit growth estimate, however, excludes the impact of the merger of HDFC Ltd with HDFC Bank in fiscal 2024.

Care Ratings in a report earlier this month said the projected growth rate for bank credit is expected to be at 13-13.5 per cent for FY24, excluding the merger's impact.

### How has credit growth been so far in FY24?

As of September 8, 2023, bank credit grew by 19.81 per cent on a year-on-year basis to Rs 150.38 lakh crore, according to the RBI data. The number includes the impact of the merger of HDFC Ltd with HDFC Bank. Post-merger, the loan portfolio of the mortgage lender has become part of the banking system. However, excluding the impact of the merger, bank credit has grown by 15.08 per cent.

On a year-to-date basis, bank credit (including the impact of the merger) has risen by 8.6 per cent as of September 8, the RBI data showed.

In the first quarter of this fiscal, personal loans (housing and non-housing), which have supported overall credit expansion in recent years, recorded some deceleration but continue to grow well above the headline credit growth, the RBI's recent State of the Economy report said.

In August, non-for credit grew by 15 per cent (excluding the impact of HDFC Ltd and HDFC Bank) as compared with 16 per cent a year ago, the latest RBI data showed. Personal loans growth decelerated to 18.3 per cent (y-o-y) in August from 19.4 per cent a year ago, due to moderation in credit to housing.

Credit to industry registered a growth of 6.1 per cent (y-o-y) in August as compared with 11.4 per cent in the same month of 2022. However, credit growth to the services sector accelerated to 20.7 per cent during the month from 17.4 per cent a year ago, primarily due to non-banking financial companies (NBFCs) and commercial real estate, the RBI data showed.

### Why is credit growth expected to moderate in FY'24?

Crisil said moderation in bank credit will be on account of four factors.

#### 1. Decline of gross domestic product

Gross domestic product (GDP) growth is expected to decline to 6 per cent on-year in FY24 from 7.2 per cent in the last fiscal. This lower GDP growth will have an impact on the overall credit growth of banks. Crisil's GDP growth estimate is lower than the Reserve Bank of India's (RBI) real GDP growth projection of 6.5 per cent.

#### 2. Softening in commodity prices

The rating agency sees inflation easing in this fiscal due to some softening in commodity prices, which will reduce the overall demand for working capital loans. In FY2023, a significant part of

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





the growth in wholesale credit (comprising corporates and micro, small and medium enterprises, or MSMEs) was driven by higher working capital demand in a high-inflation environment. As per the RBI, consumer price index (CPI) based inflation is projected at 5.4 per cent for 2023-24 compared to 6.7 per cent in 2022-23.

### 3. Robust bond market issuance

Bond market issuances have been robust in the first half of FY2023 with the change in interest rate environment. Consequently, bank credit's substitution of debt capital markets, which also supported wholesale credit growth last year, especially in the first half, is not being seen to the same extent this year, Crisil said.

### 4. High-base effect

The fourth factor for lower bank credit growth will be the high-base effect due to the strong credit growth in fiscal 2023, especially in the second half. Within overall bank credit, growth in wholesale credit (nearly 60 per cent of overall credit) is likely to slow to 11-11.5 per cent this fiscal from a decadal high of 15 per cent. On the other hand, retail credit (which is nearly 28 per cent of overall credit), is expected to continue to grow at a healthy clip of 19-20 per cent in this fiscal, similar to last fiscal.

In a recent interview with The Indian Express, Federal Bank's Managing Director and CEO Shyam Srinivasan said he expects the banking system's credit growth to grow between 13 and 14 per cent in FY2024.

#### What is the expectation for growth in bank credit in FY25?

Crisil said in fiscal 2024-25, the bank credit growth will improve a tad to 13.5-14 per cent as economic growth picks up.

"In fiscal 2025, overall credit growth trends should see a turnaround and start inching up on the back of an expected improvement in GDP growth to 6.9 per cent. Within this, wholesale credit growth is likely to see a modest increase to 11.5-12 per cent, while retail should remain the key growth driver, expanding steadily at 19-20 per cent. Agriculture credit growth should remain range-bound at 9-10 per cent," said Krishnan Sitaraman, Senior Director and Chief Ratings Officer, Crisil Ratings.

The revival in private industrial capex is slower than expected but higher capacity utilisation levels and capex announcements are encouraging from the perspective of a ground-level pickup in capex next fiscal.

On the services side, demand from non-banks should continue to support corporate credit growth as they are themselves seeing decent growth tailwinds, the rating agency said.

In the MSME segment, Crisil said, credit demand should be steady hereon given MSMEs' role in the government's Atmanirbhar Bharat initiative and the flow-through impact of the productivity-linked incentive scheme.

Demand for home loans (the largest sub-segment of retail credit) should be steady with increasing preference for home ownership and better affordability despite higher rates.



Unsecured loans (both personal loans and credit cards) are expected to grow faster, driven by greater digitalisation of financial transactions, a shift to organised credit, and increasing comfort with borrowing for discretionary spending.

#### E-GAMING COS LOOK TO ABSORB GST THROUGH CASHBACKS, BONUSES

Even as the industry deals with the fallout of the new goods and service tax (GST), online gaming companies have come up with a new idea to avoid losing customers – by absorbing the GST deduction and compensating users for it for at least the next two to three years.

The move comes after amended legal provisions and rules for online gaming, horse racing and casinos kicked in from October 1, bringing into effect the 28 per cent tax at face value at entry level under the GST regime.

Fearing that passing on the GST deduction on deposits to their wallets could result in a loss of customers, many online gaming companies have decided to foot the bill for “as long as possible”, a senior gaming company executive told The Indian Express.

“The bigger ones may be able to absorb the GST costs for around three years, some of the smaller ones may be able to do so for two years. But many of the upcoming companies will not be able to do this and as a result may shut down,” another senior executive said, requesting anonymity.

Dream11, the most popular fantasy app, has started offering users ‘discount points’ to offset the cost of the GST deduction. If a user adds Rs 100 to their account, they will receive Rs 78.12 as the deposit amount (after accounting for the 28 per cent GST deduction of Rs 21.88), but the exact deduction will be offered to the user by Dream11 as part of discount points. In effect, this means that if Dream11 was not absorbing the GST hit, a user’s balance on the deposit of Rs 100 would have shown Rs 78.12. So, basically, Dream11 is paying the remainder Rs 21.88 to keep the total balance at Rs 100 so that the user does not have to pay additionally to take the balance to that amount.

However, in Dream11’s case, 22 per cent of the amount used to join contests will be deducted from a user’s discount points balance after all other available discounts are applied at the time of joining contests. Discount Points will be valid for 90 days from the date of credit.

Mobile Premier League (MPL), which also offers a fantasy platform along with other games on its app is also giving a cashback to users which is exactly the amount of the GST deduction. This paper added Rs 50 to an MPL wallet, and Rs 10.93 was deducted from it as GST charges, but MPL credited the wallet with Rs 10.93 to keep the original deposit of Rs 50 intact.

WinZO, which aggregates different online games such as Poker, Ludo and Rummy on a single platform, is offering users a “bonus” ranging from Rs 10-Rs 50 depending on the amount a user deposits in their account. For every Rs 100 deposited, WinZO is offering a bonus of Rs 50.

As the amended GST rules came into force, concerns about compliance and the applicability of the amended legal provisions have been raised as some states are still in the process of clearing the amendments for their respective State GST (SGST) laws.

On Saturday, in a letter written by All India Gaming Federation to the Ministry of Finance, a copy of which has been seen by this paper, online gaming companies have asked the government to



reconsider the amendments, citing the fact that around 15 states are yet to make changes to their respective GST statutes.

#### ON OLD PENSION SCHEME, DON'T BE GUIDED BY SHORT-TERM POLITICAL GAINS

The demand for returning to the old pension scheme is gaining traction. Several states such as Rajasthan, Chhattisgarh, Jharkhand, Punjab and Himachal have already announced a shift back to the OPS. In April, the Union finance ministry had formed a committee headed by Finance Secretary TV Somanathan to look into the issue of pensions. The committee will consider if any changes are needed to the NPS framework to improve pensionary benefits while ensuring fiscal prudence. Now, as per a report in this paper, a new proposal has been put forth by some states.

Under this proposal, states have sought an assured pension that is linked to the minimum level of pay, not the last drawn salary, as it stood under the old pension scheme. So while this does involve a lower pension, it is assured. In comparison, under OPS, a defined benefit scheme, government employees would receive 50 per cent of their last drawn salary as pension, while under the NPS, contributions are defined, not benefits. Another model, earlier reported on in this paper, talked about combining elements of the old pension scheme and the new pension scheme — under this framework, there was both a “defined contribution” by employees, and “defined benefits”. Considering the electoral cycle, there is a possibility of some sort of adjustment being made which defines the contributions of employees, and also their benefits. After all, political considerations could well overpower economic logic. However, any such structure which seeks to provide assured returns, even if they are lower than those under the OPS, could be moving backwards. The burden of fulfilling any “defined benefit” will fall on governments.

The difference between OPS and NPS is stark. According to a recent study by the RBI, the burden of switching back would be roughly 4.5 times that of the NPS, “with the additional burden reaching 0.9 per cent of GDP annually by 2060”. Allocations towards pensions already account for a significant share of both central and state government expenditure. As of March 2023, NPS had 23.8 lakh central government subscribers, and 60.7 lakh state government subscribers. A return to defined benefits, in whatever form, could thus have adverse fiscal implications for governments. It would leave less space for more productive forms of spending. Governments must resist the temptation of short-term fiscal and political gains, and take into consideration the long-term implications of their policies.

#### AN UNCERTAIN INFLATION OUTLOOK INCREASES POSSIBILITIES OF RBI KEEPING RATES HIGH

In its October meeting, the monetary policy committee of the RBI voted unanimously to maintain status quo on rates. The policy repo rate stands at 6.5 per cent. Alongside, the MPC also voted 5-1 to retain its stance of continuing to focus on the “withdrawal of accommodation”. This was expected. Inflation, which had surged to a 15-month high of 7.44 per cent in July, but eased thereafter to 6.83 per cent in August, remains well above the upper threshold of the central bank’s inflation targeting framework.

Moreover, upside risks to inflation remain. High global energy prices and financial markets’ volatility have only complicated matters. RBI Governor Shaktikanta Das, thus, has rightly underlined that monetary policy must be ready “to take appropriate and timely action”.



Much of the uncertainty over the trajectory of inflation can be traced to food prices. Food inflation had surged to 11.51 per cent in July. While it subsequently fell to 9.94 per cent in August, and is expected to soften further, as vegetables prices correct, the outlook is clouded by uncertainty, as the governor has also underlined. Rainfall this season has been subpar, the area under sowing for pulses is lower than last year, reservoir levels have dipped, and then there is the impact of El Nino.

This increases the possibility of price pressures being witnessed in other food items. In August, along with vegetables, inflation was elevated in cereals, pulses and spices. On the other hand, core inflation, which excludes the volatile food and fuel components, has fallen by 140 basis points from its peak in January to 4.9 per cent during July-August. There is a risk that if food inflation remains elevated for long, it can spill over and influence household inflationary expectations. Despite the sharp rise in headline inflation in the second quarter, and the upside risks to food prices, RBI has kept its inflation forecast unchanged at 5.4 per cent for the full year.

While it has raised its forecast for the second quarter, this has been offset by a steeper fall in the third quarter. In comparison, the World Bank has recently raised its forecast for inflation in India from 5.2 per cent for the full year to 5.9 per cent now. This revised forecast is only marginally lower than the upper threshold of the central bank's inflation targeting framework.

Considering that the RBI has projected inflation at 5.2 per cent in the first quarter of 2024-25, and has retained its growth forecast for the year at 6.5 per cent, which suggests that the economic momentum is holding up, it increases the possibility of a longer pause on rates. So far, the MPC has opted to look through this surge in food prices, and rightly so. However, it must be mindful of both domestic and global risks to the growth-inflation trajectories. Its actions must be guided by the objective of ensuring price stability.

#### AFTER RBI SURPRISE ON GOVT PAPER SALES, BOND YIELDS SPIKE OVER LIQUIDITY FEARS

Reserve Bank of India (RBI) Governor Shaktikanta Das Friday said the central bank may conduct open market sales of government papers to manage liquidity in the system, triggering a spike in bond yields to their highest level in FY 2023-24.

The RBI signal on open market operations (OMO) to rein in inflation took bond market participants by surprise, particularly those who had anticipated an influx of foreign funds following India's inclusion in JP Morgan's bond indices.

The yield on benchmark 10-year government bonds shot up by 12 basis points to 7.34 per cent, the highest level since March 23. The benchmark Sensex rose by 0.55 per cent, or 364 points, to 65,995.63.

According to SBI Caps, a closer examination showed RBI's commitment to assertive control over liquidity dynamics and its vigilant approach to addressing inflation. In pursuit of these objectives, the RBI has signalled it may employ unconventional measures like OMO bond sales through the auction route, when deemed necessary.

ICRA Analytics foresees the 10-year benchmark yield to trade between 7.25-7.40 per cent in the near term. While a tight liquidity position will help bring down inflation, it puts upward pressure on interest rates.

The decidedly hawkish market response came despite the absence of major revisions to economic projections and the decision to maintain existing interest rates.



## SEBI EXTENDS DEADLINE FOR LISTED COMPANIES TO CONFIRM OR DENY MARKET RUMOURS

The Securities and Exchange Board of India (SEBI) has extended the deadline for listed companies to confirm or deny market rumours to February 1, 2024 as part of mandatory disclosure requirements. The deadline has been extended for the top 100 listed companies by market capitalisation to February 1, 2024, from October 1 this year at present, according to the latest circular by the Sebi.

According to SEBI, for the top 250 listed entities, the rule will kick in on August 1, 2024, from the current requirement of April 1, 2024. The rule is aimed at strengthening the corporate governance of listed entities. There were many instances in the past where manipulators floated rumours in the market to rig share prices.

“It has been decided to extend the effective date of implementation of...the LODR (Listing Obligations and Disclosure Requirements) rules for top 100 listed companies by market capitalisation to February 1, 2024, and for top 250 listed companies by market capitalisation to August 1, 2024,” SEBI said. Earlier in June, SEBI notified rules asking these listed companies by market capitalisation to confirm, deny, or clarify any market rumour reported in the mainstream media.

These companies will have to confirm, deny or clarify any reported event or information in the mainstream media, which is not general in nature and which indicates that rumours of an impending specific material event” are circulating amongst the investing public within 24 hours from the reporting of the information.

## TRAI CAN'T REGULATE OTT PLATFORMS LIKE HOTSTAR, SAYS TRIBUNAL. THIS IS WHY IT MATTERS

Over the top (OTT) platforms like Hotstar are not in the jurisdiction of the Telecom Regulatory Authority of India (TRAI) and are governed by the Information Technology Rules, 2021, notified by the Ministry of Electronics and Information Technology (MeitY), India's telecom appellate panel has held.

In an interim order passed on Wednesday (October 4), the Telecom Disputes Settlement and Appellate Tribunal (TDSAT) said that OTT platforms are outside the purview of the TRAI Act since they do not require any permission or a licence from the central government.

### **In what context did TDSAT pass this order?**

TDSAT's findings came in a petition filed by the All India Digital Cable Federation (AIDCF), which alleged that free streaming of matches of the ICC Cricket World Cup on mobile devices by Star India through its platform Disney+Hotstar is discriminatory under TRAI regulations, as the matches can be watched on Star Sports TV channel only if the viewer has subscribed by making a monthly payment.

In its interim prayer, AIDC asked that Star India should be restrained from permitting viewers to have Star Sports on their mobile phones for free, or that they should also provide free access to Star Sports to AIDCF's members, that is cable operators.

### **So why is this order significant?**

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



The rejection of AIDC's plea by TDSAT is significant because, as The Indian Express had reported earlier, TRAI, the statutory telecom regulator, and the Department of Telecommunications (DoT) under the Union Ministry of Communications, are attempting to regulate OTT services, which has been challenged by the Ministry of Electronics and Information Technology.

The DoT had released a draft telecom Bill which classified OTT platforms as telecommunications services, and sought to regulate them like telecom operators. The TRAI, separately, has issued a consultation paper on how to regulate OTT platforms.

#### **Why is the IT Ministry disagreeing with DoT over OTT regulation?**

The IT Ministry believes that under the Allocation of Business Rules, Internet-based communications services are not part of DoT's jurisdiction. However, in this case, the conversation is centred around OTT communications services like WhatsApp.

A copy of the draft Telecommunication Bill was sent to an inter-ministerial group for consultations in May. Following the objections raised by MeitY, the DoT is learnt to have gone back to the drawing board to reframe portions of the Bill which regulated OTT communication services.

"In May, the DoT had formed a second draft of the Bill and when it came for consultation in the inter-ministerial group, MeitY made it clear that the DoT can only regulate the carriage layer, that is telephony, wireless communications, and private sector licences, etc.," an IT Ministry official had earlier said.

#### **What is TRAI's attempt at regulating OTT services?**

Almost three years after it first recommended against creating a specific regulatory framework for OTT communication services like WhatsApp, Zoom, and Google Meet, TRAI has revisited its stance, and started consultations on how these services can be regulated.

In the consultation paper released in June, the regulator asked stakeholders to send suggestions about regulating services, and asked whether a selective banning of OTT services could be done as opposed to entirely shutting down the Internet.

Regulating such services has been a long-standing demand of telecom operators, who have been advocating for years for "same service, same rules".

In September 2020, TRAI had recommended against regulatory intervention for OTT platforms, saying that it should be left to market forces. However, it had also said that the sector should be monitored, and intervention should be done at an "appropriate time".

### **GOVT. EASES AIRCRAFT RECOVERY RULES**

In a big relief for aircraft lessors, the government has notified that the protection offered to a corporate debtor from recovery of dues under the Insolvency and Bankruptcy Code 2016 will not cover aircraft, helicopters and engines.

If implemented retrospectively, the move may impact Go First's insolvency resolution proceedings under which the National Company Law Tribunal had granted it a blanket moratorium in May to shield it from lessors and creditors and also restrained the DGCA from accepting any applications for de-registration of aircraft from any lessors.



Go First had 54 aircraft in its fleet, and lessors of nearly all aircraft had sought de-registration of their assets over pending dues. A senior DGCA official said that it is legally examining the government notification before deciding on de-registration.

Following the NCLT'S May order granting a blanket moratorium, lessors also approached the Delhi High Court to seek access to their aircraft. They argued that the moratorium was in contravention of the Cape Town Convention and Protocol of 2001, to which India is also a signatory. The Convention states that in the event of a default, the lessor can terminate the agreement and take possession of the leased assets.

"The latest notification is a welcome move. Lessors will now have to move NCLT or other Courts and seek deregistration and export of their aircraft," said Nitin Sarin, Managing Partner at Sarin & Co.

In its second downgrade for India since May due to the ongoing Go First matter, a global aviation leasing watchdog, the Aviation Working Group, assigned the country a negative outlook. This means Indian airlines leasing aircraft may have to pay a premium due to the difficulties encountered by lessors to secure their assets.

#### INDIA TO BE PART OF JP MORGAN GLOBAL BOND INDEX, COULD GET \$25BN INFLOWS

JP Morgan Chase & Co has announced it will include Indian government bonds to its emerging markets bond index from June 2024, a much-anticipated move which could attract more foreign flows into the domestic government securities market. The move can potentially attract about \$25 billion into the country, as per analyst estimates.

India, which will be included in the GBI-EM Global index suite starting June 28, 2024, is expected to reach the maximum weight of 10 per cent in the GBI-EM Global Diversified Index (GBI-EM GD), JP Morgan said. Currently, 23 Indian government bonds with a combined notional value of \$330 billion are index eligible. Inclusion of the bonds will be staggered over 10 months through March 31, 2025 (i.e., inclusion of 1 per cent weight per month), it said.

The Reserve Bank of India (RBI) has been engaging with other index providers, including FTSE Russel and Bloomberg-Barclays, for the inclusion of IGBs in global bond indices. Post the inclusion into JP Morgan EM Bond Index, India's chances of inclusion into Bloomberg Global Aggregate Index also rises, IDFC First Bank said in a note. "In case India is included in the Bloomberg Global Aggregate Index, it could result in inflows of \$15 billion to \$ 20 billion with India's weight ranging from 0.6 per cent to 0.8 per cent," it said.

The news of inclusion helped the yield on the 10-year government bond – 7.26 per cent – 2033, ease. It opened at 7.08 per cent but ended at 7.18 per cent on profit booking and in anticipation that the RBI will not purchase government bonds through open market operations (OMOs) given the higher flow of funds. The rupee also closed 16 paise down at 82.94 on Friday, compared to previous closing of 83.09.

According to Clearing Corp. of India data, foreigners have raised their holdings of Indian government bonds to almost \$12 billion from \$7.4 billion at the end of 2022, in anticipation of the inclusion. So far in the calendar year 2023 (till September 22), foreign portfolio investors (FPI) have invested Rs 28,476 crore in the country's debt market compared to an outflow of nearly Rs 9,000 crore in the same period of 2022. FPIs have turned net buyers of the domestic bonds on



hope India will be included in global bond indices, improving growth prospects, lower inflation compared to other economies and stable rupee.

Overseas investors have been net buyers of domestic debt for all the nine months (till September 21) of 2023 except in March when they had net sold Rs 2,505 crore of bonds. In the calendar year 2022, FIIs had net sold Rs 15,911 crore of Indian debt, according to the National Securities Depository Ltd (NSDL) data.

“There have been some sentiments that India is expected to be included in global bond indices. As Russia is out, obviously some other developing economy has to be included, and India is the only country which qualifies,” said Madan Sabnavis, Chief Economist, Bank of Baroda. With more clarity on its future growth prospects, the country will be a natural candidate to be part of global bond indices, he said, adding that even if inclusion does not materialize immediately, it indicates that India is among the best performing economies, which is boosting the sentiments of FIIs.

IIFL Securities Fund Manager Ujjwal Shah said that in the short term, things look quite attractive (in India). “...and we are seeing a lot of investments by FIIs in debt because of a good and stable inflationary and interest rate scenario,” he said.

In July this year, an Inter-Departmental Group (IDG) of the RBI, headed by Executive Director Radha Shyam Ratho, recommended the central bank should step up measures to engage with index providers for the inclusion of IGBs in global bond indices. It also suggested recalibration of the FPI regime to facilitate a more conducive environment for foreign investments into the Indian debt markets (both government and corporate).



# DreamIAS



**LIFE & SCIENCE****HOW IMPORTANT IS THE FIRST ASTEROID SAMPLE?****The story so far:**

On September 24, NASA's asteroid-hunting spacecraft OSIRIS-REx — short for Origins-Spectral Interpretation-Resource Identification-Security-Regolith Explorer — dropped a capsule containing a sample of rocks and dust that it had collected from the asteroid 101955 Bennu over the earth, which landed in the Utah desert. Going ahead, scientists will catalogue the capsule's contents, study its composition, and share pieces of it with their peers around the world. Many believe that along with comets, carbon-rich asteroids like Bennu may have seeded the earth with primordial life as they smashed into the young planet more than four billion years ago.

**What was OSIRIS-REx's mission?**

Launched in 2016, the OSIRIS-REx spacecraft completed a series of complex manoeuvres to propel itself into orbit around Bennu two years later. Mission controllers had to carefully choreograph this celestial waltz as Bennu's frail gravity — so weak that it allows boulders to roll uphill on the asteroid — could barely keep OSIRIS-REx bound in an orbit just 2 km high. The mission almost failed when the asteroid's craggy surface rendered OSIRIS-REx's height-measuring instrument useless. Controllers were forced to send the probe on an intricate holding pattern around Bennu for almost two and a half years as they tried to find a different landing spot. They did this on October 20, 2020, and OSIRIS-REx landed there just long enough to scoop some rocks and dust.

To prevent the probe from sinking through the rubble-strewn surface, the probe's touch-and-go Sample Acquisition Mechanism used a blast of nitrogen gas to avoid contaminating the debris flying everywhere, including into the spacecraft's sample collection chamber. After its successful swoop, OSIRIS-REx took off and gradually pulled away from the asteroid's gravity before setting course for earth.

After releasing its sample capsule above our planet's atmosphere last Sunday, the spacecraft will fire its engines to shake free from the earth's gravity and begin a new journey — to study another asteroid, Apophis, in 2029.

**Why do scientists want to study Bennu?**

The asteroid belt between Mars and Jupiter is inhabited by thousands of space rocks, ranging from pebbles to the 800-km-wide Ceres. A part of the orbits of some of these bring them closer to the sun than Mercury. Sometimes, such eccentric orbits also bring them quite close to the earth. Planetary defence experts are keen to know more about such near-earth asteroids (NEA), because it isn't improbable for the earth to be threatened with a collision someday.

While the chances of a serious earth-asteroid collision are small, the odds averaged out over time of humans being killed by such an impact are actually the same as being killed in an air crash. The problem is that even if these rocks don't directly threaten the earth, planetary gravitation can cause their paths to change with each orbit. Of the greatest concern are asteroids wider than a kilometre that stray into a collision course with the earth. If one of these hunks of stone and metal strikes the planet, several cities would be rapidly flattened. So space agencies have invested in plans to intercept such doomsday rocks, deflecting them away or destroying them altogether.



### Can we mine asteroids?

Another reason, apart from planetary security and the origins of life on the earth, to study asteroids like Benu is the possibility of mining them. NASA's Galileo (launched in 1989) and NEAR Shoemaker (1996) and Japan's Hayabusa 1 (2003) and Hayabusa 2 (2014) missions have found that many asteroids are solidified debris from supernovae, and are made of the same stuff as the solar system: dust, rocks, water ice, and an alloy of iron, nickel and cobalt — a sort of natural steel.

This material can be extracted from asteroids; we can also tap the water present in them in the form of permafrost or saturated minerals as a resource in space. NEAs could be better pit stops than the moon where space missions can drop payloads off to be returned to the ground. But, as OSIRIS-REx principal investigator Dante Lauretta said, "challenges like low gravity, lack of atmosphere, and radiation exposure need to be overcome" first. For now, all eyes are on the regolith that OSIRIS-REx has brought back to the earth from Benu, to help scientists look back in time to the violent birth of the solar system. Maybe, the material could contain organic molecules that help us tell the story of how life on earth began.

### BLUEWALKER 3 SATELLITE OUTSHINES MOST STARS

An international team of scientists, including from Imperial College London, have published a paper in Nature journal, detailing the impact of the prototype BlueWalker 3 satellite on astronomy.

The BlueWalker 3 is a prototype satellite, part of a satellite constellation planned by its owner AST SpaceMobile, intended to deliver mobile or broadband services anywhere in the world.

Observations of BlueWalker 3 showed it was one of the brightest objects in the night sky, outshining all but the brightest stars, the researchers said.

Several companies around the world have envisaged such satellite constellations.

However, owing to their location closer to the earth location and relatively large size, their potential to disrupt night sky observations is higher, which is why astronomers are raising concerns around these constellations, or groups of satellites.

"The pristine night sky is also an important part of humanity's shared cultural heritage and should be protected for society at large and for future generations," said Dave Clements, from the Department of Physics at Imperial.

Observations taken within weeks of BlueWalker 3's launch in September 2022 showed that the satellite was among the brightest objects in the sky.

These observations were supported by data from professionals and amateurs from sites across the world, including those in Chile, the US, Mexico and Aotearoa New Zealand.

The data was also used to calculate the satellite's trajectory over time, that could help astronomers to try and avoid them or at least know where they will be in the data.

However, mitigating against the brightness is difficult beyond masking their position and losing data for that portion of the sky, the researchers said.



Further, because BlueWalker 3 uses wavelengths close to those that radio telescopes observe in, the satellite could also hamper radio astronomy.

While the researchers recognised that the satellite constellations are important for improving worldwide communications, they say that their interference with astronomical observations could severely hamper their progress in understanding of the cosmos.

Their deployment should therefore be conducted with due consideration of their side effects and with efforts made to minimise their impact on astronomy, they said in their paper.

## KÁRMÁN LINE: WHERE SPACE BEGINS

### WHAT IS IT?

Boundaries play an important role in science because they help differentiate and define things that might otherwise blend together. One such boundary is the Kármán Line. Located at 100 km above sea level, it is an imaginary line that demarcates the earth's atmosphere from space.

Though not all scientists and spacefarers accept it, a majority of countries and space organisations recognise this boundary between earthsky and space. It was established in the 1960s by a record-keeping body called Fédération Aéronautique Internationale (FAI). Anyone individual who crosses this line qualifies as an astronaut.

However, nature seldom adheres to human-made boundaries. Crossing the Kármán Line physically doesn't mean much. Within a short distance on either side of the line, there is no significant difference in the pressure or the composition of air. The earth's gravity continues to exert its pull here. Even the earth's atmosphere doesn't end here. Why then do we need the Kármán Line?

The Kármán Line was established to regulate airspace. It marks, roughly, the altitude beyond which a traditional aircraft can't fly. Any aircraft flying beyond it needs a propulsion system to pull away from the earth's tug. It also acts as a legal reference that separates airspace that a country can claim to own from space itself, which is governed like international waters.

## GALACTIC TIDES: PUSHING AND PULLING THE HEAVENS

### WHAT IS IT?

Just as the earth's oceans at their shores, the universe's galaxies also experience tides, but on a much larger scale. Galactic tides are caused by gravitational forces within a galaxy, arising in the interactions between celestial objects such as stars and gas clouds. These tidal forces influence various aspects of a galaxy's evolution. They can reshape a galaxy structure by creating tidal tails and bridges, promoting star formation, and disrupting smaller star systems.

Over aeons, galactic tides also disrupt the orbits of stars, leading to long-term changes in galactic structure. Galactic tides also have a say in the ways in which proximate galaxies do and don't interact.

In fact, researchers have observed the closest galaxy to the Milky Way, the colossal Andromeda, and found that tidal streams near its edges could be signatures of dwarf galaxies that were later



devoured. The Andromeda galaxy is heading towards the Milky Way at 110 km/s and will collide in four billion years.

Galactic tides also affect the supermassive black holes at galaxy centres, leading to events that change the ways in which these cosmic beasts interact with nearby stars. In astronomy, understanding galactic tides is crucial if we are to truly understand the complex dynamics and evolution of galaxies over cosmological time.

## A (VERY) BRIEF HISTORY OF THE NOBEL PRIZES

First up, as usual, is the Nobel Prize in medicine or physiology, which is announced by a panel of judges at the Karolinska Institute in the Swedish capital. The prizes in physics, chemistry, literature, peace and economics follow, with one announcement every week day.

The Nobel Prizes were created by Alfred Nobel, a 19th-century businessman and chemist from Sweden. He held more than 300 patents but his claim to fame before the Nobel Prizes was having invented dynamite by mixing nitroglycerine with a compound that made the explosive more stable.

Dynamite soon became popular in construction and mining and in the weapons industry. It made Nobel a very rich man. Perhaps it also made him think about his legacy, because toward the end of his life he decided to use his vast fortune to fund annual prizes “to those who, during the preceding year, have conferred the greatest benefit to humankind.”

The first Nobel Prizes were presented in 1901, five years after his death. In 1968, a sixth prize was created, for economics, by Sweden’s central bank. Though Nobel purists stress that the economics prize is technically not a Nobel Prize, it’s always presented together with the others.

One reason the prizes are so famous is they come with a generous amount of cash. The Nobel Foundation, which administers the awards, has raised the prize money by 10% this year to about \$1 million. In addition to the money, the winners receive an 18-carat gold medal and diploma when they collect their Nobel Prizes at the award ceremonies in December.

Historically, the vast majority of Nobel Prize winners have been white men. Though that’s started to change, there is still little diversity among Nobel winners, particularly in the science categories.

To date, 60 women have won Nobel Prizes, including 25 in the scientific categories. Only four women have won the Nobel Prize in physics and just two have won the economics prize.

In the early days of the Nobel Prizes, the lack of diversity among winners could be explained by the lack of diversity among scientists in general. But today, critics say, the judges need to do a better job at highlighting discoveries made by women and scientists outside Europe and North America.

## INSPIRING COLOURS

Travelling in a bus can be an enjoyable experience if you have your own seat, the vehicle is not crowded, and there is a nice breeze. But if the bus is packed with people, you can get irritable. Something similar happens to atoms: if they are contained in a vessel at a low density, they behave in a certain way, but if they are packed densely together, with little moving space, something new happens. The 2023 Nobel Prize in Chemistry has been awarded to three people who found out



what happens. Technically, they have been selected for discovering and refining quantum dots — small crystals a few nanometres wide. Each quantum dot has only a few thousand atoms (whereas a single droplet of water can have a sextillion). And because the atoms are packed so closely together in the dot, their electrons are very close to each other. In this setting, the laws of quantum mechanics describe the behaviour of quantum dots — so much so that an entire dot can mimic the behaviour of an atom. The dots have another famous property. If you shine some light on a quantum dot, it will absorb and re-emit that light at a different frequency (or colour) depending on its size. Smaller dots emit light of higher frequency (bluer) and vice versa. So, a quantum dot made of some material would respond in one way whereas a quantum dot made of the same material but smaller would respond differently. For these reasons, quantum dots have found many applications in transistors, lasers, medical imaging, and quantum computing. In 1981, Alexei Ekimov, then working in the Soviet Union, first synthesised quantum dots ‘frozen’ inside glass. Two years later, Louis Brus synthesised quantum dots in a solution in the U.S., and worked out their quantum-physical properties. Finally, Moungi Bawendi, whose work on quantum dots began as a student under Dr. Brus, found a way to make quantum dots of high quality in an easy and reliable way in 1993. For their contributions, they have shared the Nobel Prize.

Some of the most fascinating scientific discoveries, for all their technical sophistication, are actually innocuous in their appeal. Quantum dots are one such. Understanding why they behave the way they do requires specialised knowledge of quantum mechanics, but quantum mechanics do not dictate their behaviour. Dr. Ekimov himself was inspired by the colours in stained glass. While quantum dots light up LED screens and the location of a tumour that needs to be removed, it is important not to lose sight of the colours — the reds, the greens, and the blues — and whatever more they might inspire.

#### SHOT IN THE ARM

All nominees for the Nobel Prize in Physiology or Medicine have path-breaking achievements to their credit, but often, the final choice of the winner might have a lot to do with the timing and the context. Katalin Karikó and Drew Weissman would have thus been safe bets for their work that enabled the development of effective mRNA vaccines against COVID-19. The 2023 Nobel announcement comes as no surprise, given that the benefits of the discovery are still keeping people alive and out of hospitals. It also ticks all the boxes: the Nobel prize for Medicine must be awarded for a discovery that would confer the ‘greatest benefit on mankind’ which mRNA undoubtedly did. This Nobel is also significant in that it recognises the contribution of a woman of science: 13 women have now won the Nobel Prize for Medicine (out of 225 awarded); and only 62 women have won any Nobel Prize (against 894 men) so far.

The best outcomes inevitably emerge from intersectoral collaborations, and steadfast scientific research conducted against all odds. Hungarian biochemist Katalin Karikó became fascinated with mRNA when it was a mere possibility. In human cells, genetic information encoded in DNA is transferred to messenger RNA (mRNA) and this is then used as a template for protein production. Proteins are the main structural component of cells, and play a key role in growth and repair. During the 1980s, a method called in vitro transcription permitted the idea of using mRNA for vaccine and therapy to take off, but enthusiasm to work on this flagged as several hurdles emerged, including challenges in delivery and inflammatory reactions. Undeterred, Karikó kept on the course of developing methods to use mRNA for therapy, when she was an assistant professor at the University of Pennsylvania. She was then joined by immunologist Weissman, who was studying dendritic cells that have important functions in immune surveillance and activation



of vaccine-induced immune responses. Over the years, by making base modifications to the mRNA they managed to ease delivery paths and get rid of the inflammatory reactions. An inchoate idea was finally teased into fruition. This was in 2005, 15 years before the COVID-19 pandemic. But the time and context arrived in 2019, when scientists taught the mRNA vaccine to instruct human cells to make the S protein found on the surface of the COVID-19 virus. This causes the body to create antibodies which will fight the virus if the individual were to contract the infection. The rest, of course, is history.

#### NOBEL PRIZE FOR PEACE: WHO IS NARGES MOHAMMADI, THE IRANIAN WOMAN AWARDED THIS YEAR?

Iranian activist Narges Mohammadi has been awarded the 2023 Nobel Prize for Peace, “For her fight against the oppression of women in Iran and her fight to promote human rights and freedom for all”, as stated by the Norwegian Nobel Committee in its citation.

The committee also referred to last year’s protests in Iran, following the killing of a young woman named Mahsa Amini while she was in the custody of the Iranian morality police. The protests’ motto ‘Zan – Zendegi – Azadi’ (Woman – Life – Freedom) “suitably expresses the dedication and work of Narges Mohammadi”, the committee said.

Mohammadi is currently in Iran’s Evin House of Detention, serving a 16-year sentence that began in 2015 over charges that include spreading propaganda against the state. Her family expressed their gratitude to the committee in a statement, adding, “We also want to extend our sincere congratulations to all Iranians, especially the courageous women and girls of Iran who have captivated the world with their bravery in fighting for freedom and equality... As Narges always says: Victory is not easy, but it’s certain.”

#### NOBEL PRIZE IN LITERATURE: IN NORWEGIAN LAUREATE JON FOSSE’S ‘SLOW PROSE’, SHADES OF IBSEN AND DERRIDA

In an interview given to The New Yorker in November last year, Norwegian playwright, poet, novelist, essayist, and translator Jon Fosse spoke of the place that he writes from — which is both a sanctuary and a dare: “That place is for listening and for movement, and it’s a very safe place to stay. But it can also be scary, because it’s the route for me to enter the unknown. I have to go to the borders of my mind, and I have to cross these borders. And to cross these borders is frightening if you’re feeling very fragile... I simply didn’t dare to write my own things because I was afraid of crossing these borders in myself. When I’m writing well, I have this very clear and distinct feeling that what I’m writing on is already written. It’s somewhere out there. I just have to write it down before it disappears.”

His focus on the subterranean that connects the personal with the universal won the 64-year-old this year’s Nobel Prize in Literature. In the citation, the Nobel committee commended Fosse’s “innovative plays and prose which give voice to the unsayable”, and spoke of his “immense oeuvre, written in Norwegian Nynorsk and spanning a variety of genres consists of a wealth of plays, novels, poetry collections, essays, children’s books and translations”.

While Fosse is today “one of the most widely performed playwrights in the world, he has also become increasingly recognised for his prose”, the committee said.



In his acceptance statement, Fosse said, "I am overwhelmed, and somewhat frightened. I see this as an award to the literature that first and foremost aims to be literature, without other considerations."

Incidentally, Fosse shares his UK publisher Fitzcarraldo Editions with last year's Literature laureate, French writer Annie Ernaux.

## US ACCUSES AMAZON OF 'ILLEGAL MONOPOLY': WHY THE COUNTRY HAS SUED THE ONLINE GIANT

The United States' Federal Trade Commission (FTC), along with other regulators, has filed a much-anticipated lawsuit against online retail giant Amazon. The lawsuit alleges that the company uses punitive and coercive tactics to unlawfully maintain its monopoly – and exploits its power to benefit itself while raising prices and degrading service for its customers.

This is being seen as the most high-profile case initiated by the FTC in recent years against a big tech company. Moreover, it has been widely anticipated since the appointment of Lina Khan as the regulator's chair. Khan has had Amazon in her crosshairs for years.

Amazon has said that it "fundamentally disagrees" with the FTC's allegations calling some of them "wrong or misleading". The company has added it will challenge the lawsuit.

Some of the allegations made by the FTC have previously been investigated by India's competition watchdog, the Competition Commission of India (CCI).

### **FTC's allegations against Amazon**

The FTC and 17 state attorneys general have sued Amazon alleging the company's actions allow it to stop rivals and sellers from lowering prices, degrade quality for shoppers, overcharge sellers, stifle innovation, and prevent rivals from fairly competing against Amazon.

The complaint alleges that Amazon violates the law not because it is big, but because it engages in a course of "exclusionary conduct" that prevents current competitors from growing and new competitors from emerging.

They said that Amazon's anticompetitive conduct occurs in two markets: the online superstore market that serves shoppers and the market for online marketplace services purchased by sellers.

These tactics include anti-discounting measures that punish sellers and deter other online retailers from offering prices lower than Amazon, keeping prices higher for products across the internet; and conditioning sellers' ability to obtain "Prime" eligibility for their products on sellers using Amazon's costly Fulfillment service, which has made it substantially more expensive for sellers on Amazon to also offer their products on other platforms.

The FTC, along with its state partners, is seeking a permanent injunction in federal court that would prohibit Amazon from engaging in its "unlawful conduct and pry loose Amazon's monopolistic control to restore competition," a statement has said.

### **'Misguided approach': Amazon's response**

Amazon said that the FTC has filed a "misguided" lawsuit which, if successful, will force the company to engage in practices that "actually harm consumers and the many businesses that sell



in our store — such as having to feature higher prices, offer slower or less reliable Prime shipping and make Prime more expensive and less convenient”.

“The FTC’s case alleges that our practice of only highlighting competitively priced offers and our practice of matching low prices offered by other retailers somehow lead to higher prices. But that’s not how competition works. The FTC has it backwards and if they were successful in this lawsuit, the result would be anticompetitive and anti-consumer because we’d have to stop many of the things we do to offer and highlight low prices — a perverse result that would be directly opposed to the goals of antitrust law,” the company has said in a statement.

It has added that its Fulfilment by Amazon (FBA) service was optional for sellers and its fees are an average of 30 per cent less expensive than standard-shipping methods offered by other major third-party logistics providers, and an average of 70 per cent less expensive than comparable two-day shipping alternatives.

“The FTC’s allegation that we somehow force sellers to use our optional services is simply not true. Sellers have choices, and many succeed in our store using other logistics services or choosing not to advertise with us,” the company said.

#### **Parallels with India**

In 2020, the CCI ordered an investigation based on allegations by the trade body Delhi Vyapar Mahasangh that Amazon and Flipkart had entered into exclusive sales agreements with smartphone makers to sell certain phones through a small number of preferred sellers.

The Mahasangh also alleged that Amazon and Flipkart had given preferential treatment to certain sellers by giving them higher search rankings and offering to pay for part of the discount that such sellers would offer during key sales periods such as Flipkart’s Big Billion Days and Amazon’s Prime Day.

At the time, the CCI noted that arrangements between smartphone brands and online platforms leading to a few sellers selling certain phones exclusively on a single platform, coupled with alleged links between the platforms and these sellers, merited an investigation.

## THE LARGEST CLIMATE ACTION LAWSUIT AGAINST 32 COUNTRIES

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

September 27 marked the beginning of a historic legal battle in the climate action movement. Six young people from Portugal, aged 11 to 24, are suing 32 European governments (including the U.K., Russia and Turkey) at the European Court of Human Rights in France’s Strasbourg. The plaintiffs began arguing before 17 judges that their governments have failed to take sufficient action against the climate crisis, thus violating their human rights and discriminating against young people globally.

#### **What is the lawsuit?**

Duarte Agostinho and Others versus Portugal and Others was filed in September 2020, in the aftermath of the wildfires that consumed Portugal’s Leiria in 2017. Over 60 people died, and 20,000 hectares of forests were lost. The recent spate of heatwaves and fires across Greece, Canada and other parts of Europe served as reminders that every increment beyond the 1.5°C





temperature threshold would be catastrophic, intensifying “multiple and concurrent hazards,” as the Intergovernmental Panel on Climate Change states in its report.

The Portuguese youths claim that European nations have faltered in their climate emission goals, blowing past their global carbon budgets consistent with the Paris Agreement target of limiting global warming under 1.5°C. The nations have thus violated people’s fundamental rights protected under the European Convention on Human Rights, including the right to life, the right to be free from inhuman or degrading treatment, the right to privacy and family life and the right to be free from discrimination.

“These European governments are failing to protect us... Our ability to do anything, to live our lives, is becoming restricted. The climate crisis is affecting our physical health and our mental health; how could you not be scared?” said André dos Santos Oliveira, 15, to a media house. Since the 32 countries contributed to climate catastrophes and jeopardised the future of young people, it falls upon the nations to rapidly escalate their emissions reductions and aim higher in curtailing domestic emissions, in line with what scientific evidence shows, the lawsuit argues. Other measures include cutting the production of fossil fuels and cleaning up global supply chains.

The European Scientific Advisory Board on Climate Change (ESABCC), a body which provides scientific advice to EU countries, said countries will have to target an emissions reduction of 75% below 1990 levels (as opposed to the EU’s current 55%). “Under some of these principles, the EU has already exhausted its fair share of the global emissions budget,” their report states, echoing the plaintiffs’ claim that European countries have overstated their carbon budget claims. The EU at present is the sixth largest emitter with 7.2 tonnes of CO<sub>2</sub> per capita, while the world averages 6.3 tonnes per capita.

UNICEF has dubbed the climate crisis as a “child rights crisis”, as unhindered carbon emissions and extreme weather threaten access to education, health, nutrition and the future. Research concurs — air pollution is already linked to poor birth outcomes and increased risk of cardiovascular and respiratory diseases. Heat waves are triggering mental health issues.

#### **How have governments responded?**

It comes down to cause and effect: countries so far have rejected any relationship between climate change and its impact on human health. For instance, Greece, in its submissions, maintained that the effects of climate change “do not seem to directly affect human life or human health.” This is even as the country witnessed devastating wildfires earlier this year and torrential rain and flooding in September.

The Portuguese and Irish governments have dismissed these concerns as ‘future fears’, arguing that there is no evidence to show climate change poses an immediate risk to their lives. According to Reuters, a ruling in the case is expected in the first half of 2024.



## DOGMA CHALLENGED

### **With no central brain, can jellyfish learn from past experiences?**

Even without a central brain, jellyfish can learn from past experiences like humans, mice, and flies. The researchers trained Caribbean box jellyfish (*Tripedalia cystophora*) to learn to spot and dodge obstacles.

The study published in *Current Biology* has challenged previous notions that advanced learning requires a centralised brain and sheds light on the evolutionary roots of learning and memory. No bigger than a fingernail, these seemingly simple jellies have a complex visual system with 24 eyes embedded in their bell-like body.

Living in mangrove swamps, the animal uses its vision to steer through murky waters and swerve around underwater tree roots to snare prey. Scientists demonstrated that the jellies could acquire the ability to avoid obstacles through associative learning, a process through which organisms form mental connections between sensory stimulations and behaviours.

## SCIENTISTS CHIP AWAY AT HOW ANCIENT ROMAN CONCRETE STOOD TEST OF TIME

The ancient Romans were brilliant engineers and builders, creating a dazzling array of magnificent structures including some that have survived to modern times virtually intact like the domed Pantheon in Rome.

An indispensable material for the Romans was a form of concrete they developed that is known for remarkable durability and longevity, though its exact composition and properties have remained a mystery. A new study goes a long way toward solving this puzzle and, the researchers said, could pave the way for the modern use of a replicated version of this ancient marvel.

Roman concrete was introduced in the 3rd century BC, proving revolutionary. Also called *opus caementicium*, its three primary ingredients were lime, volcanic ash and water. It helped the Romans erect structures including temples, public baths and other big buildings, aqueducts and bridges unlike any fashioned to that point in history. Because the concrete could harden underwater, it also was vital for constructing harbors and breakwaters.

Many of these structures have endured for two millennia while modern concrete counterparts sometimes crumble in mere years or decades.

The researchers conducted a sophisticated examination of concrete from the walls of the ancient city of Privernum, located in Italy south of Rome. They deciphered unexpected manufacturing strategies that gave the concrete self-healing properties – chemically repairing any cracks or pores.

“The new results show that at the basis of ancient Roman concrete’s self-healing and longevity could be the way Romans mixed their raw ingredients, specifically how they used lime, the key component of the mix besides volcanic ash,” said Massachusetts Institute of Technology civil and environmental engineering professor Admir Masic, who headed the research published in the journal *Science Advances*.

“This is an important next step in improving the sustainability of modern concretes through a Roman-inspired strategy. We were able to translate some of the features in ancient Roman



mortars that can be associated with self-healing into modern analogs with great success,” Masic added.

Lime is a white caustic powdery substance comprised of calcium oxide, made by heating limestone.

Roman concrete contains white bits called “lime clasts,” remnants of the lime used in the concrete. These features, the researchers said, appear to have resulted from a process called “hot mixing” that employs a lime variant called quicklime that reacts with water to heat the mortar mix and fosters beneficial chemistries that otherwise would not occur.

Experts long had believed the Roman concrete’s durability arose from another important ingredient: volcanic ash from the area of Pozzuoli on the Bay of Naples. Some viewed the lime clasts, absent in modern concrete, as an accidental byproduct of sloppy preparation or poor-quality materials. This study identified them as instrumental in self-healing.

“Essentially it works like this: when concrete cracks, water or moisture enters and the crack widens and spreads throughout the structure. The lime clasts dissolve with the infiltration of water and provide calcium ions that recrystallize and repair the cracks. Additionally, the calcium ions can react with volcanic ingredients to reinforce the structure,” Masic said.

The Pantheon, dating to the 2nd century AD, is a circular concrete building faced with brick, boasting the world’s largest and oldest unreinforced concrete dome. The massive Roman Colosseum, dating to the first century AD, also would have been impossible without concrete.

## FUKUSHIMA N-WASTEWATER CONTROVERSY

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

Last month, amid strong backlash from the public and neighbouring countries, Japan began the release of contaminated water from the Fukushima nuclear plant into the sea.

### **What happened?**

On April 13, 2021, Japan’s government announced plans to release over one million tonnes of contaminated water from the Fukushima nuclear plant into the sea over the next 30 years. The wastewater is a byproduct of the catastrophic 2011 earthquake and tsunami, which disabled the Fukushima Daiichi nuclear power plant, leading to the release of radioactive materials. After more than a decade of storing this wastewater, Japan says they are running out of storage space, and allege that the, now treated water is safe for release.

However, since the announcement in 2021, a sizeable fraction of the public, both domestic and foreign, have been speaking out against this decision, claiming that mixing radioactive materials in the sea poses major health risks, especially since these countries rely heavily on seafood.

### **How is the water being treated?**

The water is being treated by the Tokyo Electric Power Company (TEPCO), Japan’s largest electric utility firm. Since 2011, TEPCO has been in charge of decommissioning the Fukushima Daiichi power plant, and managing the waste. The water has been treated with multiple techniques, notably the Advanced Liquid Processing System (ALPS), which removes 62 types of radioactive materials.



However, it doesn't remove tritium. TEPCO and the Japanese government argue that the concentration of tritium does not exceed international standards, in particular, those of the International Atomic Energy Agency (IAEA), the United Nations' nuclear watchdog. According to TEPCO's website, the radiation emitted by tritium is "extremely weak, and can be blocked with a single sheet of paper." The concentration is also six times less than the limit for tritium in drinking water, set by the World Health Organization.

"You can't remove tritium because it is identical to hydrogen. So removing it, chemically extracting it from wastewater becomes quite impossible," explains Dr. Arun Vishwanathan, Associate Professor at the School of National Security Studies at Central University of Gujarat, Gandhinagar. "What they [have done], and what other nuclear plants ... also do is mix it with water so that the tritium quantity reduces further, before it is actually released into the sea."

#### **How has the public responded?**

Fears persist within the majority. A poll conducted by Japan's Jiji Press in September shows that 16.3% of respondents are opposed to the discharge of the treated water, and 30.8% were neither opposed nor in favour. Several protests have been held in Seoul against the release, and many hoarded seafood ahead of the discharge. Some surveys show that 80-85% of South Koreans oppose the water's release. The Chinese government, which has been against Japan's decision since the announcement was made, has already banned seafood from Japan.

"Countries have to balance what is the scientific truth, or what can be established, and the general perception of the public," says Mr. Vishwanathan, adding that these fears always come up after such large-scale disasters.

#### **Is the water safe?**

M. V. Ramana, Professor and Simons Chair in Disarmament, Global and Human Security School of Public Policy and Global Affairs at the University of British Columbia, says that, although, scientifically, the levels of radiation in the wastewater are not so high as to cause panic, there is evidence showing that exposure to radiation, even at low levels, can harm the health of humans and the environment.

"[Tritium] is easily absorbed by the bodies of living creatures when it is in the form of tritiated water, and rapidly distributed throughout bodies via blood. Since tritiated water can pass through the placenta, it could lead to developmental effects in babies when ingested by pregnant women." Chemically, he said there is no difference between tritiated water and water with tritiate. He also pointed out that the IAEA's most important objective is to 'seek to accelerate and enlarge the contribution of atomic energy.' He said that "one should not be surprised that they underplay the risks involved".

"Japan is trying to use the IAEA decision as a tool to release the water," says Jagannath Panda, Head of the Stockholm Center for South Asian and Indo-Pacific Affairs (SCSA-IPA) and Editor of the Institute Security and Development Policy, which he says have somewhat brought public, political and social stakeholders to a consensus in Japan.

Mr. Vishwanathan further explains that there is no other option, besides releasing the water, partially because of space around the plant, but also because of potential leakages. "They don't want to take this all over the country and store this — it increases the cost and the risk [of leaks]



exponentially.” Besides, governments knew that the handling of this wastewater would have to be dealt with, since the earthquake hit.

#### **How is this affecting regional politics?**

Japanese Prime Minister Fumio Kishida and South Korean President Yoon Suk Yeol publicly ate seafood after the discharge began in order to strengthen public trust in the water treatment process. A key factor for Japan in maintaining relations with South Korea in particular, has been transparency over the treatment and release process. South Korea’s government, following repeated consolation by the IAEA, has told people that the water and the seafood is safe. They have also assured the public that they will continuously monitor the seawater and seafood, and that the 2011 ban on seafood from the water near Fukushima, would remain intact.

For Mr. Kishida and Mr. Yoon, the water may pose more geopolitical problems than health issues. Japan colonised the Korean peninsula in the early 20th century, and the tensions of that time continue to strain relations even now. But both leaders have been working toward forming friendlier relations, especially given the potential threats that their more aggressive neighbours, China and North Korea, present. Mr. Panda said that, although the South Korean government had opposed the water’s release, the IAEA’s approval was able to provide adequate reassurance.

Maintaining transparency on the risks and the measures being taken has helped Japan’s domestic and geopolitical standing. Mr. Vishwanathan explained that since 2021, Japanese authorities have met with their regional counterparts, like South Korea and China, and even Russia, to discuss the treatment and release plan. Although China and Russia were not on board at the time of the release, he said most other countries were comforted by such transparent communication.

#### **What is the significance of China’s hardline response?**

Mr. Vishwanathan said that China’s response must be seen through a wider geopolitical lens. Japan-Sino relations have fluctuated repeatedly in the recent past, especially as China grows its military presence in the South China Sea. This has evoked more nationalist sentiments from both sides, making this wastewater issue notable, but not necessarily new.

China is also watching South Korea and Japan’s strengthening relationship. “China, of course, is not comfortable about the growing bonhomie between South Korea and Japan. The Chinese government aims to make it an issue just to create further strategic fissures between South Korea and Japan,” explains Mr. Panda. “Though it appears at present to be a big issue, I don’t think that the Chinese government will succeed in politicising the issues to create a further divide between South Korea and Japan.”

#### **What next?**

Japan will release the treated wastewater over the next 30 years, and will continue to monitor the seawater’s radiation. The government is also setting aside 80 billion yen to compensate fishers who will lose business because of public fears. The government is looking to revive the country’s nuclear power plant industry, with the hopes to stabilise the energy sector. Before the 2011 earthquake, 30% of Japan’s electricity needs were met via nuclear reactors. In March, less than 10% of Japan’s power came from these facilities. “It appears to want to create the impression that the Fukushima accident is long over, whereas the reality is that it will be decades and decades before... the radioactive materials [are] at least segregated,” states Mr. Ramana.



## RATS IN KOLKATA, BEDBUGS IN PARIS: HUMAN CONCEIT IS MEETING ITS MATCH

Clearly, rodents disagree with the lament that Calcutta, now Kolkata, is a city in decline. After all, rats are proverbially fickle when it comes to sinking ships, but going by the sheer havoc they are causing in British India's first capital, they are flocking to the city in great numbers. And like the two other world cities of the Anglosphere — London and New York — Kolkata, too, has little idea of how to deal with the rat problem.

As the Jerries, Mickey Mice and Mushaks infest slums and burrow through concrete, dangerously undermining flyovers and bridges, and as they chew through the wires that form the casing for the digital highway, people may well ask: Are homo sapiens, with all their invention and innovation, losing their city to a "lower" mammal? Is the great invasion not from AI or aliens but, in fact, the humble creatures from the backyard?

The flummoxed authorities in West Bengal (as of now, there isn't even a count of the rats in Kolkata and no action plan) can take some solace from the centre of high culture in the Occident. In Paris and beyond, a creature much smaller and, in terms of cognitive function, lower, has caused panic. Videos of bed bug infestation have surfaced from Metros, buses, trains, movie theatres and hotel rooms. The glamour of Paris Fashion Week has been overshadowed by the little critters, and the thought of creepy crawlies spreading across the world via the Paris Olympics next is already a worry.

It is perhaps the conceit of concrete, of art, architecture and technology, that makes humans believe that they are the "superior" species. As it turns out, the comforts and achievements brought about by mastering nature are, sometimes, just food and shelter for other creatures. The waste from eateries feeds the rats, and the pillows, mattresses, sheets and seats are just a high-speed train for bedbugs. Unlike humans, they are bound neither by borders nor zoning laws.

## BIOLOGISTS IN SLOW RACE TO HELP NORTH AMERICA'S RAREST TORTOISE

While the average lifespan of North America's largest and most rare tortoise species is unknown, biologists have said it could span upward of a century.

So saving the endangered species is a long game — one that got another nudge forward on September 22 as U.S. wildlife officials finalised an agreement with Ted Turner's Endangered Species Fund that clears the way for the release of more Bolson tortoises on the media mogul's ranch in central New Mexico.

The "safe harbor agreement" will facilitate the release of captive tortoises on the Armendaris Ranch to establish a free-ranging population. U.S. Fish and Wildlife Service Director Martha Williams said the agreement, which offers private landowners protections from regulations, can serve as a model as officials look for more innovative ways to work within the Endangered Species Act.

Dozens of people gathered for the release of 20 more adult tortoises on the property, which is already home to 23 of them as well as dozens of juvenile ones. With the sun high in the sky and temperatures nearing 32 degrees C, the release was held off until the evening to ensure their well-being.

The tortoises usually spend about 85% of the time in their earthen burrows, which in some cases can be about 20 metres long.

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



Shawn Sartorius, a field supervisor with the Fish and Wildlife Service, said the results of the breeding and restoration efforts for the slow-reproducing and long-lived animals will not be known in his lifetime.

“What we’re doing here is establishing a population here that can be handed off to the next generation,” Sartorius said.

It’s a step toward one day releasing the tortoise more broadly in the Southwest as conservationists push the federal government to consider a recovery plan for the species.

Now found only in the grasslands of north-central Mexico, the tortoise once had a much larger range that included the southwestern U.S. Fossil records also show it was once present in the southern Great Plains.

The wild population in Mexico is thought to consist of fewer than 2,500 tortoises, and experts say threats to the animals are mounting as they are hunted for food and collected as pets. Their habitat also is shrinking as more desert grasslands are converted to farmland.

Sartorius said managers can’t look narrowly at historic range and still keep animals like the tortoise on the planet. The species in question was unknown to science until the late 1950s and has never been extensively studied.

Tortoises in the pen are outfitted with transponders so they can be tracked. Those released Friday hit the ground crawling, wandering through clumps of grass and around desert scrub as a mountain range loomed in the distance.

#### NEURAL CIRCUITRY OF MOUSE MOTHERS TO PUPS’ CALLS DECIPHERED

The neural circuitry underlying the responses of mouse mothers to calls from their pups has now been studied by researchers. The results were published in *Nature*. This mechanism may be important for sustaining mouse maternal care, the authors suggest. The hormone oxytocin is known to be important for maternal physiology and behaviour; for example, it has roles in childbirth and in milk ejection during nursing. In humans, baby cries are a powerful signal of infant distress, and most nursing mothers respond to cries with oxytocin release, increased hypothalamic activity, comforting behaviours towards the infant and occasional milk ejection. The neural circuitry that routes auditory information about infant distress calls to oxytocin neurons is unclear. Robert Froemke from the New York University School of Medicine, New York, and colleagues recorded the neural activity of oxytocin neurons in maternal mice whilst their pups were calling. They found that these neurons responded via input from a region of the brain called the posterior intralaminar thalamus. This circuit was found to control oxytocin release and pup retrieval, providing a mechanism for the integration of sensory cues from the offspring into maternal hormone networks to promote efficient parenting.

“We found that oxytocin neurons responded to pup vocalisations, but not to pure tones, through input from the posterior intralaminar thalamus, and that repetitive thalamic stimulation induced lasting disinhibition of oxytocin neurons,” they write. The findings help us to understand how sensory cues from offspring are processed by neural circuits to activate the release of neuromodulators such as oxytocin, which alter maternal behaviour.



## WHY HAVING LEAFY VEGETABLES AT THE BEGINNING OF A MEAL CAN CONTROL YOUR BLOOD SUGAR BETTER?

How often have you felt bored with your doctor's advice, "Please increase your vegetable intake?" A standard recommendation given by doctors and nutritionists to all people with diabetes is to consume a lot of vegetables, particularly the leafy ones. In fact, we always suggest replacing refined carbohydrates in the diet with vegetables, which are the edible parts of a plant, such as the leaves, stem, roots and bulbs. Fruits come from the flowering part of a plant and contain seeds. Typically, fruits are sweet while vegetables have a somewhat salty, spicy taste. Studies suggest that eating vegetables before other foods in the meal may help lower post-meal blood sugars. It may, therefore, be a good idea to start your meal with leafy vegetables.

Why is this sequencing important and why should we increase vegetables in a diet for diabetes? Are all vegetables the same, or are some better than others? Does the method of cooking make any difference? In this column I will answer some of these often-asked questions.

Leafy vegetables provide soluble and insoluble fibre, antioxidants, vitamins and minerals. Moreover, they contain a variety of beneficial substances, including plant sterols, flavonoids and other antioxidants, which have anti-inflammatory properties. WHO suggests consuming more than 400 grams of vegetables per day to improve overall health and reduce the risk of non-communicable diseases. Contrary to popular perception, the vegetable consumption in India is way below recommended standards, averaging only 150 gm/day.

Vegetables play an even more important role in people with Type 2 diabetes. Carbohydrate content, portion size and the glycaemic index (how quickly a food raises blood glucose) determine post-meal glucose surge. The high fibre content in vegetables blunts post-meal spikes, provides greater satiety despite being lower in calories than cereals, and lends variety and flavour. No single vegetable has all the desirable properties, so eating a variety of vegetables is important!

Good choices of vegetables for people with Type 2 diabetes are those that are rich in fibre and contain a variety of vitamins, minerals and antioxidants. Some antioxidants may have specific benefits for people with Type 2 diabetes. These include alpha-lipoic acid (ALA), found in green leafy vegetables, such as kale and spinach, N-acetylcysteine (NAC), present in allium vegetables, such as onion and garlic, and Vitamin C, abundant in citrus fruits, red and green peppers, strawberries, and broccoli. Vegetables that contain nitrates, which reduce blood pressure are also a good choice (e.g. rocket leaves, beetroot, lettuce, celery, and radish).

### **Proteins in vegetables**

Plant sources of protein include tofu, chickpeas and peanuts. Although vegetables are not a great source of protein, some are more protein-rich than others. Vegetables like watercress or jalkumbhi, alfalfa sprouts, spinach, asparagus, mustard greens or sarson saag, collard greens or haak saag, broccoli, Brussels sprouts and cauliflower, all contain between 2 and 4 gm of protein per 100 gm.

### **Gut health and vegetables**

The gut microbiome plays a significant role in the metabolism of carbohydrates and fats and can influence the body's ability to regulate blood sugar levels. Studies have found that individuals with type 2 diabetes have a less diverse and less balanced gut microbiome compared to healthy individuals. The fibre from leafy vegetables we eat provides food for the bacteria in our gut. These





fibres are indigestible by humans but are broken down easily by our friendly gut bacteria and help them to reproduce, thus balancing our microbiome. The best vegetables for a healthy gut are spinach, okra, garlic, onion, mushrooms, bok choy, arugula, cabbage, and cauliflower.

### **The rainbow plate**

Aim to fill about half of plate at each meal with non-starchy vegetables like spinach, cucumber, eggplant, radish and broccoli. Starchy vegetables, like peas, corns, potatoes (including the sweet variety) contain vitamins, minerals, nutrients and fibre, though they're also higher in carbs than the non-starchy vegetables. In general raw vegetables have more fibre than cooked or processed vegetables. If you deep fry vegetables or make them part of a rich curry, you are losing their beneficial properties. Your plate should always have a quarter of roti/chawal and at least half part vegetables.

The portion size of starchy vegetables one can eat depends on the dietary needs and carbohydrate goals per meal. A cup of starchy vegetables has about 30 grams of carbohydrates, or two carbohydrate servings. One of the most frequently asked questions pertains to potatoes. Many feel that potatoes are prohibited in diabetes. It is acceptable to eat potatoes as a part of a balanced meal but you need to count them in your daily carbohydrate intake and remember to not deep fry! Eating potatoes with food rich in fibre, lean protein and healthy fats is preferable as it can lower the glycaemic index of the meal.

## **WORLD REPORTED TWICE AS MANY CHOLERA CASES IN 2022 AS IN 2021: WHO**

Cholera is a water-borne disease caused by two strains called O1 and O139 of the bacteria *Vibrio cholerae*. Of these, O1 is responsible for almost all outbreaks; outbreaks of O139 are rare and none have been recorded outside Asia. According to the World Health Organization (WHO)'s weekly epidemiological record, published on September 22, the world reported more than twice as many cholera cases in 2022 as it did in 2021. Between these years, more than twice as many countries also reported at least 10,000 suspected as well as confirmed cases of cholera.

Both these trends suggest a reversal of a short-term trend, of declining prevalence since 2019. The reversal also complicates a target the WHO specified in 2017, to reduce the number of cholera deaths worldwide by 90% by 2030. According to the United Nations health body, "Cholera transmission is closely linked to inadequate access to clean water and sanitation facilities." *Vibrio cholerae* bacteria also favour warmer waters with lower salinity. All these conditions are created as a result of climate change — which increases the likelihood of floods, heatwaves, intense monsoonal rains and storms, and the duration of warm periods — and war.

The epidemiological record report blames the uptick on the decline of the COVID-19 pandemic, and its restrictions; "limited investments" in providing care to those most vulnerable to the disease; the effects of climate change; and increasing conflict.

A 2021 study published in the journal *The Lancet Planetary Health* concluded that the length of the coastline favourable to the development of *Vibrio* bacteria could increase by 38,000 km by 2100 over the 1850-2014 average, in the SSP5-8.5 emissions scenario.

A June 2023 study by researchers at the University of Florida found that "*Vibrio* pathogens have a unique ability to 'stick' to microplastics, and that these microbes might be adapting to plastic", including in the open ocean, according to a statement by the National Science Foundation.



In response to the world's growing cholera burden, and while waiting for investments in manufacturing to bear fruit, the body that manages the emergency stockpile of the oral cholera vaccine shrank the recommended vaccination regime from two doses to one.

According to the report, most cholera cases continue to be reported from Africa and Asia, with Europe accounting for a few "imported cases".

In Africa, cases were more spread out in 2022 than they were in 2021, which the report qualifies as no single country having reported more than 25% of all cases and 30% of all deaths. The report also says that between 2021 and 2022, the continent reported 29% fewer cases and 52% fewer deaths. This isn't the good news it appears to be: in 2021, Nigeria had a large cholera outbreak that accounted for 78% of all cases in Africa that year. But in 2022, both the numbers of cases and of deaths in all the other countries (that reported data) more than doubled. Cameroon and Malawi in particular reported over 5,000 cases after more than a decade. Similarly, in Asia, both Lebanon and Syria have reported cases at all for the first time in a decade. Yemen had reported nearly 90% of the cases in West Asia in 2021 but didn't report data in 2022. In Afghanistan, more than half of all cases were among those aged five years.

But there is one silver lining: whereas 20% of the countries that declared cases in 2021 reported using rapid diagnostic tests, 56% did so in 2022.

#### GENES FUEL ANTIBIOTIC RESISTANCE IN YEMEN CHOLERA EPIDEMIC

Genes imparting resistance to multiple antibiotics emerged in the *Vibrio cholerae* bacterial strains responsible for the ongoing Yemen cholera epidemic around 2018, following changes in antibiotic treatment, according to a study published in *Nature Microbiology*. These findings emphasise the importance of tracking pathogen genomes to monitor the emergence of multidrug-resistant strains that increase human morbidity and mortality. The cholera outbreak in Yemen, which began in 2016, is the largest in modern history and antibiotic resistance has become widespread among *V. cholerae* bacteria since 2018. Drug resistance in bacteria may develop and spread via spontaneous mutations or by the acquisition of resistance-conferring genes.

#### New plasmid

Florent Lassalle from the Wellcome Sanger Institute, Hinxton, the U.K. and others analysed 260 epidemic *V. cholerae* genomic DNA samples collected in Yemen between 2018 and 2019. The authors report the presence of a new plasmid — a small, circular DNA molecule — in *V. cholerae* from late 2018 to the bacterial strains behind the epidemic. This plasmid introduced genes encoding resistance to multiple clinically used antibiotics, including macrolides (such as azithromycin). The plasmid became widely spread and was found in all epidemic *V. cholerae* samples tested by 2019, coinciding with macrolide antibiotics being used to treat pregnant women and children with severe cholera. The authors also found the multidrug-resistance plasmid in less pathogenic, endemic cholera strains, suggesting that epidemic and endemic *V. cholerae* strains might exchange plasmids and antibiotic-resistance capabilities. The authors conclude that clinical macrolide use and genetic exchange may have contributed to multidrug-resistance spread among Yemeni *V. cholerae* lineages. They argue that the emergence of the multidrug-resistant pathogen demonstrates the importance of continuing genomic surveillance of the Yemen cholera outbreak.



## TB PATIENTS MUST ALSO BE SCREENED FOR PREDIABETES

“One in two tuberculosis patients either has diabetes or pre-diabetes, that is every other TB patient has some sort of glucose metabolism disorder, shows our research,” says Dr. Vijay Viswanathan, senior Chennai-based diabetologist and President of Prof. M. Viswanathan Diabetes Research Centre.

Dr. Viswanathan has done extensive research on TB-diabetes as a part of the government-run Regional Prospective Observational Research for TB (RePORT) India consortium.

Dr Viswanathan’s latest study published in Diabetes and Metabolic Syndrome in May this year studied patients with HBA1C levels between 5.7 and 6.4, or elevated fasting glucose levels between 100 and 125 mg/dl.

Nearly 570 new TB cases were enrolled from government-run TB units in North Chennai, Tamil Nadu. Of these, 187 patients were included in the study with 76 TB patients who had normal blood sugar (normoglycemia) levels and 111 TB patients having HBA1C levels between 5.7% to 6.4% indicating pre-diabetes.

At the end of the intensive phase of TB treatment, while only 8.6% with normoglycemia remained sputum smear TB positive, nearly 23.8% TB patients with pre-diabetes remained sputum smear TB positive. “Treatment outcomes like relapse and death were relatively higher among people with TB pre-diabetes,” Dr Vishwanathan says. Higher rate of deaths occurred in TB pre-diabetes group (6.3%) compared to the TB normoglycemia group (1.3%).

Screening for pre-diabetes at the time of TB diagnosis, more careful monitoring during and after TB treatment is the need of the hour, he says. Annual screening for diabetes among those people who had pre-diabetes at the time of TB diagnosis may help them intervene at an early stage to prevent or delay development of diabetes.

But currently pre-diabetic TB population falls through the cracks of the National TB Elimination Programme (NTEP). They are not easily picked up for focussed care as almost all diabetes screening for TB is done in states through random blood sugar testing which is also known as the finger prick method.

“A random blood sugar test is effective for patients who have blood sugar over 200 mg/dl with symptoms like excessive urination and weight loss. However, most pre-diabetes patients don’t have symptoms, they may later turn diabetic and remain asymptomatic for years,” Dr Vishwanathan explains.

Testing for fasting blood sugar must be included in diabetes screening programmes for TB patients, he says. Cost of processing a fasting blood sugar sample will be similar to that of a Random Blood Sugar test. In the retail market, the cost for one such test is Rs 50 to Rs 100. In public health settings, costs will further decrease.

Only in screened patients with above 100 mg/dl fasting blood sugar patients, should an oral glucose tolerance (OGT) test be done,” he says.

“End TB goal by 2025 is impossible without reducing the prevalence of diabetes and pre-diabetes patients. Because if you don’t do that, there are still 50 to 100 million people with glucose metabolic disorders,” he told The Hindu.



## J&J NOT TO ENFORCE PATENTS ON TB DRUG

The U.S.-based drug maker Johnson & Johnson has announced that it will not enforce patents for Sirturo — its brand name for bedaquiline, which is used in the treatment of multidrug-resistant tuberculosis — in 134 low- and middle-income countries.

The decision follows global pressure on the company against pursuing secondary patents on its breakthrough tuberculosis drug, including the Indian Patent Office's rejection of J&J's secondary patent application for the fumarate salt of bedaquiline.

Bedaquiline is the first drug for tuberculosis, or TB, to be globally approved in over 40 years, and is less toxic and more effective than traditional TB treatments.

“The announcement will finally pave the way for unfettered access to affordable generic versions of bedaquiline for all people living with drug-resistant tuberculosis who need the drug in low- and middle-income countries. This success is a testament to the persistent efforts of TB activists, civil society and also countries prioritising public health over corporations' interests,” said the Access Campaign, which is part of Médecins Sans Frontières, a medical humanitarian organisation.

The group's statement notes that after J&J lost its attempt to extend its monopoly in India, national TB treatment programmes from Ukraine and Belarus also requested the company to drop its secondary patents in their countries.

“The recent investigation by the South African Competition Commission undoubtedly added significant pressure on J&J, ahead of their announcement,” the Access Campaign said.

### **Japanese drug is next target**

The group added that it now wants to see Japanese pharma major Otsuka follow suit and publicly announce that it will not enforce any secondary patents in low- and middle-income countries for the other critical new TB drug Delamanid, especially as the corporation's primary patent is set to expire in 10 days in India and other countries.

Delamanid is another key drug-resistant TB drug used in combination with bedaquiline, and is particularly important for the treatment of children.

Meanwhile, at least three Indian companies — Lupin, Natco, and Macleods — have reportedly said that they are preparing to bring out generic versions of bedaquiline.

## WHO APPROVES USE OF MALARIA VACCINE WITH ADJUVANT TECH

Following a detailed scientific review by the WHO's independent advisory body, the Strategic Advisory Group of Experts (SAGE), and the Malaria Policy Advisory Group (MPAG), the R21/Matrix-M malaria vaccine has been recommended for use, noted a release issued by the Serum Institute of India. With the approval and recommendations by the WHO, additional regulatory approvals are expected to follow shortly and vaccine doses could be ready to begin wider roll-out as early as next year.

The Serum Institute has already established production capacity for 100 million doses a year, which will be doubled over the next two years. This scale of production is critical because



vaccinating those at high risk of malaria will be important in stemming the spread of disease, as well as protecting the vaccinated.

The Matrix-M component is a proprietary saponin-based adjuvant from Novavax, which is licensed to the Serum Institute for use in endemic countries, while Novavax retains commercial rights in non-endemic countries.

The vaccine was developed by the Jenner Institute at Oxford University and the Serum Institute of India with support from the European and Developing Countries Clinical Trials Partnership (EDCTP), the Wellcome Trust, and the European Investment Bank (EIB).

#### GOVT. 'NEEDS TO PRIORITISE CHILDHOOD CANCERS'

Another Childhood Cancer Awareness Month has concluded, and doctors say more needs to be done to better manage paediatric cancers. Raising awareness, ensuring treatment by specialists, increasing care centres, making treatments affordable and above all prioritising childhood cancers are the need of the hour. According to the International Agency for Research on Cancer, World Health Organisation, an estimated 4,00,000 children and adolescents aged 0 to 19 years are diagnosed with cancer per year worldwide.

In Tamil Nadu, according to R. Swaminathan, professor and head, Department of Epidemiology, Biostatistics and Cancer Registry and associate director, Cancer Institute (WIA), a total of 2,513 new cancers occurred among children in 2022, accounting for 2.9% of cancers in all ages. It occurred in the ratio of 123 boys to 100 girls. The rate of occurrence was 100 per million boys and 80 per million girls. Leukemia, lymphoma, brain and central nervous system tumours were the most common.

Paediatric cancers are two to three per cent of all cancers diagnosed in India. Blood cancers - leukemia - are the most common in children followed by brain tumours, Venkataraman Radhakrishnan, professor, Medical and Paediatric Oncology, Cancer Institute Chennai, said. "Lack of awareness is one of the main challenges. There are no specific symptoms; fever, headaches, vomiting and abdominal pain are some symptoms but these usually mimic common infections, resulting in late diagnosis. People do not know this, and children are brought in when the disease has advanced," he said.

"Cost of care is increasing. Bills can rise due to infections and treatments in ICUs, raising the need for full insurance coverage. Common blood cancers cost ₹ 5 to ₹ 6 lakh but insurance provides a maximum of ₹ 1 to ₹ 1.5 lakh. We need better insurance cover for childhood cancers," Dr. Radhakrishnan said.

He said India accounts for 18% to 20% of the world's burden of paediatric cancer. "Historically, the Government of India has not prioritised paediatric cancers. It does not feature in the national cancer control policy. What is needed is a major policy shift, recognising paediatric cancers and including them in the national policy.

Aruna Rajendran, Haemato Oncologist and Bone Marrow Physician, Rajiv Gandhi Government General Hospital, said awareness and diagnosis has improved. With leukaemia being the major group of cancers in children, tailored therapy has enabled good prognosis of at least 70%. "Relapse accounts for 20%, and relapsed leukaemia, is turning into another group of cancer in children worldwide," she added. Under the CM's Comprehensive Health Insurance Scheme in Tamil Nadu,



coverage of ₹ 10 to ₹ 17 lakh is provided for Bone Marrow Transplantation predominantly for relapsed leukaemia, she said.

Acute Lymphoblastic Leukaemia needs three years of treatment, including six months of intensive chemotherapy during which the child and family should stay near the facility. The time spent by parents during the course of treatment and the time spent away from school for the child and siblings should be factored in. "Centres closer home will reduce indirect expenses for the family. There should be more shared care paediatric oncology centres," she said.

## WHAT IS A UTERUS TRANSPLANT AND WHAT DOES IT MEAN TO HAVE ONE?

On August 23, doctors at the Churchill Hospital Oxford, in the U.K., conducted the country's first uterus transplant. They removed the uterus from a 40-year-old woman and transplanted it to her 34-year-old sister, who had a rare condition that affected her ability to reproduce, according to the BBC. While the womb was functional, only a live birth in the near future can prove that the transplant succeeded, Isabel Quiroga, the lead surgeon involved in the procedure, has said.

### What is a uterus transplant?

Unlike heart or liver transplants, uterus transplants aren't life-saving transplants. Instead, they are more akin to limb or skin transplants – which improve the quality of individuals' lives. Uterus transplants can help women who lack a uterus to fulfil their reproductive needs.

In 2014, as part of an initiative led by the chair of the obstetrics and gynaecology department at the University of Gothenburg, Mats Brännström, the first live birth after a uterus transplant took place in Sweden. The success signalled that the procedure could reverse the consequences of uterine factor infertility. Nine women in Sweden received transplanted wombs donated by relatives in Dr. Brännström's programme, according to news reports.

The doctors now aim to make the procedure more affordable. At present, the National Health Service cost of surgery in the U.K. is estimated at GBP 25,000 (₹ 25.26 lakh).

India is one of a few countries to have had a successful uterine transplant; others include Turkey, Sweden, and the U.S. India's first uterine transplant baby was born on October 18, 2018 – 17 months after the recipient had undergone the procedure. The cost of surgery is currently Rs 15-17 lakh in India.

### What are the steps of a transplant?

According to research papers published by the American Journal of Transplantation and the Journal of Clinical Medicine, before transplantation, the recipient is evaluated for good physical and mental health.

Similarly, whether the uterus is from a deceased or a live donor, it is checked for viability before it qualifies for donation. Live donors also undergo gynaecological examinations, including CT and MRI scans. They are also screened for uterine cancer, including tests for the human papillomavirus, a Papanicolaou smear, and an endometrial biopsy.

The procedure doesn't connect the uterus to the fallopian tubes – which ensure the ovum from the ovaries moves to the uterus – so the individual can't become pregnant through natural means. Instead, doctors remove the recipient's ova, create embryos using in vitro fertilisation, and freeze



them embryos (a.k.a. cryopreservation). Once the newly transplanted uterus is 'ready', the doctors implant the embryos in the uterus.

Once the transplant has been cleared, the uterus is carefully removed from the donor. The advent of robot-assisted laparoscopy has rendered the procedure less invasive.

The uterus is harvested together with its blood vessels. The arterial and venous vasculature (the network of vessels connecting the heart to other organs and tissues in the body), consisting of the deep uterine artery, the internal iliac arteries, the deep uterine vein, and the internal iliac veins are removed from either side. Surgeons also divide a part of the utero-ovarian branch to keep the ovarian veins from preserving the ovaries.

Surgeons also remove the fallopian tubes (and do not use them in the graft for the donor to prevent pregnancies outside the uterus). With the recipient, the surgeons link up the muscles, cartilage, tendons, and arteries, veins, and other blood vessels so that the uterus functions normally.

#### **Post-transplant pregnancy like?**

Surgeons determine the transplant's success in three stages.

The recipient's chance of losing the graft is the highest in the first three months, so this is when doctors keep a tab on the graft's viability.

Six months to one year after the procedure, doctors check for the proper functioning of the uterus. Regular menstruation is considered a good sign in this period. The recipient can attempt to conceive only after this phase.

In the first step of pregnancy, doctors transfer embryos prepared by in vitro fertilisation and cryopreserved to the recipient's uterus. Just as with pregnancies after the transplants of other organs among women, there is a higher risk that the body will reject the uterus, or of spontaneous abortion, intrauterine death, low birthweight, or premature birth. So frequent check-ups and follow-ups are mandatory for women with transplanted uteri.

The final stage of success is of course successful childbirth.

#### **Are there side-effects?**

To prevent the recipient's body from rejecting the transplanted uterus, the recipient needs to take drugs that suppress the immune system. These drugs are selected such that they won't harm foetal development at any stage – from the uterus's transplant until it is removed after childbirth.

These immunosuppressants are crucial but they do have other side-effects, including toxicity of the kidneys and bone-marrow. They also carry a higher risk of developing diabetes and cancer. For these reasons, the uterus must be removed later.

The recipient is recommended regular follow-ups with doctors for at least a decade after the uterus's removal to lookout for potential long-term side effects of immunosuppressants.

#### **Are there artificial uteri?**

Successful uterus transplants have opened the door to new possibilities – including transplanting uteri from deceased donors, a process that has rarely succeeded. This could avoid the stigma and



ethical concerns associated with utilising a live donor for a uterus transplant, which subjects a healthy person to medical procedures that can harm them for the benefit of another, especially when it's not a life-saving condition, in contrast to deceased donation where the donor remains unharmed.

Dr. Brännström and his team at the University of Gothenburg are also working on creating a bioengineered artificial uterus. Such an entity could simplify the transplantation process by eliminating the need for live donors as well as sidestep debates about the ethics of using such organs.

According to a May 2017 paper authored by Dr. Brännström, to make a bioengineered uterus, researchers start with a small clump of stem cells taken from a woman's blood or bone marrow and use it as the foundation for a 3D scaffold. New cells are added to this scaffold to build up a uterus. These experiments are still in their early stages; preliminary results with rats have shown some promise. Dr. Brannstrom and his colleagues have estimated that it will be about a decade before artificial uteri will reach the efficiency and safety sufficient for human use.

When it does, the advantages could extend to women as well as members of the LGBTQ+ community. However, trans-women recipients, for example, will still need to undergo castration to create an artificial vagina – a process complicated by the fact that it involves hormones.

Male hormones, such as the androgens, can threaten a pregnancy, requiring the administration of high doses of counteracting exogenous hormones. Even then there are concerns about ensuring consistent blood flow to support a developing foetus, as the structure required for a uterus and for foetal development isn't present in the male body.

## FOR HEART HEALTH, START AT 25 TO LIVE FIT BEYOND 80

Indians are highly susceptible to heart disease and we tend to have heart attacks almost a decade earlier than our Western counterparts. Our odds of having a heart attack are 50-100 per cent higher. This grim reality is mirrored in the increasingly frequent headlines about young people suffering heart attacks or suddenly losing their lives. To avoid such events and live a healthier life, knowing and addressing the risk factors of heart disease is crucial. A great way to do this is to know your numbers. Let's take you through them.

### **How much do you exercise?**

You should exercise for a minimum of 150 minutes every week, as regularly as possible. Studies on the increasingly popular 'step-count' – easily measured by smartphones and watches – reveal that a daily step-count of above 2,700 has measurable benefits, which keep increasing as you work up to 8,000-10,000 steps per day. Being physically active has profound beneficial effects on the heart as it lowers blood pressure, reduces blood sugar and improves one's cholesterol profile. These benefits emerge whether you stroll, take a brisk walk, or swim, whether you are young, old, lean, or obese.

### **What are you eating?**

A daily fruit and vegetable intake of about 400 gm is beneficial. Include whole grains, millets, plant proteins, fish and lean meat and liquid plant oils. Limit the use of sugar and salt, avoid processed food, oil that solidifies, and sweetened beverages.



**What is your waist circumference and weight?**

One of the earliest red flags could be raised by your tailor! A bulging waist may be an early indicator of metabolic syndrome – a common condition in India that can leave you susceptible to heart attacks. For a healthy heart, men's waist circumference should typically be less than 90 cm, and women's should be under 80 cm. Apart from your waist circumference, you should also keep a close watch on your weight. Height (in centimetres) minus 100 (in kg) is a handy formula to figure out your ideal weight.

**How often do you smoke?**

Tobacco, whether smoked or chewed, increases the odds of a heart attack by two to three times, and more if taken in both forms. However, there is a silver lining – five years after quitting, the risk of heart disease comes back down to normal.

**Are you keeping tabs on your alcohol intake?**

Moderation has traditionally been considered good for the heart. However, recent studies have shown it might do more harm than good, especially for Indians. The uninitiated should avoid drinking, and those who must drink should limit their intake.

**What is your blood pressure?**

One in four adult Indians has high blood pressure, or hypertension, with readings above 140/90 mmHg. You should aim for an upper blood pressure of less than 120 mg and a lower blood pressure of 80 mmHg. Anyone with persistent blood pressure above 140/90 mmHg needs treatment.

There are several myths about blood pressure treatment, including dependence on the treatment and long-term ill effects of taking medicines. The only long-term effect of taking these medicines is the prevention of heart attacks, brain attacks, kidney failure, blindness and even death. This is a highly effective and cost-effective strategy with an extremely inexpensive treatment. For every 40 individuals treated with these medicines, one episode (heart attack/brain attack/death) is prevented.

**What is your blood sugar level?**

Indians are highly susceptible to diabetes and everyone above 25 years of age should have their fasting blood sugar checked. It is estimated that 236 million Indians have diabetes or pre-diabetes. It is important to have an early handle on blood sugar control to prevent not just heart disease, but also kidney failure, loss of eyesight, and other complications. Fasting blood sugar should be below 100 mg/dl and post-meal should be below 140 mg/dl. HbA1c, which indicates your average blood glucose levels for the last three months, should be lower than 5.7 per cent in those without diabetes and below 7 per cent in those on treatment for diabetes.

**Have you checked your blood cholesterol lately?**

You should regularly measure your bad (LDL) and good (HDL) cholesterol levels. The aim should be to keep the ratio of total cholesterol to good cholesterol below 4.5. This is even more important for those who have suffered heart or brain attacks, where we aim to keep bad cholesterol below 70-100 mg/dl.



Heart attacks are multi-factorial. Predicting one's risk for heart disease requires one to consider all these factors – a process that has been made quite elegant by several heart disease risk calculators. These calculators categorise individuals as low, moderate, or high risk for heart disease and inform physicians to take appropriate mitigation interventions. Given the ease with which heart disease can affect us, we should all make a conscious effort to know our numbers and make appropriate course corrections.

While advancements in medical technology and diagnostics have led to several newer investigative tests that are useful in appropriate settings, some of these possess no added value in screening for heart disease. One of these tests is CT angiography – a tool to detect blockages in the blood flow to the heart. A large study in those with diabetes revealed no additional value of routine screening with CT angiography over simple old-time clinical management to screen and treat the clinical parameters outlined above. All it does is lead to an inappropriately high number of downstream investigations and unwarranted and unindicated interventions like stent and cardiac surgery. It's best to keep it simple – know, collate, and correct your numbers.

#### PREPARING FOR THE GREY: ELDER MENTAL HEALTH CARE COMES INTO PROMINENCE

There are more older people on the globe now than ever before in the history of humanity. In 2022, the number above 60 was 1.1 billion, comprising 13.9 % of the population. By 2050, the number of older people is expected to increase to 2.1 billion, constituting 22 %. India is not far behind. It had 149 million older adults (10.5 %) in 2022, This figure will grow to 347 million (20.8 %) by 2050 according to projections. The bottom line is that many of us are living longer than our ancestors.

Despite this imminent crisis, we know little about healthy ageing and elders' mental health. Even worse, we have many misconceptions and fears about ageing, especially mental health problems in older people, such as depression, anxiety, and dementia.

Getting old is a normal physiological process. For convenience, we can consider ageing in the physical, social, and psychological domains. It is important to remember that the issues in each domain interact with one another, within and outside the domains.

The physical aspects of ageing are apparent, for example, greying hair and decreasing muscle mass. However, there is considerable heterogeneity, with no two 70- or 80-year-olds being similar. We know of active, marathon-fit elders, while others, perhaps younger by a few years, are immobile. Also, different organs age differently, some faster than others, depending on genes, lifestyle, environment, and diseases.

#### **A vulnerable phase**

Increased dependency, social isolation, poverty, ageism, pessimism, and nihilism are significant social challenges our elders face. They are vulnerable to emotional, physical, sexual, and financial abuse by others. Often, the perpetrators are known to them, commonly a family member. Many towns and cities in India are not "elder-friendly". Many public buildings are inaccessible without ramps or handrails, pavements are non-existent, uneven, or used for parking, and public transport is limited. These make access to health care services difficult .

Coming to the psychological aspects, as we age, we are expected to be wiser, with a broader understanding of "life" and its challenges from our experience, either personal or vicarious. Erik Erikson proposed 'Ego integrity versus Despair' as his final psychosocial development stage in a



human. According to him, older persons should view their accomplishments positively. They would be filled with despair if they did not consider themselves successful. Indian culture emphasises “acceptance” of the past, the present and the future as a means of achieving “peace of mind” in old age. “Accepting” the limitations that old age imposes on us and “renouncing” our responsibilities without a sense of suffering or loss are essential to age well psychologically. However, this is not easy, and many elders struggle to accept the changes accompanying ageing. As Abraham Lincoln said “.. It is not the years in your life that count. It’s the life in your years”.

Many elderly men specially feel lost and become unproductive after retirement. It is critical to develop from a young age, other interests in life, be it music, sports, social work, domestic responsibilities etc. This helps mitigate the feeling of lack of purpose after retirement which very often leads to depression.

### **Mental illness**

Roughly 15 % of elders (22 million in India) have serious mental illness. To provide a context to this number, if we were to bring all the elders with mental illness from all over India together, we would need two cities the size of Chennai to accommodate them. Common mental health problems elders face are depression, anxiety, dementia, and substance use disorders.

Often, elders with mental illness do not seek treatment and the “treatment gap” is a staggering 90 % in India. A lack of awareness among the public and healthcare professionals is the main reason for this vast gap. Many symptoms of mental illness in the elders are dismissed as “normal” for ageing.

Also, we have seen that many healthcare professionals are pessimistic about treatment of mental health problems in elders. Families are often asked to lock their relatives with dementia in a room, as nothing much can be done for them. This is far from the truth, as many confuse treatment with cure. While we do not have a cure for a neurodegenerative condition such as dementia, there are treatments that can reduce their suffering, improve their quality of life, and reduce the burden on families.

In addition, elders with mental illness face the double whammy of stigma associated with ageing and mental illness. Stigma makes it difficult for families to admit that an older relative has a mental illness and also creates reluctance to take them for treatment. Poverty and lack of access to services are other important factors. Most elders in India are impoverished and lack access to health care. Many interventions, such as psychosocial treatments, day centres, and particular medicines, are available only to a limited extent in cities.

### **Rural outreach**

To address some of these challenges, especially in rural communities, the SCARF (Schizophrenia Research Foundation) has partnered with Azim Premji Foundation to raise awareness about elder mental health in four rural Taluks of Chengalpet district in Tamil Nadu, reaching more than 350 villages. They have recruited 60 volunteers from these villages. These volunteers are sensitised about mental health problems elders face, and they encourage elders to seek help from the SCARF community outreach team and other service providers, including the District Mental Health Programme. The aim is to create a network in the rural community to improve elders’ mental health.



The Indian tradition of a joint family system has many advantages that supports elders. The multi-generational interactions and bonds fostered in joint families are crucial to the well-being of elders while providing essential care for children and young adults. Unfortunately, joint families are rare now, even in villages, due to migration, both within and outside the country, and smaller family sizes.

Festivals and rituals also encourage socialisation for elders. Drawing “kolams” or “rangolis” requires complex cognitive skills that help to keep the brain active. We risk losing the potential protective effects of these traditions and rituals.

In future, given that most readers of this article will age, we need to ensure that mental health services are available for elders in our community. The co-ordinated actions of the individual, families, civic society, private organisations, non-governmental organisations, and government can achieve healthy ageing.

At the individual level, we need to plan for our old age with financial savings and lifestyle changes to maintain good physical health and a satisfying social life.

Healthy ageing, as a concept, should be introduced in the school curriculum. At a community level, services for elders with mental illness should be available and accessible.

#### **Elder-friendly designs**

City and town planners should consider elder-friendly designs to improve mobility and reduce dependency.

Many retirement homes and elder care facilities are available in cities now, providing excellent care and a fantastic opportunity for elders to beat social isolation. These may fill the void left by the loss of the joint family system. However, most of them cannot care for those with dementia or other mental illness, which needs to be addressed urgently.

The government must frame policies for elders with mental illness, allocate resources, and implement services. We must remember that caring for our elders is everyone’s responsibility.

**DreamIAS**