



# CURRENT AFFAIRS FOR UPSC

28th to 2nd February 2024



## INTERNATIONAL

### ON ISRAEL'S OBLIGATION TO PREVENT GENOCIDE

#### The story so far:

In a historic ruling, the International Court of Justice (ICJ) ordered Israel to take measures to prevent acts of genocide in Gaza, but stopped short of calling for an immediate ceasefire as requested by South Africa. A final verdict can only be pronounced after hearings on jurisdictional challenges and the merits of the claim are concluded, which will likely take several years. However, Friday's ruling strongly indicates that the judges believe that there is a "plausible" genocidal risk to Palestinians, thereby clinching an undeniable victory for South Africa. As established in the Court's LaGrand judgment in 2001, such provisional rulings are binding, and non-compliance entails the breach of an international legal obligation. However, whether Israel will choose to abide by the ruling is debatable since the ICJ does not have an enforcement mechanism of its own. Israeli Prime Minister Benjamin Netanyahu slammed the ICJ ruling as "outrageous" while underscoring that Israel is fighting a "just war like no other." He reiterated the claim that Israel is defending itself against Hamas.

#### Can South Africa move against Israel?

The Genocide Convention has been ratified by an overwhelming number of states, including South Africa (1998) and Israel (1950). Article IX allows any state party to institute a case against another in the ICJ, even if it is not directly involved in the conflict. This is because the prohibition of genocide is considered a peremptory norm of international law (*jus cogens*) from which no derogation is permissible. This is the basis on which South Africa, a party that is technically unrelated to the conflict, instituted the ongoing proceedings. For instance, in December 2022, the Court ruled that Gambia could bring a genocide claim against Myanmar for its treatment of the ethnic Rohingya population.

Upholding South Africa's standing to sue, the Court noted that "all States parties to the Convention have a common interest to ensure the prevention, suppression, and punishment of genocide" and thus any of them can seek compliance of such *erga omnes* obligations (obligations towards the international community as a whole) in any given case.

#### What was the basis for the ruling?

The Court ascertained that the standard to order provisional measures had been met, that there is a "plausible" link between the rights sought to be protected by South Africa (the rights of Palestinians to be free from genocidal attacks) and the measures it requests as well as a risk of irreparable harm and genuine urgency. This was an unsurprising declaration given the relatively low threshold for an interim ruling — the Court did not have to determine conclusively that genocidal acts in Gaza had, in fact, occurred. A *prima facie* determination is sufficient.

Relying on various statements from UN officials, special rapporteurs, and other international bodies regarding the catastrophic situation in Gaza, it observed that "the facts and circumstances mentioned above are sufficient to conclude that at least some of the rights claimed by South Africa and for which it is seeking protection are plausible." Notably, the Court took note of genocidal rhetoric from several senior Israeli officials to arrive at its conclusion. In particular, it referred to a statement by the Defence Minister of Israel Yoav Gallant calling for a "complete siege" of Gaza



and indicating to the troops that they were “fighting against human animals.” Reference was also made to the President of Israel Isaac Herzog’s remark that there were no innocent civilians in Gaza since “the entire nation” was responsible. The cognisance of such statements is significant as they could establish the “genocidal intent” required to eventually arrive at a definite finding on the commission of the crime. Highlighting the need for emergency measures, the Court observed that “the catastrophic humanitarian situation in the Gaza Strip is at a serious risk of deteriorating further” before it can render a final judgment.

#### **What are the provisional measures?**

Declining South Africa’s request, the Court refused to issue an immediate ceasefire order as it had done previously in the Ukraine versus Russia case. However, Ukraine’s situation is factually and legally distinguishable from Gaza. In the case instituted by Ukraine against Russia, both parties were also the two involved in the conflict, while Hamas, as a non-state actor, is not a party to the ongoing proceedings.

The Court ruled that Israel must, in accordance with its obligation under the Convention, take all measures within its power to prevent the commission of all genocidal acts against Palestinians in Gaza, such as causing serious bodily or mental harm, killing civilians, and imposing measures intended to prevent births, among others. Furthermore, during the proceedings, South Africa accused Israel of furthering genocide through its state organs including the military. It pointed out that high-level Israeli politicians made genocidal statements, which were then echoed by soldiers on the ground in Gaza while making TikTok reels. Addressing such concerns, the Court directed Israel to ensure “with immediate effect” that its military does not commit any genocidal acts either.

The Court also ordered Israel to permit the entry of urgently needed basic services and humanitarian assistance into the Palestinian enclave. South Africa had alleged that Israel’s blockade of food, water, medicine, and other essential supplies had pushed Palestinians to the “brink of famine.”

Additionally, Israel was ordered to preserve evidence relating to the claim. This will ensure that vital evidence is not lost or destroyed before the merits phase of the case, when the Court has to conclusively determine if Israel has committed genocide or not. Such evidence will also be relevant for proceedings before the International Criminal Court (ICC), which is already investigating the possible commission of war crimes and crimes against humanity by both Hamas and Israel. However, South Africa’s request to permit fact-finding missions, international mandates, and other bodies access to Gaza to assist in the retention of evidence was not entertained by the Court.

With respect to compliance, Israel was directed to submit a report to the Court on all steps undertaken to abide by the measures imposed by the Court within one month of the ruling. South Africa will have a chance to respond to this report. This will also provide an opportunity to present more evidence such as the recently declassified cabinet minutes explaining Israel’s intent behind the hostilities.

Although no interim order was issued, the Court said that it was gravely concerned about the fate of the hostages abducted during Hamas’ attack on October 7, 2023, and called for their immediate and unconditional release.



### What happens next?

The UN Security Council (UNSC) is set to meet next week to deliberate upon the decision. The meeting has been called by Algeria, whose Ministry of Foreign Affairs said it would give a “binding effect to the pronouncement of the International Court of Justice on the provisional measures imposed on the Israeli occupation.” The UNSC has long been divided on the conflict, with the U.S. having used its veto power multiple times to shield Israel from demands for a ceasefire. However, experts say that Washington’s veto of an ICJ-approved decision could undermine U.S. President Joe Biden’s calls for others — especially its adversaries Russia and Myanmar — to uphold the Court’s rulings.

Following the verdict, nearly a dozen Western countries including the U.S. have suspended funding for the United Nations’ refugee agency for Palestinians (UNRWA) owing to allegations that its staff were involved in the October 7 Hamas attacks on Israel. Established in 1948, the UNRWA provides education, health, and emergency aid services to about two-thirds of Gaza’s 2.3 million population and has played a pivotal role during the war. Although many have been left disappointed by the Court’s refusal to order a ceasefire, experts say that this was expected. Thomas Macmanus, a law professor at Queen Mary University in London, told Al Jazeera that he was not surprised that the Court did not ask for a ceasefire because, in a way, it would “render Israel defenceless against an attack, and that’s not really within the purview of the Court in this case.”

According to Tuqa Nusairat, the Director for Strategy, Operations, and Finance at the Atlantic Council’s Middle East Programs in Washington, the ruling should make U.S. rethink any further diplomatic, economic, and military support to Israel. “The Court’s initial decision puts to rest the Biden administration’s claim that the case is “meritless,” and should force the United States to come to terms with the fact that its support for Israel is not only rejected by much of the international community, but it is now subject to possibly defending itself against accusations of supporting a possible genocide in Gaza. The fifteen-to-two vote by the Court on almost all the provisions speaks to how united much of the world is in its view of how Israel has conducted its military operations in Gaza,” she asserted.

## TWO STATES

British Foreign Secretary David Cameron’s remarks that the United Kingdom is considering recognising the Palestine state signals a change in the thinking of at least a section of the British government towards the Palestine question after the Israel-Hamas war of October 7. The comment triggered criticism within Conservative Party circles, with Downing Street stating later that the British government’s policy towards the issue had not changed. Yet, the debate, which included reports in the American media that the State Department is reviewing options for possible recognition of the Palestine state, suggests that the Palestine question is back at the centre of the political parleys of the major powers. Before October 7, Israel, its Arab partners and western allies thought they could ignore the Palestine question and go ahead building a new West Asia. Hamas attacks and the subsequent Israeli invasion of Gaza show that finding a solution to the Palestine question is an imperative for peace and stability in a strife-stricken West Asia. And, one of the globally recognised and practical pathways to peace is a two-state solution — a viable, independent, sovereign Palestine state created with international recognition.

Britain has a historical responsibility to push for a solution. The British government was the first major power that recognised the Zionists’ claim to the land of Ottoman Palestine. In 1917, during



the First World War, the British government issued the Balfour Declaration, supporting the creation of “a homeland” for the Jewish people “in Palestine”. The declaration gave a major boost to the Zionist movement, promoting Jewish migration from Europe and the building of settlement communities in historical Palestine (Ottoman and British), culminating in the creation of Israel in 1948. At least from the Oslo process of the early 1990s, there were multiple diplomatic attempts in finding a mutually acceptable two-state solution, but which were futile as Palestine remained under occupation. Today, there are roughly 7,00,000 Jewish settlers in the West Bank and East Jerusalem; and Gaza is being destroyed by Israel. Israeli leaders, including Benjamin Netanyahu, have repeatedly rejected the two-state solution, while the far-right settlers are pushing for the control of the whole of Palestinian territories. This is an unsustainable scenario, producing cycles of violence and instability. The two-state proposal is already on its deathbed, given the mushrooming of settlements, growing violence, and the rise of far-right extremists in Israel and Islamist militants in Palestinian territories. If the British government realises its historical responsibility, does a reality check of its current policy and becomes ready to offer a political horizon to the Palestinians, it would be a welcome step.

#### WHAT IS THE ISLAMIC RESISTANCE OF IRAQ, WHICH HAS CLAIMED RESPONSIBILITY FOR KILLING 3 US SOLDIERS IN JORDAN?

Three US military servicemen were killed in a drone attack on their outpost in Jordan on Sunday night (January 28), marking the first time that US soldiers have died in the ongoing conflict in the Middle East.

US President Joe Biden said in a statement that “radical Iran-backed militant groups operating in Syria and Iraq” were behind the strikes. “We will carry on their commitment to fight terrorism. And have no doubt — we will hold all those responsible to account at a time and in a manner our choosing,” he said. A group known as the Islamic Resistance of Iraq (IRI) claimed responsibility for the strikes. Here’s what we know.

##### **Why were US troops stationed in Jordan?**

The strikes targeted Tower 22, a US military outpost (a smaller version of a military base) in Jordan. The country is bordered by Israel to its west, Saudi Arabia to its southeast, Iraq to its northeast and Syria to its north.

Tower 22 is near the Al Tanf garrison, located in Syria. US troops used the garrison while fighting against the Islamic State (IS), which emerged amid the Syrian Civil War. That conflict broke out in the early 2010s when a section of Syrians attempted to dislodge President Bashar al-Assad from power. His father had ruled the country for decades before him, and this uprising also came from issues such as high inflation and unemployment.

With various countries backing the rebels (the US, Saudi Arabia, Jordan, etc.) and others backing the Assad regime (Russia and Iran), the war went on. Today, Assad has maintained his grip on power in Syria.

The militant organisation Islamic State of Iraq and Syria (ISIS) emerged in this period and attempted to establish an Islamic caliphate amid the chaos in the region. It also carried out attacks and beheadings of foreigners in these countries, raising international concern.



### **What is the Islamic Resistance of Iraq?**

According to a recent report in the Financial Times, “In Iraq and Syria, US forces have come under repeated assault by a newly created group of Iran-backed militias known as the Islamic Resistance of Iraq.”

Another FT report said the group is part of the ‘Axis of Resistance’ – the multiple groups that Iran backs as part of its anti-Western and anti-USA stance. “Analysts believe the “Islamic Resistance of Iraq” is a front for Iranian-backed factions within an umbrella of militias known as Hashd al-Shaabi. These have become powerful military and political forces, boast tens of thousands of fighters and are also integrated into the state.”

The think tank Washington Institute noted in an October 2023 analysis that the IRI refers to “An umbrella term used to describe the operations of all Iran-backed militias in Iraq, including strikes into Syria during the October 2023 conflict between Israel and Hamas.” On October 17, the group said it carried out a drone attack on Harir Air Base in Iraqi Kurdistan. There was a possibility of its link to a Shiite group, the Harakat Hezbollah al-Nujaba.

Earlier on October 7, the Palestinian militant organisation Hamas launched attacks on Israel. The Israeli military responded with a military offensive on the Gaza Strip that continues today and has resulted in the deaths of around 25,000 people and counting. Iran-backed rebel groups in the region, such as the Lebanon-based Hezbollah and the Yemen-based Houthis, have launched counter-attacks in response in solidarity with Palestine.

An AP report said that since October 7, “such militias have struck American military installations in Iraq more than 60 times and in Syria more than 90 times, with a mix of drones, rockets, mortars and ballistic missiles.”

At least since November, the movement of ships via the Red Sea has been targeted by the Houthis. Citing threats to global commerce, the US and the UK launched strikes on Houthis in Yemen earlier this month. The AP also reported that IRI has previously claimed responsibility for launching explosive drone attacks targeting three areas in Syria, one inside of “occupied Palestine,” and for dozens of attacks at “bases housing U.S. troops in Iraq and Syria”.

### **What are the concerns here?**

Some Republican politicians in the US criticised the Biden administration. “He left our troops as sitting ducks,” said Republican US Senator Tom Cotton. “The only answer to these attacks must be devastating military retaliation against Iran’s terrorist forces, both in Iran and across the Middle East.”

Former President Donald Trump, who is also the frontrunner Presidential candidate from the Republican party, said the attack was a “consequence of Joe Biden’s weakness and surrender.”

For months, analysts have raised concerns that the widening ambit of the conflict could risk a full-blown war, given the regional, religious and ethnic rivalries in the Middle East and the presence of multiple powerful non-state actors.

**EXPERT EXPLAINS: THE CRIME OF PIRACY, AND HOW MARITIME FORCES RESPOND TO IT**

Piracy is as old as seafaring itself, and has existed for centuries in various forms. In recent years, waters off the west coast of Africa, Gulf of Aden, Horn of Africa, Bangladesh, and the Strait of Malacca have seen attacks by pirates.

**What constitutes the maritime crime of piracy?**

The term 'piracy' is used to describe a range of crimes from petty theft from ships at sea or anchorage to armed robbery and hijacking of a ship for ransom. The last is reason for the greatest concern, since it causes panic in maritime business and leads to the establishment of high-risk areas, and a resultant increase in maritime insurance premiums. It also affects the safety of ships and seafarers, and disrupts global supply chains.

**How can the crime of piracy be tackled?**

Since piracy is a maritime manifestation of instability and misgovernance on land, the lasting solution too must be negotiated on land.

While this is being done by the states concerned and through international diplomacy, the situation at sea has to be contained and stabilised by the world's maritime forces, since the disruption of mercantile peace — or peace that is conducive to maritime commerce — affects the economies of most countries.

Addressing piracy requires both land-based solutions to tackle instability and governance issues and sea-based efforts to stabilize the situation. The Indian Navy is highlighted for its proactive role in combating piracy off the Horn of Africa and the Gulf of Aden, conducting anti-piracy patrols and successful interventions.

The typical modus operandi of pirates, who exploit small, slow-moving ships with minimal crew and use skiffs to approach targets unnoticed. Merchant ships are advised not to resist, and ship-owners often prefer paying ransom to ensure the safety of their crew and cargo.

The maritime forces' anti-piracy response involves maintaining a visible presence, conducting surveillance, warning ships, and proactive or reactive interventions to manage and foil piracy attempts. Communication and coordination among maritime forces are crucial, and armed helicopters and marine commandos are highlighted as effective tools in dealing with piracy situations.

Handling captured pirates poses legal challenges, with inadequate national laws and complex jurisdictional issues. The article suggests disarming pirates, setting their boats adrift, or handing them over to coastal states for legal proceedings. However, the long-term solution lies in addressing root causes such as misgovernance and unemployment on land.

In conclusion, the article emphasizes the need for a comprehensive approach to combat piracy, involving both land-based solutions and coordinated efforts at sea, while acknowledging the challenges in legal proceedings for captured pirates.



## ANALYSING CHINA'S TIES WITH AFRICA

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

From January 13-18, the Chinese Minister of Foreign Affairs, Wang Yi, visited four African countries, Egypt, Tunisia, Togo and the Ivory Coast. This was Wang Yi's 11th annual trip to Africa to enhance economic and security cooperation with the continent.

### **What was the visit about?**

Wang Yi's visit to Africa had multiple objectives. The major agenda was to implement the outcomes of the China-Africa Leaders Dialogue held in August 2023 in Johannesburg, South Africa. It included the execution of three initiatives, including support for Africa's industrialisation, agricultural modernisation, and cooperation on talent development. The visit sets a precedent for the ninth Forum on China-Africa Cooperation 2024 (FOCAC). In Egypt, which shares the Rafah border with Gaza, China has communicated its intention to be a global actor, mediating peace in Gaza. Wang Yi met with the leaders of Egypt, Tunisia and the Secretary-General of the League of Arab States, calling for an "immediate and comprehensive ceasefire" in Gaza.

### **Why is Africa China's first stop for the past 34 years?**

Sino-African relations go back to the 1950s when China supported several African liberation movements during the Cold War era. In the 70s, African countries' support was paramount in China acquiring its seat in the UN Security Council. Earlier, their relationship focused on ideological support; it was only in 1999 that China encouraged its companies to invest in Africa as part of the "Go Out Policy."

In 2000, the FOCAC held its first dialogue, aiming to consolidate China-Africa cooperation under diplomacy, investment and trade. The dialogue aptly outlined the steady growth from trade, to aid, to "mutual security assistance," under Xi Jinping. In 2013, the relationship amplified with China launching its Belt and Road Initiative (BRI), building inroads with 52 African countries as signatories. Currently, China is Africa's largest trading partner, with over one-fourth of its raw material exported to China. The Chinese Loans to Africa database highlights that between 2000 and 2022, loans worth \$170.08 billion were granted to 49 African countries. The nature of Chinese presence in Africa has grown from being a mere investor to a strategic actor with the People's Liberation Army Navy stationing its first international base in Djibouti.

### **What are China's objectives in Africa?**

First, access to key resources. Africa supplies 90% of the world's cobalt and platinum, and 75% of coltan, essential for electronics. China has the largest refineries in Africa for rare earths and minerals that are vital to its emerging tech industry. The dominance in the mining sector has made the U.S. dependable on China for key minerals from Africa.

Second, the African alliance and its geopolitical aspirations. In the UN General Assembly, Africa is the largest bloc and has the power to swing resolutions on contentious issues like the South China Sea. Africa has been vocal in supporting China in the international arena including its "One China" policy for Taiwan and Hong Kong. Third, strengthening the Yuan (RMB). China is encouraging Africa to trade in Chinese currency. The RMB offers cross-border yuan-based "panda bonds," by which foreign governments can issue funds from China at lower interest rates. Additionally, China's debt restructuring of Zambia's \$4.1 billion loan has incentivised borrowers towards RMB.





With lower Chinese interest rates and the depreciation of African local currency, the RMB stands as an alternative to the dollar. Fourth, commercial opportunities. Africa imports largely from China for finished goods. The African markets for Chinese exports are beneficial for the Chinese economy. Africa's young population and cheap labour force support Chinese exports globally and in Africa.

#### **What does the visit mean for Africa?**

Africa receives investment, trade and development aid from China in return for natural resources. China has also become a significant source of foreign direct investment. Chinese-built infrastructure and industrial parks have provided employment opportunities and has made the idea of "Made in Africa" a reality. Additionally, Chinese support in advancing hybrid crops helped Africa further its agricultural sector. In Africa, cooperation with China is perceived with a high degree of mutual trust and as a 'win-win partnership'. Besides, the China-Africa partnership featuring non-intervention has gained momentum across the continent. Chinese disregard for imposing political conditionality on development aid, unlike the West, has given opportunities to African countries to secure their interests. However, the West has voiced fears that Chinese investments are predatory, hinting at debt traps. Although some countries including Kenya and Zambia have poorly managed their debt, other African countries have manageable debt arrangements with China. However, the Chinese debt trap narrative cannot be outrightly dismissed. Besides, Chinese 'non-interference' rhetoric has given several authoritarian regimes in Africa a space to stay in power.

### **RISING TENSIONS IN THE KOREAN PENINSULA**

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

There has been a notable uptick in provocative moves by North Korea and the subsequent rebuttals by South Korea and its allies. North Korea has rescinded its national objective of Korean reunification and has formally categorised South Korea as an adversarial state. The country has also ramped up the frequency and diversity of its missile tests, expanding its strategic capabilities. These actions were responded to by South Korea through joint military drills with the U.S. and Japan. The ongoing developments in the Korean peninsula have raised serious concerns about the deterioration of the international security environment and a deepening of major power rivalry.

#### **What is the historical context?**

The Korean peninsula was divided into two by the end of World War II, after imperial Japan who occupied the territory was defeated. The North went under the ambit of the Soviet Union and the South under the U.S., resulting in the creation of two ideologically different regimes which mirrored either sides of the Cold War divide. The Korean war (1950-53) broke out as a result of the North's attempt to take over the South — the first "hot war" of the Cold War. Decades after the cessation of active conflict and the end of the Cold War, the two countries are still divided over ideology and geopolitical leanings — the North being an authoritarian dynastic regime allied with China and Russia, and the South being a liberal democracy allied with the U.S. However, one of the biggest issues in the contemporary geopolitics of the Korean peninsula has been the question of North Korea's de-nuclearisation. Various efforts were made by the international community to stop and reverse North Korea's nuclear weapons programme.



North Korea's nuclear ambitions were held up for a brief period during 1994-2002, when the U.S. signed an "Agreed Framework" with the country for halting its nuclear programme in return for nuclear energy. The deal unravelled and North Korea went ahead with its nuclear test in 2006 after exiting from the nuclear non-proliferation treaty in 2003. However, in 2003 itself, another initiative started for de-nuclearising the Korean Peninsula, called the six party talks involving the two Koreas, China, Japan, Russia and the U.S. In 2005, the talks resulted in North Korea pledging to forego its nuclear ambitions, only to conduct its nuclear test the very next year. By 2009, talks had broken down, and North Korea emerged out of it with a vow to never return. Ever since Kim Jong Un took over power as the leader of North Korea, missile tests have been conducted on a yearly basis, with a notable and consistent increase in such tests.

There was an effort by the Donald Trump administration to discuss peace with North Korea and veer it towards de-nuclearisation. During 2018-19, the two leaders met on three occasions to pursue peace talks. However, the talks failed to take off, and Kim returned to developing and testing delivery systems. Over the past couple of decades, North Korea has demonstrated its nuclear weapons capability by testing the same six times. It has developed, tested and deployed delivery vehicles, space launchers and satellites, and has conducted provocative actions ranging from military drills to shelling South Korean islands and even threatening nuclear attacks. North Korea supposedly has the ability to even target the U.S. mainland with its nuclear arsenal, and it has also become a major source of cyber-attacks across the world. South Korea, in turn has enhanced its military alliance with the U.S. and has become an integral part of the latter's wider alliance system, hosting not just U.S. troops, but also advanced missile defence systems.

#### **What has led to recent aggravation?**

Mr. Kim, in his address to the Supreme People's Assembly on January 15, proclaimed that he is scrapping the decades old North Korean goal of reunifying the South, and has rebranded the South as an enemy state. He ordered the rewriting of the North Korean constitution to reflect this new shift in the regime's thinking. The offices related to reunification were closed, and a landmark monument in Pyongyang portraying the reunification ideal was brought down. In addition to these moves, North Korea has also flexed its military muscle by testing multiple types of missile systems during the first month of 2024 itself.

One such important test was that of a solid fuelled missile carrying a hypersonic warhead. This is significant because major military powers across the world are on a race for developing, testing and deploying hypersonic weapons. These weapons can theoretically provide countries the capability to evade and even target the missile defence systems of their adversaries. The U.S., Russia, China, India and Iran are working on such hypersonic weapons, and North Korea could now join the club. The U.S., South Korea and Japan have conducted joint naval drills in response to the provocations by North Korea, featuring nine warships. The exercises were meant to enhance their joint effectiveness against North Korea's missile and underwater threats, as well as its illegal maritime shipment of arms. North Korea has alleged that these exercises are rehearsals of an offensive intent and not defensive drills. The nation subsequently tested its "Haeil-5-23" nuclear capable underwater drone in retaliation to these joint naval drills. Pyongyang also tested its strategic cruise missile "Pulhwasal-3-31", which could allegedly threaten critical American bases in Japan.

The current government in South Korea is a newly elected one led by the conservative President Yoon Suk Yeol. He has a hawkish view of North Korea unlike his predecessor Moon Jae-in. The Yoon government's strategy is to closely coordinate efforts with the U.S. and Japan to deter and



counter North Korea's aggressive moves. In fact, the three countries in August 2023 met together at Camp David in Washington D.C., in a historic meeting to initiate a new era of trilateral cooperation. This is a significant step as South Korea and Japan, even though close allies of the U.S., and strong economic partners, have bitter political relations among them due to the historical legacy of imperial Japan's occupation of the Korean peninsula. In light of these developments, there is a high probability for tit-for-tat measures leading to unintended consequences. Hence, there is a growing concern among the international community that the tensions between North and South Korea maybe heading towards conflict.

#### **What does the situation portend for international security?**

The tensions in the Korean Peninsula are rising at a time when the world is witnessing the activation of historically rooted conflicts such as Russia-Ukraine and Israel-Palestine, while others like China-Taiwan and India-China are smouldering. This is indeed a significant concern as the key external stakeholders of the Korean peninsula are the very same nuclear powers who are locked in a global strategic competition — the U.S., China and Russia. Since there are alliances and nuclear weapons involved, a major conflict may be prevented from breaking out. However, as in the case of North Korea's torpedoing a South Korean warship or its shelling of a South Korean island in 2010, there are chances of violent incidents or skirmishes. Nevertheless, North Korea's deepening ties with China and Russia, and South Korea's increasingly firm entrenchment in the U.S. alliance system imply significant linkages with ongoing conflicts.

North Korea has drifted further into the camp of the Sino-Russian axis, as a result of the choices made by Mr. Kim. Russia has boosted its engagement with North Korea, especially in the wake of the Russia-Ukraine war. Mr. Kim visited Russia in September 2023 and met with Russian President Vladimir Putin. During the visit, Mr. Kim was invited to the Vostochny spaceport of Russia, where he was promised assistance in enhancing North Korea's space capabilities in return for arms supplies. This was preceded by Russia's Defence Minister Sergei Shoigu's visit to Pyongyang in July 2023, and was followed by the visit of Russia's Foreign Minister Sergei Lavrov's visit in October 2023. It is abundantly clear that North Korea is helping Russia with arms, including short range ballistic missiles for the latter's conflict with Ukraine.

China has always been consistently supportive of North Korea, being the single largest trading partner of the country. Even with rising tensions in the Korean peninsula, on January 26, China's Vice Foreign Minister Sun Weidong visited Pyongyang and expressed China's unswerving support to North Korea. At a time when the U.S. is preoccupied with conflicts in Europe and West Asia, Mr. Kim could have found the moment opportune to conduct provocative actions for bargaining with North Korea's adversaries as well as partners. Russia and China are on the same side when it comes to the Russia-Ukraine as well as the Israel-Hamas conflict. They have a lot to gain from North Korea creating a distraction for the U.S. by opening a "third front".

### **PAKISTAN AND IRAN: CALM AFTER THE STORM**

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

In a series of events, Iran launched missile strikes in Pakistan's Balochistan province, targeting alleged strongholds of the Jaish al-Adl. In response, Pakistan condemned the attacks, recalling its Ambassador and expelling the Iranian Ambassador, while also suspending high profile bilateral visits. A day later, Pakistan retaliated by targeting individuals and terrorist groups in Iran's Sistan-Baluchestan province. However, with a diplomatic approach, Pakistan emphasised its respect for



Iran, preventing further escalation. On January 19, at a National Security Council meeting aimed at addressing security concerns for regional peace, both nations decided to de-escalate, reinstating ambassadors, and by January 28, Iran's Foreign Minister arrived in Islamabad to discuss economic and security matters, signaling a shift towards dialogue and cooperation.

#### **What is special about the two Baloch provinces in Iran and Pakistan?**

First, the demography and geography of the provinces. The Sistan-Baluchestan province, one of the largest provinces in Iran, shares the border with Pakistan's Balochistan and Afghanistan's southern provinces. The Baloch are the majority in the Sistan-Baluchestan province, with Sistanis as a minority. The former is Sunni, while the latter is Shia.

Geographically, Balochistan is the largest of four provinces in Pakistan, with a Baloch majority (which is now being threatened by the Pashtun ingress from Afghanistan and Pakistan's Khyber Pakhtunkhwa). However, Baloch are a minority within Pakistan.

Second, the borders. Pakistan's Balochistan province shares a long border with Iran, around 900 km. Unlike the Pakistan-Afghanistan border, which is disputed by Kabul, the Pakistan-Iran border is settled. Both countries have been building a concrete wall along the border to prevent illegal crossings between Balochistan (in Pakistan) and Sistan-Baluchestan (in Iran) provinces. However, the border remains ineffective in preventing the illicit movement of people and goods, especially along the land and maritime borders. Smuggling is common, especially in the south, closer to the Pakistan-Iran maritime border.

Third, two ports of strategic importance — Gwadar in Pakistan and Chabahar in Iran, are situated on the mouths of the Arabian Sea less than 200 km apart. China and India have invested in these two ports and see them as exit and entry points from/into maritime/mainland Asia. Baloch provinces are strategically important for Iran and Pakistan; however, they remain in the political periphery and are alienated from the national capitals. For the national capitals, the control of the provinces and the two ports is paramount.

#### **Who are the militants that Iran and Pakistan targeted in each other's territory?**

In Pakistan, Iran targeted a relatively little-known Sunni militant group — "Jaish al-Adl," based in Balochistan. According to Iran's Foreign Minister, "none of the nationals of the friendly and brotherly country of Pakistan were targeted by Iranian missiles and drones." Considered as a remnant of Jundullah, Iran has been fighting it since the late 2000s.

The Jundullah, believed to be founded by Abdolmalek Rigi, was present then in the Sistan-Baluchestan province and has repeatedly been targeting Iran's security forces and civilian targets through terrorist activities, including suicide bombings. Iran has been targeting the Jundullah leader; Rigi, a Baloch, was captured and executed in 2010.

Jundullah was a Sunni group with links to al Qaeda and fighting for "Sunni" rights, rather than an ethnic Baloch militant group. However, Tehran considers that the Jundullah had the support of the Baloch people across the Sistan-Baluchestan and Balochistan provinces in Iran and Pakistan, respectively. After Rigi's death, a few Jundullah members formed the Jaish al-Adl and continued attacking Iran during the 2010s.

Between 2013-2023, the Jaish al-Adl is accused of having carried out numerous attacks, mainly targeting Iran's security officials; the latest one was in December 2023, where they targeted a police station in Rask in Sistan-Baluchestan, killing 11 security personnel.



In Iran, Pakistan targeted the hideouts belonging to the “Balochistan Liberation Army” and “Balochistan Liberation Front.” Pakistan has been fighting multiple waves of Baloch insurgency since 1947. The latest wave of insurgency intensified after the killing of Akbar Bugti, one of the tallest Baloch leaders. Unlike the Jundullah, the Baloch militant organisations do not have a sectarian agenda or have links with international organisations such as al Qaeda. They have an ethnic agenda and fight for greater rights for the Baloch; some of them have a separatist agenda and want to establish an independent Balochistan.

#### **Why did Pakistan and Iran de-escalate immediately after the missile attacks?**

If the escalation was fast, de-escalation was faster. Immediately after Iran’s initial attack, Pakistan recalled its Ambassador and asked the Iranian Ambassador to leave. Two days later, Pakistan targeted a few militant targets in the Sistan-Baluchestan province in Iran. After the swift diplomatic and military escalation, there was a de-escalation. China is believed to have pressured Islamabad and Tehran. But more than any external pressure, the bilateral dynamics might have led to the de-escalation.

Given the regional security situation and the immediate neighbourhood, both countries cannot afford an escalation now, which was reflected in their statements. Pakistan’s official statement talked about “dialogue and cooperation as key tools for addressing common challenges, including terrorism,” while Iran’s underlined adhering to “the policy of good neighbourliness and brotherhood between the two nations” and not allowing “enemies to strain the amicable and brotherly relations of Tehran and Islamabad.”

It appears that Iran’s missile strikes in Pakistan had a limited objective as a part of its targets in Syria and Iraq in response to an earlier attack in January 2024 in Kerman. Similarly, Pakistan’s response seems limited in making a domestic and a bilateral statement. Both have been careful with their statements to ensure it does not escalate. Besides there have been efforts in recent years aimed at a rapprochement, which they did not want to jeopardise.

#### **What challenges lie ahead for Pakistan and Iran?**

Though Tehran was one of the first to recognise Pakistan, since the 1979 Iranian revolution, the two countries had a troubled relationship. Iran’s revolution in 1979 and Muhammad Zia-ul-Haq’s regime in Pakistan during the 1980s brought the Sunni-Shia sectarian divide to the fore between the two. Though both refer to the “brotherly Muslim countries” rhetoric, the sectarian factor was too strong to patch the divide.

Globally, Iran saw Pakistan under the American sphere of influence during the Cold War and post 9/11, especially in Afghanistan. Pakistan and Iran remained in opposite groups; only in recent years has China tried to bring Islamabad and Tehran together.

And regionally, the struggle for supremacy, within the West Asia, pitches Iran and Saudi Arabia on opposite camps, with Pakistan aligned with the latter. On Afghanistan and the Taliban, both countries have differed on objectives and strategies. Until recently, Pakistan viewed Tehran as closer to New Delhi than Islamabad. Pakistan’s nuclear bomb is seen as a Sunni one, pushing Tehran to have its own for the Shia world.

Finally, economically, the bilateral relationship is not strong enough to create a political stake; the fact that Iran is planning to approach international arbitration for Pakistan’s reluctance to move



ahead with the Iran-Pakistan pipeline should underline the harsh realities for Islamabad and Tehran.

## WINNERS AND LOSERS

The back-to-back jail sentences former Pakistani Prime Minister Imran Khan was handed out in two different cases just a week before the February 8 parliamentary elections, show how roles have been reversed in Pakistan's convoluted political space dominated by the shadow hands of the establishment. In 2018, when Mr. Khan's Pakistan Tehreek-e-Insaf (PTI) was elected to power, the Opposition Pakistan Muslim League-Nawaz (PML-N) and the Pakistan People's Party had accused the military of electoral rigging in favour of the former cricket star, who was the preferred choice of the generals. A year earlier, Nawaz Sharif, the PML-N leader, had to resign as Prime Minister over the Panama Papers allegations and later go into exile after his conviction and disqualification. Today, Mr. Khan has been disqualified and is serving lengthy sentences, while Mr. Sharif is back, leading the PML-N. Given the way how the military and other state institutions went after Mr. Khan and his party, there was little surprise in the court proceedings and the verdicts. On Tuesday, he was sentenced to 10 years by a special court in what is commonly called the 'Cipher case', on charges that he leaked state secrets, while on Wednesday, another court sentenced him and his wife to 14 years in the Toshakhana case, for keeping some of the gifts they had received while he was in power.

Mr. Khan was forced out of power in April 2022 after falling out with the military establishment. He accused the military and the United States of conspiring to oust him and, at a rally, waved a paper, purportedly a diplomatic cable sent by the then Pakistani Ambassador to the U.S. in 2022, as evidence, which came back to hit him as a violation of the Official Secrets Act. His lawyers complain that they were replaced by state attorneys in the middle of the case and that Mr. Khan was not allowed to give a proper defence in the 'Cipher' trial, which took place inside a jail. His arrest in May led to large-scale protests. But since then, the authorities have unleashed a systematic campaign to weaken the PTI — many of its leaders are in jail, while several others have left under pressure or are on the run. Recently, a court barred the party from using its iconic cricket bat symbol in ballots. Many PTI workers are contesting as independents. While Mr. Khan is in jail and his party is in tatters under state repression, Mr. Sharif seems to be enjoying the support of the invisible power centre in the electoral arena, which makes the elections look like a fixed match. Mr. Sharif might make a political comeback, but the real winner in the unfolding developments in Pakistan, which is grappling with enormous economic challenges, is the military and the real loser, the country's democracy.



## NATION

### CEREMONY, SUBSTANCE

Given the circumstances behind the invitation to the French President Emmanuel Macron, his visit to India last week was always going to be more about symbolism and ceremony than about substance. Mr. Macron, the sixth French President to grace the Republic Day celebrations, stepped into the breach when U.S. President Joseph Biden declined the invitation. In addition, India and France had in 2023 already sealed a number of agreements as they marked 25 years of their strategic partnership — a year that saw Prime Minister Narendra Modi and Mr. Macron meet a number of times. Not only had the two countries already announced a fairly ambitious “Horizon 2047” relationship road map but they had also stated plans for joint production of military hardware, cutting-edge technology transfers and new purchase deals for French aircraft, engines and submarines. Diplomats had their work cut out for them with the two sides having to prepare for the Republic Day visit with little time to spare, and with so many agreements already announced. Many even speculated whether India had “missed an opportunity” to extend invitations to other partners including from the South Asian neighbourhood or Global South, rather than getting a much-invited France.

As a result, it is understandable that many of the agreements announced after the Modi-Macron meeting in Jaipur, and their time together watching the Republic Day Parade, were essentially built on the road map. These included the “Defence industrial” road map, meant to expand on plans for the two countries to co-design, co-develop and co-produce defence hardware in the air, on land and sea, as well as a space-defence partnership. In addition, the two sides signed MoU documents on agriculture, digital health and science and technology cooperation. An assembly-line manufacture of civilian helicopters (Airbus-Tata) was a first, but a private B2B deal. The two sides also issued a joint statement on regional and international developments. India has been unable to find such common ground with other partners including the U.S. and Russia on these issues but was able to take shared positions with France on the condemnation of terror attacks in Israel, the need for humanitarian assistance in Gaza and Ukraine, and concerns over the Red Sea attacks. While they did not demonstrate progress in other areas of cooperation, including big ticket defence hardware deals being negotiated, nuclear cooperation for the long-delayed power project in Jaitapur and for small modular reactors, it is clear that each is a work in progress, demonstrating the continuity in a partnership built on a mutual respect for strategic autonomy, which Mr. Macron said at the presidential banquet was also driven by their shared commitment to “tradition and innovation”.

### WHAT IS LADAKH’S DEMAND ON GILGIT-BALTISTAN?

#### The story so far:

In January this year, Ladakh’s two key socio-political conglomerates, the Leh Apex Body (LAB), representing several Buddhist religious and political parties, and Kargil Democratic Alliance (KDA), representing Muslim religious groups and local parties, submitted a memorandum to the Ministry of Home Affairs (MHA) as part of an ongoing dialogue between the Centre and the newly-carved Union Territory over a series of fresh demands from the region. These demands include extending the territorial control of Ladakh up to Gilgit-Baltistan in Pakistan Occupied Kashmir.



### **What is the current status of Ladakh?**

Ladakh, spread over 59,146 square kilometres, was a part of the Kashmir division of the erstwhile State of Jammu and Kashmir. It was carved out as one of the Union Territories, the other being J&K, out of the State on August 5, 2019, as the Centre ended the special constitutional position of the region provided to it under Article 370. However, unlike the UT of J&K, Ladakh does not have a legislature. But it has two elected hill councils, the Ladakh Autonomous Hill Development Council-Kargil (LAHDC) and LAHDC-Leh. They run micro governance issues of the region with a population of 2.74 lakh (2011 census). Ladakh is a Muslim-majority UT, with the Leh district dominated by Buddhists and Kargil by Shia Muslims. The region witnessed a divided reaction to the Centre's moves to abrogate Article 370 and 35A, provisions that granted exclusive rights to locals over land, jobs and natural resources. Leh for many decades, supported the demand for UT status. However, Kargil, after the events of 2019, has been insisting on reunification with Kashmir.

### **What are the latest demands of the region?**

In the past two years, both the socio-political bodies of Leh and Kargil launched street agitations, protesting against the UT status without a legislature. Both districts joined hands to launch a major campaign for the restoration of Statehood with a legislature. Earlier, Ladakh would send four members to the J&K Assembly and two members to the State's legislative council. There is also a unanimous cry for special status under the Sixth Schedule and Article 371 of the Constitution of India on the lines of Mizoram, Tripura, Sikkim and other northeastern States. People of Ladakh argue that opening up the region to outsiders and outside investment will impact "the most ecologically fragile and sensitive areas."

Ladakh also demands exclusive rights over recruitment. It has put forth a proposal to the Centre to have the Ladakh Public Service Commission for the recruitment of gazetted jobs. It also demands that the twin hill councils should have the power to recruit lower rung staff for the region. The Ladakh resident certificate should be the only basis for applying for these jobs in the region, said the key bodies of Ladakh in the memorandum.

### **Why extension of territorial control?**

Prior to 1947, the Ladakh district also comprised the Gilgit-Baltistan area, which is now under the occupation of Pakistan. The memorandum highlights the fact and seeks extension of territorial control up to Gilgit-Baltistan. The memorandum impressed upon the Centre to make "attempts to include this area into Ladakh". It demanded reservation of seats for Gilgit-Baltistan once a legislature is granted to the region. Ladakh also shares a long but volatile Line of Actual Control (LAC) with China and saw a violent skirmish between the troops of these countries in 2020. The fresh memorandum to MHA underlines that "empowering the locals will foster stability in the region, further enhancing the foreign policy". It pointed out that the understanding of the locals of the harsh terrain of Ladakh has always proved helpful in military and logistic operations.

### **What is the Centre's stand?**

In the wake of street protests held by people in Ladakh, the Centre in 2022 formed a committee under Minister of State G. Kishan Reddy to engage with the members of the LAB and KDA. The Centre had assured the people it would find "an appropriate solution to the issues related to language, culture and conservation of land in Ladakh." However, it has failed to arrive at a solution. After a fresh bout protests in 2023, another high-powered committee, with Minister of State Nityanand Rai at its head, was empowered to engage with the stakeholders of Ladakh. The 17-





member committee included the Ladakh Lieutenant Governor and members from the KDA and LAB. In 2024, these bodies submitted a written memorandum to pave the way for more structured talks between New Delhi and Ladakh over the list of demands.

#### GRAZIERS CONFRONT CHINESE SOLDIERS IN EASTERN LADAKH

In the video, the herders can be seen confronting the Chinese People's Liberation Army (PLA) soldiers when the latter ask them to go back claiming it to be Chinese territory. The local people, who can be heard speaking in a Tibetan language, are seen throwing rocks at the Chinese soldiers.

The incident occurred on January 2 near Patrolling Points 35 and 36 at Kakjung under the Nyoma constituency in Ladakh, Mr. Stanzin said. While Chinese soldiers with their vehicles can be seen in the video, there is no presence of Indian security forces.

Ishey Spalzang, councillor, Nyoma, told The Hindu that the area is within India's perception of the LAC.

He said that after the face-off, the sarpanch, the sub-divisional magistrate, and officials of the Indian Army and the Indo-Tibetan Border Police (ITBP) visited the grazing site on January 12. "It is a valley and is essential for winter grazing of cattle. In 2019, the Chinese had tried to stop the graziers but we had pitched tents to assert our claim. The nearest Army unit is present around five to seven kilometres from this place. That particular day they were not present," Mr. Spalzang said, adding that the herders had started from their village around 20 days ago before they reached the location.

Mr. Stanzin said on X, "See how our local people are showing their bravery in front of the PLA claiming that the area they are stopping is our nomad's grazing land. PLA stopping our nomads from grazing in our territory. Seems it is never a never-ending process due to different lines of perceptions. But I salute our nomads, who always stand to protect our land and stand as the second guardian force of the nation." He later told The Hindu that the place where the incident happened is within one kilometre of the Indian claim on the line of the border with China.

A defence source said the video is of an incident that happened in the first week of January where "nomad graziers [with livestock] from our side are seen in conversation with PLA soldiers".

Such incidents are commonplace and happen on both sides whenever graziers stray across the LAC on account of the differing perceptions of the LAC, the source said. Such incidents are dealt with appropriately as per established mechanism.

#### WOMEN IN COMMAND

The 75th Republic Day parade was marked by women power in all spheres, from the opening ceremony to the cultural display. The parade, which showcased the themes of Viksit Bharat (developed India) and "India, the mother of democracy", was brought to fulfilment by the women of the nation. For the first time, the parade commenced with musical instruments being played by 100 women artistes instead of the military band. Similarly, an all-woman tri-services contingent marched down Kartavya Path for the first time, making history. Women pilots also participated in the awe-inspiring fly-past where they took to the skies, literally and figuratively. On a similar vein, the women personnel of the Central Reserve Police Force (CRPF) performed daredevil stunts on motorcycles during the parade. The Central Armed Police Forces (CAPF) contingent also consisted



only of women personnel. Additionally, in a first, the Delhi Police also had its all-women contingent participating in the parade.

The different tableaux by the States and multiple organisations also had women take centre-stage. The Indian Space Research Organisation (ISRO), for instance, highlighted the landing of Chandrayaan-3 and the women scientists who contributed to it.

A developed India definitely sees women at the helm.

#### TITLE: GYANVAPI MOSQUE DISPUTE: LEGAL BATTLES AND RELIGIOUS TENSIONS

**Introduction:** The Gyanvapi Mosque complex in Varanasi has become a focal point of legal and religious tensions, with conflicting court orders allowing Hindu prayers in the southern cellar, known as 'Vyasji ka tehkhana.' This development has sparked protests from the Muslim community and raised questions about the historical significance of the disputed area.

**Background:** The Varanasi District Court, on January 31, permitted prayers in the southern cellar of the Gyanvapi mosque complex. This decision followed the court's earlier order of January 17, appointing the Varanasi District Magistrate as the receiver of the cellar, also referred to as 'Vyasji ka tehkhana.' The legal battle was initiated by Shailendra Pathak Vyas, the head priest of Acharya Ved Vyas Peeth temple.

**Vyasji ka Tehkhana:** Vyasji ka tehkhana is situated in the southern area of the mosque's complex, facing the Nandi statue inside the Kashi Vishwanath complex. This area, with a height of approximately 7 feet and a carpet area of 900 square feet, had been used for prayers and rituals by the Vyas family for over 200 years. The dispute arose when worship was prohibited in December 1993, during the Mulayam Singh Yadav government, citing law and order concerns.

**Petitioner and Historical Context:** Shailendra Pathak Vyas, the petitioner, is the maternal grandson of Pandit Somnath Vyas and the current head priest of Acharya Ved Vyas Peeth. The Vyas family had been conducting religious rituals inside the tehkhana since 1809, when it was allocated to them for worship and other religious activities during the British era.

**Legal Developments and Hindu Worship:** The court's order directed the district magistrate to arrange for puja and rituals by a designated priest within seven days. The petitioner's lawyer, Subhash Chaturvedi, highlighted the historical significance of the tehkhana and the Hindu deities worshipped there. The Archaeological Survey of India (ASI) survey in 2022 reportedly found idols of various Hindu deities inside the tehkhana.

**Muslim Community's Response:** The Anjuman Intezamia Masjid Committee, managing the Gyanvapi mosque, approached the Allahabad High Court seeking an interim stay on the Hindu worship in the mosque's basement. However, the High Court declined immediate relief, emphasizing the need to challenge the district court's earlier order. The Muslim community expressed discontent through protests, shutting down shops and gathering for Friday prayers at the Gyanvapi mosque.

**Conclusion:** The legal dispute over Gyanvapi Mosque's southern cellar reflects the complexities of historical claims, religious practices, and legal decisions. The contrasting court orders have heightened tensions between religious communities, necessitating a careful examination of the legal framework and historical context to find a resolution that respects the sentiments of all parties involved.



## GYANVAPI CASE RAISES A CHALLENGE TO PLACES OF WORSHIP ACT, 1991

Calls to hand over the Gyanvapi mosque to the Hindus have come even after appeals by the Anjuman Intazamia Masjid in the Supreme Court to protect the Places of Worship (Special Provisions) Act of 1991 from becoming a dead letter.

The 1991 Act provides a guarantee for the preservation of the religious character of places of public worship as they existed on August 15, 1947.

In August 2023, the Anjuman, Gyanvapi mosque's managers, had argued in the apex court that the demand for a "scientific investigation" by the Archaeological Survey of India (ASI) of the mosque premises was merely "salami tactics" and would defeat the spirit of the 1991 Act. But a Bench headed by Chief Justice of India D.Y. Chandrachud had allowed the ASI survey using "non-invasive technology".

The August 2023 judgment of the apex court did not directly deal with the mosque committee's two questions — "what is the point of ordering this ASI survey and going into the history of what may have happened 500 years ago" and "Is the survey itself not a violation of the statement of objects of the Places of Worship Act?"

Incidentally, the answer to these questions may be found in the Ramjanmabhoomi title dispute judgment authored by a five-judge Bench of the Supreme Court in November 2019. The Constitution Bench in the Ramjanmabhoomi verdict observed that the 1991 Act was an "affirmation" of the solemn duty of the state to preserve the equality of all faiths. The Act was a manifestation of an essential constitutional value.

The judgment had highlighted the parliamentary intention behind the 1991 Act. It had reproduced excerpts of the government arguing in Lok Sabha on September 10, 1991 that the Places of Worship Act "which sought to prohibit the forcible conversion of places of worship was not to create new disputes and to rake up old controversies which had long been forgotten by the people."

The five-judge Bench referred to how one of the parliamentarians, Malini Bhattacharya, had agreed with the cut-off date of August 15, 1947. "It is because on that date we are supposed to have emerged as a modern, democratic and sovereign State... From that date, we also distinguished ourselves as a state which has no official religion and which gives equal rights to all the different religious denominations".

## EXPLAIN THE BASIS ON WHICH '600-YEAR-OLD' MOSQUE WAS RAZED: HC TO DDA

The Delhi High Court has directed the Delhi Development Authority (DDA) to explain the basis for the demolition of Akhoondji Masjid, a mosque in Mehrauli believed to be 600 years old. The court instructed the DDA to file a reply within a week, detailing the actions taken regarding the property, specifying if any prior notice was given before the demolition. The DDA claimed the demolition was based on the recommendations of the Religious Committee and that the CEO of Delhi Waqf Board was given an opportunity for a hearing. The court has scheduled the next hearing for February 12 to further consider the jurisdiction of the Religious Committee. The mosque's Imam, Zakir Hussain, alleges they were given only 10 minutes before the demolition started, and locals claim the mosque's historical significance dating back 600-700 years.



Locals claim the mosque was built during Razia Sultana's reign, making the structure nearly 600-700 years old.

### BOMBAY HC DELIVERS SPLIT VERDICT ON VALIDITY OF CENTRE'S FACT-CHECKING RULE

A Division Bench of the Bombay High Court on Wednesday delivered a split verdict in a petition that challenged the Union government's Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023, which empower the Centre to establish a fact-checking unit to identify "fake, false and misleading information" on social media platforms about the government's business.

Justices Gautam Patel and Neela Gokhale pronounced the verdict on the four petitions filed by satirist Kunal Kamra, the Editors' Guild of India, the Association of Indian Magazines, and the News Broadcasters and Digital Association (NBDA).

While Justice Patel ruled in favour of the petitioners, Justice Neela Gokhale disagreed and upheld the amendment. The case will now be placed before a third judge by the Chief Justice of the Bombay High Court. "There is a disagreement between us. We have passed separate judgments with divergent views. We were not able to concur," Justice Patel said.

Solicitor-General Tushar Mehta said the fact-checking unit would not be notified for another 10 days. The court has given autonomy to the petitioners to submit an application (if need be) with the respective forum for further extension of the protection. The petitioners, in their rejoinder, said that intermediaries only have an "illusion" of choice once something is flagged by the government.

Under the new IT rules, the government can ask social media platforms such as Facebook, X, Instagram and YouTube to remove any content/news related to the "business of the Central government" that was identified as "fake, false, or misleading" with the help of the FCU. An organisation appointed by the government will be the arbiter of such content, and if intermediaries do not comply with its decision, they may lose their safe harbour status under Section 79 of the IT Act, 2000.

Justice Patel questioned how the court can be expected to limit the scope of the word "information" defined under the IT Act. During the proceedings, Mr. Mehta said social media platforms did not have the liberty to do anything once content on their platform was flagged by the FCU. If a social media or news website continued to host flagged information, it would have to defend its stand in the court if any action was taken against an individual involved in such social media posts.

The Internet Freedom Foundation, which assisted Mr. Kamra in filing the petition, said the plea had challenged the validity of the IT rules, arguing that the amendments are ultra vires to Section 79 of the IT Act. The petition also argued that the amendments violate the right to freedom of speech and expression under Article 19 (1)(a); they do not satisfy provisions of reasonable restrictions on freedom of speech and expression under Article 19(2) and the amendments violate the right to practice and trade or profession under Article 19(1)(g).



## THE GREAT INDIAN INTERNET SHUTDOWN: HOW ACCESS TO THE WORLD WIDE WEB IS CURTAILED

The Supreme Court on Tuesday questioned the Union Territory of Jammu and Kashmir about the non-publication of orders for the suspension of Internet services in the UT.

On January 10, 2020, the Supreme Court of India held that access to information via the Internet is a fundamental right under the Indian Constitution. This was in the case of Anuradha Bhasin vs Union of India, where the top court also ruled that any restriction on Internet access by the Government must be temporary, limited in scope, lawful, necessary and proportionate. The Court reiterated that the Government's orders restricting Internet access are subject to review by Courts.

The expectation was that this decision would limit the instances of Internet suspension to only those exceptional situations where there is a public emergency or a threat to public safety — the legislatively mandated prerequisites for restricting Internet access. Unfortunately, these promises have remained unfulfilled. The year following the decision, India saw more instances of Internet shutdown than the year preceding it. India's Internet restrictions also accounted for more than 70% of the total loss to the global economy in 2020, and India remains infamous as the Internet shutdown capital of the world.

## WHY IS PUNJAB IN COURT OVER BSF'S POWERS?

### The story so far:

In 2021, the Government of India increased the jurisdiction of the Border Security Force (BSF) — which chiefly focus on preventing trans-border crimes — from 15 kilometres up to 50 kilometres inside the international borders in the States of Punjab, West Bengal and Assam. In Punjab, the move triggered sharp criticism from key political parties, with the State government ultimately moving the Supreme Court, which has fixed the third week of April for hearing the lawsuit.

### What is the allegation?

A three-judge Bench headed by the Chief Justice of India D.Y. Chandrachud will hear a complaint filed by Punjab accusing the Centre of stripping the State and its police of its powers. Police and law and order is a State subject under Schedule 7, List-II Entries 1 and 2 of the Constitution. Punjab challenged the constitutional validity of the notification issued by the Centre in October 2021 extending the reach of the BSF to 50 km by invoking Section 139 of the Border Security Force Act, 1968. The provision authorises the Centre to confer powers and duties on the BSF with respect to any Central Act like the Passport (Entry into India) Act, 1920, the Registration of Foreigners' Act, 1939, the Central Excises and Salt Act, 1944, the Foreigners Act, 1946, the Foreign Exchange Regulation Act, 1947, the Customs Act, 1962 or the Passports Act, 1967 or of any cognizable offence punishable under any other Central Act.

The court agreed to look into whether the notification amounted to an “arbitrary exercise of power” by the Centre under Section 139 and an “unconstitutional interference” into Punjab's authority.



### **When did the Punjab government go to the Supreme Court?**

In December 2021, the Punjab government approached the Supreme Court, challenging the Centre's decision, accusing it of virtually stripping the State and its police of its powers. Earlier this week, while hearing the matter, the Supreme Court decided to examine if all border States have to be treated alike while demarcating the area of jurisdiction of the BSF. In 2021, when the Congress party was in power, it termed the decision of the Centre as a gross violation of the spirit of federalism enshrined in the Constitution. Opposing the Centre's notification on the BSF jurisdiction, which was issued on October 11, 2021, the Shiromani Akali Dal (SAD) held a rally in Punjab's Amritsar as a mark of protest against the decision and asserted that it would not tolerate any dilution of the federal structure.

The Punjab State Assembly convened a special session in which the Centre's decision on enhancing the jurisdiction of BSF in Punjab was termed as "an expression of distrust and insult" towards the State police and the people of Punjab. A resolution was passed against the Centre's notification by the House rejecting the notification and demanding its withdrawal. The resolution read: "...The Union government should have consulted the State government before taking such a major decision. The law and order situation in Punjab is totally under control and there is no need to extend the jurisdiction of [the] BSF. This is a gross violation of the spirit of federalism enshrined in the Constitution of India. Extending the jurisdiction of BSF is also symbolic of petty politics..."

### **How has Punjab challenged the notification?**

Through the lawsuit filed under Article 131 of the Constitution of India, Punjab has challenged the notification issued by the Union of India, through the Ministry of Home Affairs under sub-section (1) of Section 139 of the BSF. Punjab has submitted that the effect and the consequence of the notification amount to encroachment upon the powers of the State of Punjab by the Centre in as much as more than 80% area of the border districts. All major towns and cities including all the district headquarters of these border districts of Punjab fall within the 50 km demarcation area from the India-Pakistan International Border.

The government contends that considering that more than 80% area of the major border area towns of Punjab are covered in the extended belt of 50 kms, the notification is ultra vires of the Constitution and encroaches upon Punjab's plenary authority to legislate on the issue which relates to or are necessary for the maintenance of public order and internal peace. Also, it holds that the notification encroaches upon the power of the State as the police and law and order is a State subject. Punjab has also pointed out that power under Section 139 of the BSF Act, 1968 cannot be read in isolation to give unilateral power to the Central government to grant extra jurisdiction of 50 kms to the BSF.

### **What are Punjab's concerns?**

The concerns of Punjab are distinguishable from the concerns of other States and Union Territories, as per the lawsuit. The geography of Punjab is such that the area which has been included in the extended jurisdiction of the BSF is densely populated. The State argues that this is not the case in Gujarat, where most of the area falls in the wastelands of Kutch and saline marshes; similarly, the extended jurisdiction in Rajasthan is desert land, permitting only sparse vegetation, and the density of population is low too. In the case of Punjab, the 50-km area is highly fertile, heavily populated and covers most of the physical areas forming part of the border districts of Pathankot, Gurdaspur, Amritsar, Tarn Taran, Ferozepur, Fazilka etc. Moreover, geographically, it points out that while Punjab is a small State, it has a very potent history and therefore, its case and



concerns are different, and that no reason can justify the extension of jurisdiction to a range of 50 kms. It will inconvenience people, including farmers who have to cross barbed wire fencing to cultivate their land along the border, the State has pointed out.

#### **What issues has the Supreme Court raised?**

The Supreme Court, which has fixed the third week of April for hearing the lawsuit, has raised several issues, including whether the impugned notification constitutes an arbitrary exercise of power by the Central government and whether the increase of the jurisdiction is beyond the “local limits of areas adjoining the borders of India” under Section 139(1) of the BSF Act, 1968. Also, the court would look into whether all States have to be treated alike to determine the “local limits of areas adjoining the borders of India”, and what are the factors which have to be taken into account in determining the meaning of the phrase “local limits of such area adjoining the borders of India” under Section 139(1) of the BSF Act, 1968. Besides, it would explore whether the impugned notification amounts to an unconstitutional interference in the legislative domain of the State.

### **NEED TO EXAMINE IF CASTE CAN BE IMPUTED TO RELIGIONS THAT DON'T RECOGNISE IT: SC**

The petitioners have contended that “the Constitution (Scheduled Castes) Order, 1950, which was amended to say that only Hindus, Buddhists and Sikhs will be considered as Scheduled Castes is unconstitutional as it discriminates on grounds of religion.

The Supreme Court on Wednesday wondered if caste can be imputed to religions like Christianity and Islam that do not recognise it in their religious structure.

“Can caste be imputed to other religions when the religion does not provide for any such discrimination in its structure...,” Justice S K Kaul presiding over a three-judge bench questioned while hearing petitions seeking Scheduled Caste status for those who have converted to Christianity and Islam.

The bench, also comprising Justices Ahsanuddin Amanullah and Aravind Kumar, said this is one of the issues which will have to be considered in the matter.

The bench fixed the matter for further hearing in July and said it will also have to examine whether the report of a commission of inquiry which has not been accepted by the government or the empirical data in it, can be relied upon to sustain a challenge before a court of law, and whether a presidential order can be amended by way of a writ issued by the court.

The petitioners have contended that “the Constitution (Scheduled Castes) Order, 1950, which was amended to say that only Hindus, Buddhists and Sikhs will be considered as Scheduled Castes is unconstitutional as it discriminates on grounds of religion.

#### **Festive offer**

Opposing the petitions, Senior Advocate Guru Krishnakumar appearing for an association of Scheduled Caste Hindus said “the writ seeks to amend the presidential order by way of a judicial writ. The prayer lies in the domain of pure policy of the legislature or the executive as the case may be”, adding converts to Christianity were expressly kept out of SC status even in the first census.



He said the petitioners were trying to challenge a constitutional order on the basis of alleged violation of Article 14 and 15 and added “this is complete over-simplification of the constitutional position. You need to show a violation of the Constitution which is clearly affecting the basic structure because you are dealing with a constitutional provision”.

Krishnakumar pointed out that the SC had considered the question in many election petitions and consistently held that Scheduled Castes is a different basket. “This basket, constitutional framers have consciously confined it to Hindu Scheduled Castes who are enumerated in the Scheduled Caste order and is not applicable to other religions which proclaim to be egalitarian,” he said.

The counsel also submitted there were provisions to address problems of untouchability which members of these other religions can make use of.

Justice Amanullah said it may not be correct to argue that people get converted to lose their caste identity.

“We have not gone into why they have converted. The second point...untouchability act...the same thing applies to the majority community also. That means social stigmas are carried across. Social stigma and religious stigma are two different things. I may convert religion for very different purposes. But if social stigma continues, that is why reservation for SCs. Otherwise today Constitution does not recognise any untouchability...That is why the need for these reservations today. Otherwise now the law under the Constitution, there is no untouchability, nothing. Every citizen is a citizen of India, that’s the only identity. But now things are not that at the ground level and at the society level. And we can’t shut our eyes when we are considering this... Then why can’t the court examine whether under constitutional framework, such kind of compartmentalisation is permissible or not?”

Appearing for some of the petitioners, Advocate Prashant Bhushan said they had filed several reports including the Ranganath Mishra Commission report in support of the demand for extending SC reservation to the other religions as well.

Additional Solicitor General K M Nataraj appearing for the Centre urged the court to wait till the new commission appointed by the Centre under chairmanship of Justice K G Balakrishnan comes out with its report. “What is the data made available to the government to make a conscious decision, that is the crucial aspect, that has to be considered...The Justice Balakrishnan Commission is constituted for a specific purpose, with a specific reference, with a statutory backing. It will have a larger value,” he said.

Bhushan, however, said the government accepting a report or not is irrelevant to the question whether there is material to back the petitioner’s prayers.

He contended that “the only ground on which the discrimination could be justified would be that by conversion... your social status changes completely and therefore there is adequate ground for discriminating on the ground of that religion. So that’s the test. Whether the government accepts or not is irrelevant to that question”.

Justice Kaul added that “linked with that will also be this question, what is the structure of the three religions. Do they recognise the caste system or not? And what is the effect?”

The judge added that some of the material are points of view and don’t have a statutory flavour. “The only thing which has a flavour of recognition is the Ranganath Mishra Commission report ...,”





he said, adding “what is the status of these commissions of inquiry? If they...are not accepted, to what extent can they be relied upon?”.

Justice Amanullah told the petitioners that “the only point which you can delve into and assist the court is the original empirical data, maybe in the report or whatever. Not the report per se or the comment.... empirical data which is reasonable, which is reliable, has a persuasive value, you can assist the court with that”.

However Justice Kaul wondered if even the empirical data in a report which is not accepted by the government can be relied upon. “If a report is not accepted, what is the status of the finding of the report or any empirical data? Can we imbibe the empirical data from a report which is not accepted to incorporate as a ground for sustaining a challenge?... They say we don’t accept the report, which means they do not accept the authenticity of the empirical data also. That’s the problem. This is not a judgement of a court but only a report of a commission of inquiry. So, we will not be able to wish it away”.

### WHAT ARE INCESTUOUS ‘SAPINDA’ MARRIAGES, AND WHY HAS DELHI HIGH COURT REAFFIRMED THE BAN ON THEM?

The Delhi HC also held that the choice of a partner in a marriage can be subject to regulation. (File)

Delhi High Court this week rejected a challenge to the constitutionality of Section 5(v) of the Hindu Marriage Act, 1955 (HMA), which prohibits marriage between two Hindus if they are “sapindas” of each other — “unless the custom or usage governing each of them permits of a marriage between the two”.

In its order passed on January 22 on a petition filed by a woman who had been trying for long to have this section struck down, the court said that “If the choice of a partner in a marriage is left unregulated, incestuous relationship may gain legitimacy.”

#### **What is a sapinda marriage?**

A sapinda marriage is one between individuals who are related to each other within a certain degree of closeness. Sapinda relationships for the purposes of the HMA are defined in Section 3 of the Act.

“Two persons are said to be sapindas of each other if one is a lineal ascendant of the other within the limits of sapinda relationship, or if they have a common lineal ascendant who is within the limits of sapinda relationship with reference to each of them,” Section 3(f)(ii) says.

Under the provisions of the HMA, on the mother’s side, a Hindu individual cannot marry anyone who is within three generations of them in the “line of ascent”. On the father’s side, this prohibition applies to anyone within five generations of the individual.

In practice, this means that on their mother’s side, an individual cannot marry their sibling (first generation), their parents (second generation), their grandparents (third generation), or an individual who shares this ancestry within three generations.

On their father’s side, this prohibition would extend up to their grandparents’ grandparent, and anyone who shares this ancestry within five generations.



If a marriage is found to violate Section 5(v) for being a sapinda marriage, and there is no established custom that allows such a practice, it will be declared void.

This would mean that the marriage was invalid from the very beginning, and will be treated as though it never took place.

**Are there any exceptions to the prohibition against sapinda marriages?**

Yes — the sole exception can be found within the same provision. As noted above, it arises when the customs of each individual permits sapinda marriages.

The definition of the word “custom” is provided in Section 3(a) of the HMA. It states that a custom has to be “continuously and uniformly observed for a long time”, and should have gained enough legitimacy among Hindus in a local area, tribe, group, or family, such that it has obtained “the force of law”.

A custom may not be protected even after these conditions are fulfilled. The rule in question must be “certain and not unreasonable or opposed to public policy” and, “in the case of a rule [that is] applicable only to a family”, it should not have been “discontinued by the family”.

**On what grounds was the law challenged?**

In 2007, the woman’s marriage was declared void after her husband successfully proved that they had entered into a sapinda marriage, and that the woman was not from a community where such marriages could be considered a custom. This ruling was challenged before the Delhi HC, which dismissed the appeal in October 2023.

The woman then approached the HC again, challenging the constitutional validity of the prohibition on sapinda marriages. She argued that sapinda marriages are prevalent even when there is no proof of custom. Hence, Section 5(v) which prohibits sapinda marriages unless there is an established custom, violates the right to equality under Article 14 of the Constitution.

The petitioner also argued that the marriage had received the consent of both families, which proved the legitimacy of the marriage.

**What did the High Court say?**

The Delhi High Court found no merit in her arguments.

A Bench of Acting Chief Justice Manmohan and Justice Manmeet Pritam Singh Arora held that the petitioner did not provide “stringent proof” of an established custom, which is necessary to justify a sapinda marriage.

The Delhi HC also held that the choice of a partner in a marriage can be subject to regulation. With this in mind, the court held that the woman did not present any “cogent legal ground” to show that the prohibition against sapinda marriages was violative of the right to equality.

**Are marriages similar to sapinda marriages allowed in other countries?**

In several European countries, the laws on relationships that are considered incestuous are less stringent than in India.



In France, the crime of incest was abolished under the Penal Code of 1810, so long as the marriage was between consenting adults.

This Code was enacted under Napoleon Bonaparte, and was also enforced in Belgium. A new Penal Code was introduced in Belgium in 1867 to replace the French code, but incest remains legal.

Portuguese law also does not criminalise incest.

The Republic of Ireland recognised same-sex marriages in 2015, but the law on incest has not been updated to include individuals in same-sex relationships.

Under Italian law, incest is a crime only if it causes a “public scandal”.

In the United States, incestuous marriages are banned in all 50 states, though incestuous relationships between consenting adults are allowed in New Jersey and Rhode Island.

## VETTING FOR VENDETTA

The Supreme Court’s suggestion for a mechanism to eliminate the perception of vendetta behind the use of investigative agencies against political opponents is sound in principle, but may not address all aspects of the problem. A case under formal investigation may be scrutinised for its legal tenability or political motive, but such a mechanism can do nothing about offences and allegations that are covered up for political reasons. During a recent hearing on a bribery case against an Enforcement Directorate (ED) officer in Tamil Nadu, the ED sought the transfer of the probe to the CBI. It also charged that the State police was not sharing details of FIRs it had registered on complaints against Ministers, officials and others in instances of corruption and illegal mining. The ED, presumably, wants to probe the money-laundering aspects of these offences, whereas the State government believes these details will be used to target its ministers and officials as the State is run by a party opposed to the ruling BJP at the Centre. The Bench’s idea that an independent, pan-India mechanism to vet such cases appears reasonable. However, much of the criticism of the use of central agencies against political adversaries of the BJP stems from the view that similar allegations against its party members and allies across the country are seldom investigated.

Corruption allegations abound in several States against key political figures seen as friendly to the Centre, but the Opposition parties believe the CBI, ED and Income-Tax Department are hardly active there. The Bench is right in observing that offenders should not be spared only because they claimed to be victims of vendetta. Its remarks disapproving of retaliatory arrests are also salutary. However, despite the Solicitor-General’s argument that the courts could intervene in the case of vindictive action, it has to be noted that the ED’s power to summon and arrest anyone, and the difficulty in obtaining bail in money-laundering cases, renders the Union government quite invincible if it chose persecution in the name of prosecution. An unsavoury instance of how far politics over the use of central agencies can sully institutions is the recent episode of a Calcutta High Court judge ordering a CBI probe into charges against the ruling party in West Bengal, and a Division Bench staying the order. The single judge chose to ignore the Bench’s order, accusing its presiding judge of political motive. In a welcome move, the Supreme Court formed a Bench of its senior-most judges and transferred the whole case file to itself for disposal. The perception of vendetta can only be removed if all agencies chose independence over subservience.



## EXPRESS VIEW ON CHANDIGARH MAYORAL POLLS: A TAINTED VICTORY

Never have the mayoral polls of the Chandigarh Municipal Corporation witnessed so much drama and such rancour. What started as a low-profile election held every year to elect a new mayor, a post more titular than powerful, was transformed into a high voltage battle once the Aam Aadmi Party joined hands with Congress for the three posts of mayor, senior deputy mayor and deputy mayor. The announcement, made three days before the elections were scheduled to take place on January 18, seemed to change the complexion of the electoral process. The numbers seemed stacked in favour of the newly-minted alliance with 13 AAP and seven Congress councilors pitted against 14 of the BJP. Senior AAP leaders predicted it would be the first win for INDIA, the anti-BJP alliance at the national level. But as things turned out, they had underestimated their opponent's will to win, at any cost.

The sequence of events bears recounting. The January 18 election was called off a few minutes before it could start. Reason: The presiding officer, a nominated councilor, who was also an office-bearer of the BJP, had apparently been taken ill. The Chandigarh administration tasked with holding these polls pushed them to February 6, citing among other reasons law and order and preoccupation with preparations for the Republic Day. Many were left wondering how an election that required the counting of a mere 36 votes could depend on the health or well being of one individual when the deputy commissioner was the prescribed authority. Finally, an intervention of the Punjab and Haryana High Court led to the polls being held on January 30. On election-eve, media personnel were barred from entering the Municipal House; the polling was beamed on an outdoor screen. Inside, amid chaos, the BJP pulled off a surprise victory with 16 seats, surpassing the alliance's 12, after eight of the latter's votes were invalidated. The mayoral candidate of the alliance has sought relief from the High Court, which has asked the UT administration to respond in three weeks.

A day after the debacle, amid charges and counter-charges, there is speculation about horse-trading, and allegations of alliance councilors being cloistered away in secret locations before the polls. The humdrum corporation has turned into a political minefield. At stake, above all, is the basic question of fairness and transparency. The inconsistencies that have riddled this poll process threaten to reduce it to a charade. They also raise apprehensions about deviations from, and distortions of, due process when the stakes are higher, in larger arenas.

## CHANGE IN JHARKHAND

Jharkhand Mukti Morcha (JMM) leader Hemant Soren stepped down as the Chief Minister of Jharkhand on Wednesday moments before the Enforcement Directorate (ED) arrested him on allegations of money laundering. Mr. Soren faces charges of benefiting from tribal land transactions based on forged documents. The judiciary will examine these allegations, but what necessitates the arrest of an accused is a serious question that the judiciary needs to settle in clearer and enforceable terms. The ED, under the Prevention of Money Laundering Act (PMLA), commands sweeping powers of arrest. Barriers for bail are very high in PMLA cases. Petitions challenging the July 2022 judgment of the Supreme Court upholding these powers are pending before it. Meanwhile, the ED has raised the stakes by arresting a Chief Minister of an Opposition party, which cannot be viewed as a routine law enforcement event. Mr. Soren's lawyers mentioned in the Court on February 1 that this has implications for the polity of the country, seeking an urgent hearing of his plea against the arrest. Meanwhile, the ED has asked Delhi Chief Minister and Aam Aadmi Party leader Arvind Kejriwal to appear before it on February 2, after his failure to



turn up for questioning four times. Mr. Soren has called for 'a war against a feudal system that oppresses poor, dalit and tribals', terming the case against him an assault on the tribal communities that he represents.

Faced with allegations, politicians often seek cover behind their community identities, but it is undeniable that the long arm of the Indian law reaches the weaker sections of society more easily. The JMM's troubles did not end with Mr. Soren's arrest. The selection of a new Chief Minister became entangled in a family feud. Instead, as a compromise, it will be a veteran fighter for tribal rights, Champai Soren, but the Governor has not yet invited him to form the government. The Jharkhand police has filed a first information report based on a complaint by Mr. Soren under the SC/ST (Prevention of Atrocities) Act, but it is unlikely to stand. That said, ED investigations have now established a pattern that fits perfectly with the political designs of the ruling Bharatiya Janata Party. Mr. Soren's arrest follows the reengineering of the alliance in Bihar that brought the BJP back to power, where the Governor acted swiftly to facilitate it. As on multiple occasions, leaders under the ED's scanner magically turned clean once they joined hands with the BJP. The distinction that central agencies make sometimes appears to be not between the corrupt and the clean, but whether one is with the BJP or not.

## CHANGING PARTNERS

Ideological infidelity is not a rare affliction among career politicians. Power, wealth and the many vices that often motivate political actors are not unfamiliar to Indian voters. Even by these low standards, Bihar Chief Minister Nitish Kumar appears to be plumbing new depths with his recurrent somersaults. He has changed partners multiple times, with little more reasoning than satisfying his desire for power. Mr. Kumar's about-turn in 2017 betrayed the mandate of 2015 and in 2022, he betrayed the mandate of 2020. In 2020, Mr. Kumar's Janata Dal (United) had won the election in alliance with the Bharatiya Janata Party (BJP), but two years later he broke from it to form an alliance with the Rashtriya Janata Dal (RJD) and the Congress. That was a clear insult of the mandate. He has now made yet another turn, this time returning to the BJP-led National Democratic Alliance. Within the day, he resigned as Chief Minister, claimed the post again with new partners, and was sworn-in again as Chief Minister. Only a few weeks ago, Mr. Kumar was fashioning himself as the leader of the anti-BJP Opposition alliance. It might be true that politics makes for strange bedfellows, but Mr. Kumar has turned his acts of disloyalty into a familiar script. Meanwhile, his claim of being a champion of good governance appears so distant in the past, and completely unfamiliar.

Until the moment of the turnaround, the BJP was loudly proclaiming that it would never again align with Mr. Kumar and the JD(U). There is no explanation from either side on their sudden change of heart. Mr. Kumar had tried to corner the BJP on the question of caste, in alliance with the RJD and the Congress. The socio-economic survey of castes in Bihar that his previous government ordered did not turn out to be a watershed moment as Mr. Kumar perhaps hoped. At the same time, the BJP felt insecure enough to look for a rapprochement with the JD(U), which commands considerable following among non-Yadav Other Backward Classes in Bihar. The opening of the Ram temple in Ayodhya marked a new phase of Hindu consolidation behind the BJP, but the party is always watching out for erosion triggered by caste mobilisation. By redrafting Mr. Kumar, the BJP has defanged the limited potency that was left in his social justice politics. The BJP is the biggest beneficiary of the realignment in Bihar, while the biggest loser might be Mr. Kumar himself. His political base is being raided, and his legacy stands besmirched. But, he is still



the Chief Minister, and nothing else seems to matter to him. It is not exactly future perfect, but it is happily present continuous.

## PARLIAMENT BREACH ACCUSED ALLEGED TORTURE TO ADMIT TO 'CRIMES', 'LINKS' WITH OPPOSITION

Five of the six persons arrested in the Parliament security breach case told a Patiala House court on Wednesday that they were given electric shock and forced to sign blank papers to confess their alleged crimes and association with political parties. They have been charged under the Unlawful Activities (Prevention) Act, 1967.

In their application moved in the court of Additional Sessions Judge Hardeep Kaur, the accused — Manoranjan D., Sagar Sharma, Lalit Jha, Amol Shinde, and Mahesh Kumawat — said that those who conducted the polygraph, narco and brain mapping tests on them had pressured them to name a political party or leader in connection with the case.

“...the accused were forced to sign about 70-odd blank pages at different places of each page. Also, they were tortured, given electric shocks to sign and confess the commission of crime under UAPA and their association with national political parties,” the application said.

It added that each of the accused was asked about his current and old mobile phone numbers and made to visit his respective telecom service provider's office for issuance of SIM cards of old mobile numbers and current SIM card numbers for reasons best known to the prosecution.

### 'Illegal drill'

“During this illegal drill, accused persons gave their biometrics/signed for issuance of SIM cards and they were also forced to provide all their online social media account passwords, email account passwords, and phone passwords,” it said.

After the hearing, Justice Kaur extended the judicial custody of all six accused till March 1. The court scheduled the hearing for the application moved by the accused to February 17, and directed Delhi Police to submit its response to the allegations.

Five of the six persons arrested by the special cell of Delhi Police had given their consent for a polygraph test. While Sharma and Manoranjan also consented to narco analysis and brain mapping tests, Neelam Azad denied consent for all the tests.

## PROS AND CONS OF SIMULTANEOUS ELECTIONS

### The story so far:

A High-Level Committee (HLC) headed by Ramnath Kovind, former President of India, was constituted in September 2023 to examine the issue of holding simultaneous elections for the Lok Sabha, State Legislative Assemblies and local bodies of all States. The HLC has invited responses from political parties, the Law Commission and other groups on the proposal to hold simultaneous elections.

### What is the background?

During the first four general election cycles in 1952, 1957, 1962 and 1967, the elections to the Lok Sabha and State legislative assemblies were held simultaneously. However, due to the subsequent

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



premature dissolution of the Lok Sabha on seven occasions and the premature dissolution of legislative assemblies on various occasions, the elections to the Lok Sabha and various State assemblies are held at different times. In 2019, only four States had their assembly elections, along with the Lok Sabha. The idea of simultaneous elections has been mooted in the past by the Election Commission of India (1982) and the Law Commission (1999).

#### **What is the case for simultaneous elections?**

The desirability of simultaneous elections can be discussed from the perspectives of cost, governance, administrative convenience and social cohesion. Firstly, it is estimated that the cost of holding general elections to the Lok Sabha is around ₹4,000 crore for the Central government. Each State assembly election would also cost considerable amount of money according to the size of the State. While this is the official expenditure of the government, the expenditure by parties and candidates are manifold times higher. Simultaneous elections would entail a reduction in these costs.

Secondly, there are at least 5-6 State elections that happen every year. This results in political parties, including Ministers, being in 'permanent campaign' mode, which acts as a hindrance to policy making and governance. Further, the Model Code of Conduct that is enforced during the election process ranges usually from 45-60 days where no new schemes or projects can be announced by the Centre and concerned State governments.

Third, administrative machinery in the districts slow down during the election period with the primary focus being the conduct of elections. There are also paramilitary forces that are withdrawn from the locations in which they are posted and deployed to the concerned State for the smooth conduct of elections. Frequent elections every year have an impact on administrative efficiency.

Lastly but very importantly, high-stake elections each year in various States result in polarising campaigns by all parties in order to win the elections. This trend has exacerbated in the last decade with the advent of social media thereby creating and deepening the fissures in our multi-religious and multilingual country.

#### **What are the challenges involved?**

There are tangible benefits that accrue due to simultaneous elections. However, there are also significant issues that surround such a proposal both from democratic and constitutional perspectives.

India is a federal country of sub-continental proportions. Various States have their own unique set of issues that are significantly different from one another. The Union and State governments have their respective powers and responsibilities towards the electorate as per the division of powers under the Constitution. Conducting elections simultaneously to the Lok Sabha and all State assemblies would result in national issues overshadowing regional and State specific issues. National political parties would have a significant advantage over regional parties on account of this mechanism. This would be detrimental to the federal spirit of our country which has been declared as a basic structure of the Constitution. Elections also serve as an effective feedback mechanism for governments in power. There have been many policies that have been initiated by various Central and State governments in the past due to such electoral feedback. If elections are held only once in five years, it can affect this process.



Apart from the federal and democratic issues discussed above, simultaneous polls will also require constitutional amendments. India is a parliamentary democracy where the governments at the Centre and the State need to enjoy majority in the Lok Sabha and the Legislative Assembly respectively. The duration of these houses is five years but it may be dissolved earlier if the party or coalition in power loses majority, and no alternative government can be formed. It may also be dissolved prematurely by the council of ministers in power to seek an early election. Further, State legislative assemblies can also be dissolved by imposing President's rule under Article 356 of the Constitution. Having a fixed tenure of five years for the Lok Sabha and State assemblies will therefore require constitutional amendments to Articles 83, 85, 172 and 174 that deal with the duration and dissolution of Lok Sabha and Legislative assemblies. It will also require the amendment of Article 356.

#### **What are the various recommendations?**

The reports of the Law Commission (1999), and the Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice (2015), have dealt with the issue of simultaneous elections. The Law Commission had also submitted a draft report in 2018. The highlights of these discussions and recommendations can be summarised as follows — (a) the elections to the Lok Sabha and nearly half of the State assemblies may be clubbed together in one cycle, while the rest of the State assembly elections can be held in another cycle after two and half years. This will require curtailing or extending the tenures of existing assemblies that will entail amendments to the Constitution and the Representation of the People Act, 1951; (b) any 'no-confidence motion' in the Lok Sabha or Legislative Assembly should be mandatorily accompanied by a 'confidence motion' for the formation of an alternate government. If for any unavoidable reason, the Lok Sabha or State Assembly is to be dissolved prematurely, the duration of the newly constituted House should be only for the remainder period of the original House. This would act as a deterrent for MPs and MLAs pushing for premature dissolution of the House. It would instead encourage the members to explore the possibility of forming an alternate government through feasible realignments; (c) the bye-elections necessitated by death, resignation or disqualification of members can be clubbed together and conducted once in a year.

It may be noted that Parliamentary democracies like South Africa, Sweden and Germany have fixed tenures for their legislatures. The elections to the National Assembly and provincial legislatures happen simultaneously in South Africa every five years, with the President of the country being elected by the National Assembly. The Prime Minister of Sweden and the Chancellor of Germany are elected by their respective legislatures every four years. A lack of confidence against the German Chancellor can be moved only by electing a successor.

#### **What can be an ideal solution?**

There is a lack of consensus among various political parties about the conduct of simultaneous elections. The ideal middle ground may be to conduct the Lok Sabha election in one cycle and all State assembly elections in another cycle after two and a half years. The rest of the recommendations as discussed in the previous section with respect to the formation of an alternative government in case of the fall of an incumbent government, the duration of the newly constituted houses being only for the remainder period in case of premature dissolution and, the clubbing of bye-elections to be held once every year may be adopted through suitable amendments. This will ensure that the major benefits of simultaneous polls are achieved without compromising on democratic and federal principles. If all political parties are taken into confidence, this may be achieved over the next decade and continued thereafter.





## CORRUPTION INDEX: INDIA RANKS 93 AMONG 180 NATIONS

INDIA ranked 93 out of 180 countries on the corruption perceptions index (CPI) for 2023, according to the latest report released by Transparency International. The index, which lists countries by their perceived levels of public sector corruption, ranked Denmark at the top, followed by Finland, New Zealand and Norway.

The index uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean. In 2023, India's overall score was 39 while in 2022, it was 40. India's rank in 2022 was 85. In the Asian region, Singapore ranked at the top, scoring 83 and occupying the fifth slot.

"India (39) shows score fluctuations small enough that no firm conclusions can be drawn on any significant change. However, ahead of the elections, India sees further narrowing of civic space, including through the passage of a (telecommunication) Bill that could be a 'grave threat' to fundamental rights," the report said.

While western Europe and the European Union remained the top-scoring regions, its regional average score dropped to 65 this year, as checks and balances weakened and political integrity eroded, the report said.

In South Asia, both Pakistan (rank 133) and Sri Lanka (rank 115) are grappling with their respective debt burdens and ensuing political instability, it said. "However, the two countries have strong judicial oversight, which is helping to keep the government in check. The Supreme Court of Pakistan strengthened citizens' right to information by expanding this right under Article 19A of its Constitution to previously restricted institutions," it said.

Noting that China (rank 76) has made headlines with its aggressive anti-corruption crackdown by punishing more than 3.7 million public officials for graft over the last decade, the report said the country's heavy reliance on punishment rather than institutional checks on power raises doubts over the long-term effectiveness of such anti-corruption measures.

The bottom of the index included Myanmar (162), Afghanistan (162) and North Korea (172). At rank 180 was Somalia with the lowest score of 11.

## EXPRESS VIEW ON CBSE'S LANGUAGE PLAN: LEARNING AND FAULTLINES

According to a report in this newspaper, the Central Board of Secondary Education (CBSE) has proposed a major overhaul in the academic framework for secondary and higher secondary education. Students will be required to study three languages — instead of two — till Class X, at least two of which must be native Indian languages. At the higher secondary level, students will have to study two languages instead of one, at least one of which must be a native Indian language.

Secondary-level students will now have to clear 10 subjects, as opposed to the current requirement of five. Graduating from high school will require clearing six subjects, instead of five. The shift is in accordance with NEP 2020's objective of doing away with the rigid separation between academic and extracurricular streams. A credit bank system will ensure that the student is rewarded for skills obtained outside the classroom.

The CBSE's plan gives the learner the space to combine academic training with vocational education. It is, therefore, a welcome departure from pedagogic strategies that have contributed to the country's skill deficit by devaluing hands-on training. The examination authority must,



however, make sure that the new system does not impose an extra burden on already stretched students.

A wealth of scholarship has underlined that knowledge of multiple languages improves learning outcomes and helps skill acquisition. At the same time, the three-language formula remains a politically fraught issue, especially in South India, which has a long history of language-based sub-nationalism. The Tamil Nadu government, for instance, has opposed the NEP even though the policy does not require non-Hindi-speaking states to include the language in school curricula.

Linguistic activists in the state fear the implementation of the three-language formula could push schools to teach Hindi because of the scarcity of teachers in other languages. When it was first framed in 1968, the formula envisaged teaching a modern Indian language, apart from Hindi and English till Class VIII in schools in North India. But Hindi-speaking states have never had more than a handful of schools with teachers who can teach Malayalam, Kannada or Tamil — or, for that matter, Bengali, Marathi or Gujarati. The CBSE's proposal should occasion conversations on finding a greater play for the country's linguistic diversity in school curricula.

The CBSE has not specified a time-frame for rolling out the new system. The agency must hold wide consultations before finalising its plan. It must ensure that all sensitivities are respected and old faultlines are not reopened.

#### MOST TEENS USE SOCIAL MEDIA, BUT LACK SKILLS TO PROTECT THEMSELVES

Among Indian teenagers in rural areas who can't even read a paragraph of text, over 30% can still browse the Internet and close to 50% can find a video on YouTube, says the latest Annual Status of Education Report (ASER) Rural. The report provides several such insights into the digital prowess of high school and college students in India.

In the ASER survey, students in the 14-18 age group were asked to read a paragraph. Those who could read the words but not the sentences were said to belong to the 'word level'. Those who could read the paragraph but not a bunch of paragraphs were categorised as belonging to 'Grade 1 level'. Those who could read many paragraphs were said to belong to 'Grade 2 level'. The survey was conducted in 28 districts from September to November, 2023.

Among those at the 'word level', more than 30% managed to find a YouTube video, browse information on the web, and set an alarm on their smartphone. Among those belonging to 'Grade 1 level', more than 55% could do all these tasks. Interestingly, most students, across reading levels, found it challenging to find travel time on Google Maps.

These conclusions were made for all the 28 districts put together. If the data are analysed at the district level, there are wide variations. For instance, more than 95% of teenagers in the rural parts of Ernakulam in Kerala were able to set an alarm on their smartphone, while less than 50% in Cooch Behar in West Bengal and Gariaband in Chhattisgarh knew how to do this. The India average was 66.4%.

There were wide variations among those who could browse information too: while 93% in Jammu and Kashmir's Anantnag could do this, less than 50% could do so in Odisha's Sambalpur and Meghalaya's East Khasi Hills.

In Nagaland's Kohima district, only 12.5% teenagers knew how to use Google Maps while more than 55% in Punjab's S.A.S. Nagar could do this.



Notably, variations among districts were the narrowest when it came to accessing YouTube: with close to 70% or more teenagers in every district managing to do this.

The data show that digital literacy has penetrated deep into many rural areas but a few areas are still catching up. However, worryingly, many teenagers have still not learned to protect themselves from the dangers of the online world. While more than 90% of them from across districts used social media during the survey week, only 52.3% knew how to block a profile and only 47.8% knew how to make their account private.

There were wide variations in these skills too. Just 33% in Tripura knew how to block a profile and less than 30% in Jharkhand's East Singhbhum knew how to make their profile private. A bigger concern is that the share of girls who knew these skills was much lower compared to the share of boys in many districts despite the fact that girls form a majority of the victims of online abuse.

Only 46% girls in the 17-18 age group in Bihar's Muzaffarpur knew how to block a profile, whereas over 73% boys knew how to do this. Only 57% girls in Rajasthan's Bhilwara knew how to make their profile private compared to 80% of the boys.

#### ISRO'S SPACE PLATFORM POEM-3 ACHIEVES ALL PAYLOAD OBJECTIVES, SET TO RE-ENTER EARTH

After achieving the objectives of all experiments onboard, the PSLV Orbital Experimental Module based on the last stage of the PSLV rocket that carried XPoSat to space on New Year's day is likely to enter the Earth's atmosphere and burn up within the next 75 days. This will ensure that the mission leaves no debris, Indian Space Research Organisation (ISRO) said.

The agency on Saturday also announced that its meteorological satellite INSAT-3DS has been sent off to Sriharikota from U R Rao Satellite Centre, Bengaluru, where it was developed. The mission is likely to be launched mid-February onboard GSLV.

To cut down on space debris, ISRO has been taking steps such as lowering the orbit of defunct satellites and last stages of the rockets, and removing excess fuel since last year.

In fact, the orbit of POEM-3 (PSLV Orbital Experimental Module-3) was lowered from 650 km to 350 km after the space observatory XPoSat was placed in orbit to reduce the time the platform remains in orbit.

The space agency said that the platform had completed 400 orbits by the 25th day. During this period, each of the nine experiments were put to operation and their performance determined. The experiments include the Women Engineered Satellite (WESAT) developed by LBS Institute of Technology for Women to study the comparison between solar irradiance and UV index, a radiation shielding experiment, an amateur radio, three propulsion systems by space start-ups, and an interplanetary dust count experiment by Physical Research Laboratory. Two types of fuel cell systems developed by the Vikram Sarabhai Space Centre were also onboard.

One of the fuel cells that uses hydrogen and oxygen to generate electricity and releases heat and water as bi-product is expected to be a precursor for energy systems required for a space station. The cell system is ideal for human missions in space because the heat and water generated as bi-products are also essential, meaning a single system can meet multiple requirements of the mission. India has targeted setting up a space station in the low Earth orbit by 2035.



So far, on three POEM platforms, ISRO has flown a total of 21 experiments.

#### INDIA NOMINATES 12 FORTS OF MARATHAS FOR UNESCO WORLD HERITAGE LIST

India has nominated the “Maratha Military Landscapes”, a network of forts that showcase the strategic military powers of Maratha rule, for inclusion on the UNESCO World Heritage List for 2024-25.

The 12 forts included in this nomination are the forts of Salher, Shivneri, Lohagad, Khanderi, Raigad, Rajgad, Pratapgad, Suvarnadurg, Panhala, Vijaydurg and Sindhudurg in Maharashtra and Gingee in Tamil Nadu.

The “Maratha Military Landscapes”, which developed between 17th and 19th centuries, represent an extraordinary fortification and military system envisioned by the Maratha rulers. This extraordinary network of forts, varying in hierarchies, scales and typological features, is a result of integrating the landscape, terrain and physiographic characteristics distinctive to the Sahyadri mountain ranges, Konkan Coast, Deccan Plateau and Eastern Ghats in the Indian Peninsula.

They are distributed across diverse geographical and physiographic regions and showcase the strategic military powers of the Maratha rule, the Union Culture Ministry said on Monday.

The inception of the Maratha military ideology dates back to 17th century during the reign of the Shivaji Maharaj from 1670 and continued through subsequent rules until the Peshwa rule till 1818 CE.

#### AFTER FOUR YEARS OF SURVEY, INDIA’S SNOW LEOPARD COUNT PUT AT 718

The snow leopard is known to be an elusive cat and located in mountainous terrain that is hard to access, and the exercise for the first time marks a base threshold for the animal’s numbers in India.

The highest number of cats was estimated to be in Ladakh (477), followed by Uttarakhand (124), Himachal Pradesh (51), Arunachal Pradesh (36), Sikkim (21), and Jammu and Kashmir (nine). The current estimate puts the number of Indian snow leopards between 10% and 15% of the global population.

The exercise involved setting up cameras, or camera traps, in 1,971 locations and surveying 13,450 km of trails which teams surveyed for recording signs of snow leopards such as scat, hair and other body markers. Much like the approach used in surveys to estimate tiger numbers, the States conducted the surveys and the Dehradun-based Wildlife Institute of India, an autonomous body of the Union Environment Ministry, used software and statistical methods to estimate the number of individual cats that are present but not caught on camera and combined them with those caught on camera.

“Essentially we use a similar statistical approach to that being used in the tiger surveys for the past 20 years. It’s a rigorously tested equation and not dependent on guesswork,” V.B. Mathur, former head of the WII, involved in the study, told The Hindu.

The Snow Leopard Population Assessment in India (SPAII) began in 2019 and involves the World Wide Fund for Nature-India and the Nature Conservation Foundation, Mysuru, along with the WII.



The snow leopard is classified as 'vulnerable' by the International Union for the Conservation of Nature and faces threats from free-ranging dogs, human-wildlife conflicts, and poaching.

### WHAT ARE ODISHA'S FAMOUS BLACK TIGERS, AND WHY IS THE STATE PLANNING A SAFARI AROUND THEM?

Odisha will start a melanistic tiger safari near Similipal Tiger Reserve (STR), Chief Minister Naveen Patnaik has announced. The safari will be the first of its kind anywhere in the world, and the Chief Minister invited tourists to see "the rare and majestic" melanistic tiger species "found only in Odisha".

The state government's plan has received in-principle approval from the technical committee of the National Tiger Conservation Authority (NTCA), the national body for the conservation of the big cat. As of now, the safari is likely to be ready for visitors by October this year.

#### **What are black tigers or melanistic tigers?**

Melanism is a genetic condition in which an increased production of melanin, a substance in the skin that produces hair, eye, and skin pigmentation, results in black (or nearly black) skin, feathers, or hair in an animal.

Many royal Bengal tigers of Similipal belong to a unique lineage with higher-than-normal levels of melanin, which gives them black and yellow interspersed stripes on their coats. These tigers are not entirely black, and are therefore more accurately described as being pseudo-melanistic.

The STR, which sprawls over 2,750 square km in Odisha's Mayurbhanj district adjoining Jharkhand and West Bengal, is Asia's second largest biosphere, and the country's only wild habitat for melanistic royal Bengal tigers.

#### **What makes tigers (pseudo) melanistic?**

According to research co-authored by Uma Ramakrishnan and her student Vinay Sagar from the National Centre for Biological Sciences (NBCS), Bengaluru, a single mutation in the gene Transmembrane Aminopeptidase Q (Taqqep) causes black tigers to develop stripes that seem to have broadened or spread into the tawny background.

Genetic analyses of other tiger populations in India and computer simulations suggest that the Similipal black tigers may have arisen from a very small founding population of tigers, and are inbred. The STR cats live isolated from other tigers, because of which they breed among themselves.

"Approximately 37% of tigers... in the Similipal Tiger Reserve are pseudomelanistic, characterized by wide, merged stripes. Camera trap data across the tiger range revealed the presence of pseudomelanistic tigers only in Similipal," the researchers wrote. ('High frequency of an otherwise rare phenotype in a small and isolated tiger population'; Sagar, Ramakrishnan, and others: PNAS, Sept 2021)

The researchers examined the "role of drift in driving this phenotype's frequency". They concluded that "pseudomelanism cosegregates with a...coding alteration in...Taqqep, a gene responsible for similar traits in other felid species".



Sampling revealed a high frequency of the mutation in Similipal, and absence in all other tiger populations (395 individuals). "Population genetic analyses confirmed few (minimal number) tigers in Similipal, and its genetic isolation, with poor gene flow," the researchers said.

#### **How many melanistic tigers are there in STR?**

"Melanistic tigers have been recorded only in the Similipal Tiger Reserve in Odisha. As per the 2022 cycle of the All India Tiger Estimation, 16 individuals were recorded at Similipal Tiger Reserve, out of which 10 were melanistic," Minister of State in the Ministry of Environment, Forest, and Climate Change Ashwini Kumar Choubey told Rajya Sabha on December 21, 2023.

The state government's ongoing tiger survey, however, suggests that the number of royal Bengal tigers in STR is more than what has been mentioned in the NTCA report. The state government's report will be released soon.

#### **What is Odisha's plan for the melanistic tiger safari?**

Susanta Nanda, Principal Chief Conservator of Forests (Wildlife), Odisha, said around 200 hectares of land along the Dhanbad-Balasore National Highway-18 has been identified for the proposed safari. The site is about 15 km from the STR, and its landscape matches that of Similipal.

About 100 hectares will be the display area of the park, and the rest will be used to build veterinary care facilities, including a rescue centre, staff infrastructure, and visitors' amenities. Initially, three melanistic tigers from the Nandankanan zoo north of Bhubaneswar, and rescued/orphaned tigers who are not fit for wild but fit for display, will be housed in the safari in an open enclosure.

#### **Why has Odisha come up with this plan?**

The safari aims to allow wildlife conservationists, researchers, and enthusiasts to see the rare big cats from up close, and to create awareness about the need for their conservation. The sighting of tigers is difficult in STR because of its vast area, and the safari has been proposed as an added attraction for visitors to Similipal.

An NTCA committee will visit the proposed site to carry out a feasibility study before final clearance is given to the project. The state government will also have to obtain other statutory clearances, including approval from the Central Zoo Authority, a body under the Environment Ministry that has oversight over zoos in the country.

### **TANZANIA AS SURAJKUND FAIR PARTNER HIGHLIGHTS TIES WITH AFRICAN UNION, SAYS MURMU**

Inaugurating the 37th Surajkund International Crafts Fair in Faridabad on Friday, the President of India, Droupadi Murmu, expressed appreciation for the cultural exchange between Tanzania and India.

Murmu said that as Tanzania acts as the partner country of this year's fair, cultural exchanges would provide the opportunity for visitors to immerse themselves in the vibrant and colourful arts and crafts of Tanzania, including wood carving, pottery, and weaving. "This is also a wonderful platform to showcase Tanzanian dance, music and cuisine in which we can also glimpse some Indian influence, thanks to the centuries of people-to-people contact between India and the East African coast," she said.

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



The participation of Tanzania as a partner nation in this fair highlights India's partnership with the African Union, she said.

President Murmu also commended the art and tradition of Gujarat, the partner state of the fair. She said that the North Eastern Handicrafts and Handloom Development Corporation Limited is the cultural partner of this year's fair.

Murmu expressed appreciation for the craftsmen who have diligently preserved the artistic heritage of the country. During the inauguration, the President visited Haryana's Apna Ghar Pavilion, where she got information about the instruments showcasing Haryanvi culture.

Governor Bandaru Dattatreya said during the event, "This year's fair showcases Gujarat as the theme state, renowned for its cultural diversity and rich civilisation, while Tanzania serves as the partner nation, which has deep-rooted ties with India. Such collaborative events would further strengthen bilateral relations between the nations."

Meanwhile, Haryana Chief Minister Manohar Lal Khattar extended heartfelt gratitude to President Murmu. Speaking about the historical significance of Surajkund, constructed by King Surajpal of the Tomar dynasty, he said, "Shaped like the rising sun and built in Roman style, Surajkund symbolises progress, with the International Handicraft Fair, now in its 37th year, holding special significance. The fair has become the identity of Haryana."

He said that this year marks a milestone as the fair sees participation from over 40 countries for the first time, setting a new record. Between 15 and 20 lakh attendees are likely to visit the fair this year. "...PM Narendra Modi has made special efforts in this direction. This fair stands as a trinity of tradition, heritage, and culture, attracting tourists from around the world," he added.

## LONG BEFORE THE OSCAR-NOMINATION, A FATHER'S FIGHT FOR JUSTICE FOR HIS DAUGHTER

'To Kill A Tiger' tells the story of a 13-year-old who was gangraped by three of her relatives in a Jharkhand village in May 2017. Though the locals have only seen clips from the documentary, either online or on WhatsApp, they cannot fathom why the story of a 13-year-old's gangrape by three of her relatives in their tiny village in May 2017 would interest an international audience.

Besides casual discussions on sunny weekdays, the akhra also doubles as the spot for all important village-level meetings. But for the father of the victim, now 20, it is a grim reminder of the marathon meetings held to "negotiate the problem" of his daughter's gangrape at a relative's wedding late on May 9, 2017, in the village.

Breaking down while speaking to The Indian Express, the victim's father, 45, recalled, "My daughter said she would prefer dying over settling the matter." The father, who is a daily-wage mason, said the accused were related to them — two of them were his daughter's cousins and one nephew, all in their early 20s then. He adds, "All those relationships died that day. I remember how shocked she was when she returned home that night. It was our turn to get shocked when she told us what they had done to her."

Though the trio were convicted to 25 years of rigorous imprisonment on July 18, 2018, the family's trials — which started with filing of the first information report (FIR) and refusing to "settle" the matter at the akhra — took longer.



According to court records, one of the accused and the teenager were dancing together at the wedding, after which he dragged her to a secluded spot and raped her. Before the two other accused took turns to rape her, court records state, they helped him hold her down. The records add that the victim's shouts for help were drowned out by the loud music playing at the wedding.

A village-level meeting was convened the next morning, on May 10, 2017, at the akhra, her father recalls. "I was told to marry my daughter to one of the accused during that meeting. Even if I had agreed to this unreasonable demand, what about the other two accused? Would they have treated my daughter with respect? What made me really angry was that no one cared about the crime itself," he says.

Incensed, he went straight to the local Police Station, where it took him five hours to lodge an FIR under Section 376D (gang-rape) of the Indian Penal Code and the Protection of Children from Sexual Offences (POCSO) Act. A medical examination was done the following day. As per court records, it confirmed that "this seems to be a case of sexual assault".

Over seven days that followed, the father said, the accused and some villagers tried every trick in the book to make the case go away. "I remember them telling me that they could walk three steps, while I could walk just one — implying that they were thrice as strong as me. But I refused to give up."

Shrijan Foundation, a non-government organisation, happened to be working in the village around that time. Puja, the NGO's secretary, told The Indian Express, "We were working on gender sensitivity issues in the village. The director (documentary filmmaker Pahuja) was shooting our programme when we heard about the incident. She ended up shooting the documentary after that."

One of the villagers claimed that *To Kill A Tiger*, which has been nominated under the 'best documentary feature' category, includes scenes from the "settlement" meetings too.

Back at the akhra, locals claim to have a "faint" recollection of the negotiations that took place between the families of the victim and the accused, and the village council members nearly seven years ago.

While victim blaming was a common refrain among the locals, some others, perhaps emboldened by the fact that the accused are in jail, remarked, "Galat to hua tha (What happened was wrong)."

During the trial, when the defence submitted that there was no eyewitness, the court had said that "...it is known to every one that such offences are usually committed under secrecy and thus asking for corroboration from testimony of eye witnesses will be an act of insult towards the victim...".

For the father, the trial process was a "punishment" not just for him but his entire family, especially his younger daughter and two young sons. "I must have gone to the court at least 100 times, by auto or bus or on my own motorcycle. I mortgaged my land and even took loans to fight the case. I am yet to repay the debt of Rs 5 lakh," he says.

Stating that his daughter is currently studying in Class 12 in the city, he adds that she talks to him sometimes "but never discusses the incident".

To a query on whether he was worried about the documentary since his face is visible both in the film and one of the posters, he says, "I have not watched the documentary so far. Even if I end up earning a bad name, I want to ensure that no one else suffers like my daughter."



**BUSINESS & ECONOMICS****INTERNATIONAL RELATIONS US BLOCKS FRESH PROPOSAL TO RESTART DISPUTE SETTLEMENT MECHANISM AT WTO**

A proposal backed by 130 World Trade Organization (WTO) members to restart the selection processes for filling vacancies on WTO's Appellate Body was shot down by the United States (US) yet again in a sign that disputes may keep piling up at the top trade body, fuelling further protectionism in global trade.

The Appellate Body is the apex institution for adjudicating trade disputes.

This is the 73rd occasion when a proposal moved by Guatemala, a Central American country, on behalf of 130 members was not able to launch the selection processes. The US has been blocking the appointment of new judges to the WTO's seven-member appellate court since 2017 on grounds of judicial activism at the WTO and concerns over US sovereignty.

The lack of a functional Appellate Body is concerning as global trade is already slowing with growing geo-political tensions. Moreover, developed countries are turning inward with the introduction of several environment related trade measures such as carbon tax which could hurt India's trade prospects. India's goods exports have seen a decline during the better part of 2023 largely due to weakening demand globally.

This comes ahead of the 13th ministerial conference (MC) of the WTO in Abu Dhabi on February 26-29 where India is set to bat for a resolution of the system. The US repeated that it does not support the proposed decision to commence the appointment of Appellate Body members as its longstanding concerns with WTO dispute settlement remain unaddressed.

The United States Trade Representative (USTR) had earlier stated that the proper functioning of the WTO Appellate Body has a disproportionate impact on the United States because more than one-quarter of all disputes at the WTO have been challenges to US laws or other measures and 155 disputes have been filed against the United States and no other member has faced even a hundred disputes.

The US said that up to approximately 90 percent of the disputes pursued against the US have led to a report finding that the US law or other measure was inconsistent with WTO agreements. "This means that, on average, over the past 25 years, the WTO has found a US law or measure WTO-inconsistent between five and six times per year, every year," the USTR had said.

**INTERIM BUDGET 2024 — IN CAMPAIGN MODE**

Well before Finance Minister Nirmala Sitharaman rose to present the Interim Budget for 2024-25, there were indications as to what its focus would be. Doubts that this would be anything more than a vote-on-account had been settled when Prime Minister Narendra Modi publicly declared that "when polls are this close, the government presents an interim budget" — and went on to say with confidence of a victory in the polls, "we will bring a full budget when a new government is formed".

Meanwhile, an 'interim Economic Survey', innocuously titled "The Indian Economy: A Review", has presented a survey of post-Independence economic development, with a periodisation that



divides those years into the pre- and post-Modi government eras. In language reflective of an electioneering pamphlet, peppered with the Prime Minister's own assessments of his government's record, the document concludes that the decade 2014-24 was one of "transformative growth". Periods of significant or even high episodes of growth prior to that transformative decade are identified as wanting, on the grounds that such growth either left structural challenges unaddressed or was the result of an unsustainable credit boom that damaged the banking sector.

### A eulogy

Given this background, it was to be expected that the Budget speech would be a vocal expression of this eulogy of the two governments of the last 10 years. For years, Part A of the Budget speech has been a tiresome recounting of policies already adopted, and to be adopted, many of which have little to do with the issues of resource mobilisation and allocation and the strategy they signal, which must be the actual concern. That has been true of this year's Interim Budget as well, which focused on all the "welfare" schemes, in areas varying from housing to food, which have been largely attributed to the Prime Minister. It is another matter that the Prime Minister has in the past dismissed such schemes as representative of a "revdi" (sweet gifts) culture when implemented by non-Bharatiya Janata Party (BJP) State governments.

With the Interim Budget being identified as a mere vote-on-account, Part B of the speech was a declaration that while pursuing consolidation in the sense of achieving periodically revised fiscal deficit to GDP ratios, the government will be stepping up spending on infrastructure and welfare. In the circumstances, what can be assessed from the detailed Budget documents is the fiscal performance of the Centre in the current (rather than next) financial year, 2023-24. Even that exercise is fraught with difficulty because the practice of presenting Budgets on February 1 adopted in recent years has meant that "revised estimates" for the financial year incorporate projections relating to most of the last quarter of the financial year extending to March 31.

## ECONOMIC ENCOMIUM

Ahead of the Interim Budget for 2024-25 on Thursday, the Finance Ministry's 10-year review of the economy with some forward outlook, serves as a proxy to the annual Economic Survey. The review signals GDP will grow close to 7% in 2024-25, with scope to go 'well above' 7% by 2030. From about \$3.7 trillion this year, India's economy will expand to \$5 trillion in three years, making it the world's third largest, and could hit the \$7 trillion dollar mark by 2030, it reckons. Splicing India's growth story into two phases — 1950-2014, and a 'decade of transformative growth' since 2014 — the review stresses that the state of the economy was 'far from encouraging' when Prime Minister Narendra Modi 'assumed power'. Growth was hobbled by structural constraints such as tardy decision-making, ill-targeted subsidies and a large informal sector, while inflation was unpalatably high. Post-2014 reforms have restored the economy's ability to grow healthily with "longer and stronger" economic and financial cycles, and made India the fastest growing G-20 nation, it argues. The review asserts that India's 7% growth when the world is growing 2%, is 'qualitatively superior' to 8%-9% achieved when the global economy grows 4%, perhaps, hinting at a few years of the UPA era. This is debatable as India's economy is generally delinked from the world with domestic activity driving growth more than exports.

Now that the twin-balance sheet problem inherited from the UPA days has turned into an 'advantage', as the review stresses, it must translate into a wider private investment revival. That would hinge on a broad-based consumption rebound rather than the K-shaped recovery the



government vehemently dismisses. Four years of 7%-plus growth, post-pandemic, would be commendable indeed. However, India needs to grow faster to create jobs at the scale its youth need and ensure that a rising growth tide lifts most boats, if not all. The review expects an 'all-inclusive welfare approach' to help enlarge the consumption base by expanding the middle class. But those dependent on handouts, such as the 800 million that need free food by the Centre's reckoning, must progressively shrink for growth to be meaningful and equitable. The report rightly mentions reforms in learning outcomes, health, easier compliances for smaller firms, as priorities, with some critical changes at the 'sub-national government' level to accelerate growth. It is also essential that flaws in reforms such as GST are fixed and some of the blunt policy tools deployed, for instance, import licences and price controls on deregulated products, that send convoluted signals about India's 'open market with predictable policies' pitch, are reconsidered.

## POLL POSTURE

Finance Minister Nirmala Sitharaman's sixth consecutive Budget speech was an election-eve, self-congratulatory report card on the economic achievements engendered by Prime Minister Narendra Modi and the two governments he has led since 2014. Echoing the Finance Ministry's review of the economy's performance, and stating that Mr. Modi had inherited a situation replete with 'enormous challenges' when he assumed office, Ms. Sitharaman asserted that those were surmounted through 'structural reforms, pro-people programmes and the creation of opportunities for employment and entrepreneurship'. A reinvigorated economy had helped ensure that the fruits of development started reaching the people at scale, imbuing them with a sense of purpose and hope, and translated into a bigger mandate five years ago, she averred. In a clear sign that the Bharatiya Janata Party-led regime is far more confident of returning to power this time around, Ms. Sitharaman eschewed any announcements that could be seen as targeting a particular constituency of voters. Instead, the focus was on talking up the commitment to 'an inclusive and sustainable policy approach that had led to the attainment of a more comprehensive GDP of governance, development and performance'. A nonchalant observation that the government would detail a road map for attaining a 'Viksit Bharat' by 2047 in its full Budget in July, was premised on the certainty of winning a 'resounding' electoral mandate.

The Budget numbers posit a continuing journey on the path of fiscal consolidation, with the Revised Estimates (RE) pegging the current year's fiscal deficit at 5.8% of the GDP, a 10 basis points improvement from last February's Budget Estimate (BE) of 5.9%. This, the Minister has achieved by pruning effective capital expenditure by ₹1 lakh crore in the RE, a moderation in nominal growth estimates notwithstanding. For 2024-25, she has projected a sharper consolidation and pegged the deficit at 5.1% by factoring in a 14% jump in revenue receipts on a BE basis, that is expected to help offset an 11% increase in estimated capital expenditure to ₹11.11 lakh crore. Ms. Sitharaman, who emphasised a tripling in the capital spending outlays over the past four years that had had 'a multiplier impact on growth and employment creation', however, glossed over the fact that the budgeted increase in capital spending next year is set to be sharply lower than the 28% jump in the RE versus last fiscal's actuals. At a time when official estimates for private consumption spending show growth at its lowest ebb since the pandemic, the Budget's stress on fiscal prudence does carry the risk of undermining economic momentum. The bigger challenge is the more worrying possibility of rising inequality.



## A POLITICAL, FEEL-GOOD STATEMENT

Often, Budget speeches are political statements — more so, with impending general elections. There is a lot less to expect from an interim Budget. The Finance Minister's Budget speech was short in substance and loud in claiming credit for the decade of supposedly spectacular growth, moderate inflation, and a record of social welfare.

### Positives in the Budget

What are the positives? The Budget statement attributed post-COVID growth revival to public infrastructure investment and proposes to continue the same in the coming year with a 11% rise in capital expenditure. However, the government proposes a moderate expansion in public investment as it claims that private investment has revived. Moderating public investment, in principle, is expected to free up resources for the private sector, preventing “crowding-out” (displacing) of private investment.

In the last 3-4 years, the government has steadily raised public infrastructure investments, mainly on highways and communications, which seems to have contributed to turning around GDP growth rate in the post-pandemic years. Faced with the uncertain global energy supply situation after the war in Ukraine, it seems to have encouraged public sector oil, electricity and coal public sector undertakings to step up investment to improve energy security — setting aside the disinvestment and privatisation agenda for the moment. These decisions seem to have boosted public investment and output and stabilised the macroeconomic situation.

An item of public investment was 50-year interest-free loans offered to States (with conditionalities). The Budget proposes to extend the scheme in the coming year. This is perhaps a welcome move for growth as its utilisation by States has been substantial despite hiccups. Perhaps the scheme can be fine-tuned by taking into account State-specific requirements of its conditionalities.

The Budget proposes to replicate a similar scheme for promoting innovation and R&D for the private sector with a corpus of ₹1 lakh crore. The idea seems interesting if it helps boost industrial R&D. India's R&D expenditure as a ratio of GDP has remained stagnant at 0.8% for decades now. India and China had similar levels of R&D to GDP ratio at 0.8% in 1996. After more than two decades, China's ratio moved up to 2.2% of GDP, while India's slipped to 0.6%. If the proposed long-term interest free loans could reverse the trend, the Budget proposal could be a game-changer.

The Budget applauded the recently announced scheme to set up rooftop solar in 1 crore households. This is welcome as India lags behind in tapping the ‘free’ natural source. But unless the new scheme addresses the pricing of electricity and differential pricing for small consumers, the ambitious scheme is unlikely to take off.

The Budget claimed that FDI inflow during 2014-23 doubled to \$596 billion compared to the previous 10 years. This is misleading. FDI inflow as a ratio of GDP peaked in 2007-08 at around 3.5% and never regained that level. Further, as there have been more exits by private equity capital (the main source of FDI) from India, net FDI to GDP ratio is just about 1%. Much of FDI has flown into services and only modestly in manufacturing, and that too for acquiring existing factories and companies, not for green field investment. So, the modest FDI hardly adds to the economy's fixed investment growth.



### The larger picture

The political message in the Budget was 'all is well' and the coming days will be better. It seems to ignore many hard facts about the economy and potential threats from the (fracturing) global economy. Despite a satisfactory recovery from the COVID pandemic, the employment situation remains grim, as per official statistics. For example, the Periodic Labour Force Survey data show that regular salaried employment during the last five years has stagnated. Most of the employment generated is unpaid family labour, a clear evidence of disguised unemployment. Real wages in agriculture have declined. These data points tell us that the benefits of the supposedly stellar output growth have accrued to those receiving rents, interests, and profits who form a tiny share of the population or households. Such a growth outcome can hardly be considered equitable or inclusive.

The long term growth of a poor, over-populated economy lies in the structural transformation of its workforce away from rural/agriculture to modern industry and services in urban areas where labour productivity is much higher. During the last 10 years, we have witnessed a rise in the agriculture workforce and a slight decline in employment share in manufacturing. So, what we are witnessing is premature de-industrialisation.

While the Budget and the economic review seem complacent about the aggregate growth and stable external balance, their composition display areas of concern. One such area is the growing dependence on China for industrial inputs. The trade deficit with China has steadily widened over the years, accounting for one-third of India's trade deficit. Despite 'Make in India' and 'Atmanirbhar Bharat Abhiyaan', India's industrial output and investment growth rate has decelerated on a trend basis over the last 5-7 years. The gravity of the problem is better captured by the much-ignored estimates-based Annual Survey of Industries than the macro aggregates in the National Accounts Statistics.

The Budget is an account of the achievements of the last decade of this regime, with a promise to press ahead with the same. It refuses to address shortcomings such as the lack of employment, wage growth, or the critical deficiencies in sectors such as manufacturing. It also seems to ignore potential threats arising from geopolitics or strategic risks posed by dependence on China for critical inputs. Such a head-in-the-sand approach hardly augurs well for long-term national interest.

### POPULATION PRIORITIES

In what was an intriguing statement in her Interim Budget speech, Union Finance Minister Nirmala Sitharaman said that a high-powered committee will be constituted to consider the challenges arising from "fast population growth and demographic changes". With the Union government repeatedly postponing the decennial Census — it has not been conducted for the first time in a decade since 1881 — there is no direct evidence to support this statement. It is evident that India is now the most populous country, but the Sample Registration System statistical report in 2020 and the National Family Health Survey-5 (2019-21) have shown that the total fertility rate (TFR) in India has fallen to 2 overall, with only a few States — Bihar (2.98), Meghalaya (2.91), Uttar Pradesh (2.35), Jharkhand (2.26) and Manipur (2.17) — having a TFR above 2.1. Clearly, the high population growth of the kind seen in the 20th century has been largely arrested — the TFR fell from 5.7 in 1950 to 2 in 2020, albeit differentially across regions. The population share of the southern States, reduced to 21% in 2011 from 26% in 1951, largely a consequence of a rapid reduction in TFR due to better socio-economic outcomes and education, and despite higher



migration to these States. While the surveys mentioned are robust and necessary, they are no substitute for the comprehensive Census; the continued delay in its implementation reflects poorly on the Union Home Ministry that is motivated by other priorities rather than executing a vital programme of Indian governance.

The demographic shift in India and rising life expectancy have resulted in challenges and opportunities. The much touted demographic dividend — the relatively high proportion of the working age population in the developing world — is meaningful only if there are sufficient jobs and if they enjoy some degree of social security that will help them when they age. With high unemployment and the creation of non-farm jobs, which will increase productivity and cater to skilled employment, relatively slack in the last few years, there is the possibility of the country squandering this dividend. The “high-powered” committee will be performing a crucial role if it engages meaningfully in addressing questions related to jobs and social security and the challenges citizens face due to rapid urbanisation and mechanisation of work. However, if the committee focuses on the ruling Bharatiya Janata Party’s pet bogies of looking at population issues through the lens of religion and immigration, it will only distract governance from making use of the fast eroding democratic dividend in the country.

#### WHAT ARE THE RBI’S GUIDELINES ON STATE ‘GUARANTEES’?

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

On January 16, a working group constituted by the Reserve Bank of India (RBI) made certain recommendations to address issues relating to guarantees extended by State governments. Among other things, the Working Group prescribed a uniform reporting framework for the guarantees extended, besides expanding the definition of what constitutes a ‘guarantee.’

##### **What constitutes a ‘guarantee’?**

A ‘guarantee’ is contingent liability of a State, processed by an accessory contract, that protects the lender/investor from the risk of borrower defaulting. They promise to be answerable for the debt, default or miscarriage of the latter. The entity to whom the guarantee is given is the ‘creditor’, the defaulting entity on whose behalf the guarantee is given is called the ‘principal debtor’ and the entity giving the guarantee (State governments in this context) is called the ‘surety’. If A delivers certain goods or services to B and B does not make the agreed-upon payment, B is defaulting and at the risk of being sued for the debt. C steps in and promises that s/he would pay for the default of B. This is a guarantee. The RBI working group’s report notes that while guarantees are innocuous in good times, it may lead to significant fiscal risks and burden the State at other times. This may result in unanticipated cash outflows and increased debt. State governments are often required to sanction, and issue guarantees, on behalf of State-owned enterprises, cooperative institutions, urban local bodies and/or other State-governed entities, to respective lenders. The latter could be commercial banks or other financial institutions. In return, the entities are required to pay a guarantee fee to the governments.

##### **What about definition of guarantee?**

The Working Group has suggested that the term ‘guarantee’ should be used in a broader sense and include all instruments, by whatever name they may be called, if they create obligation on the guarantor (State) to make a payment on behalf of the borrower at a future date. Further, it must



not make any distinction between conditional or unconditional, or financial or performance guarantees in order to assess the fiscal risk.

**What about according guarantees?**

The Working Group has recommended that government guarantees should not be used to obtain finance through State-owned entities, which substitute budgetary resources of the State Government. Additionally, they should not be allowed to create direct liability/de-facto liability on the State. It further recommends adherence to the Government of India guidelines that stipulate that guarantees be given only for the principal amount and normal interest component of the underlying loan. Furthermore, they must not be extended for external commercial borrowings, must not be extended for more than 80% of the project loan and must not be provided to private sector companies/ institutions.

**What about risk determination?**

The Group suggested that States assign appropriate risk weights (indicative of the holding the lender should ideally have to adjust the associated risk) before extending guarantees. The categorisation could be high, medium or low risk. These must also consider past record of defaults.

Additionally, it deemed a ceiling on issuance of guarantees as “desirable.” The report argues that should a guarantee be required to be invoked, it could lead to significant fiscal stress on the State government. To manage the potential stress, for incremental guarantees (additional guarantees) issued during a year, it proposes a ceiling at 5% of Revenue Receipts or 0.5% of GSDP — whichever is less.

**What about disclosures?**

The Working Group has recommended that the apex banking regulator may consider advising banks/NBFCs to disclose the credit extended to State-owned entities, backed by State-government guarantees. Availability of data, both from issuer and the lender, the report states, may improve the credibility of the data reported by the State government. It has also sought a proper database capturing all extended guarantees.

**RBI ACTION AGAINST PAYTM: PROBABLE CAUSES, EFFECTS, AND WHAT HAPPENS TO YOUR MONEY**

The Reserve Bank of India (RBI) on Wednesday (January 31) barred Paytm Payments Bank from offering all its core services — including accounts and wallets — from March, effectively crippling the company’s business.

The action is technically not a cancellation of the licence of Paytm Payments Bank, but it constricts the company’s operations to a very large extent.

However, the central bank has allowed the withdrawal or utilisation of balance amounts by customers “without any restrictions, up to their available balance”.

Paytm, which was once the poster boy of India’s fintech revolution, has a significant customer base. On its website, Paytm Payments Bank says it has more than 100 million know your customer (KYC) verified customers.



“We are also the largest issuer of FASTag with over 8 million FASTag units issued,” the website says.

Paytm founder and Chairman Vijay Shekhar Sharma is part-time chairman of the bank.

#### **What does the RBI direction say?**

Paytm Payments Bank has been barred from offering almost all of its key services — accepting deposits or top-ups in any customer account, prepaid instruments, wallets, FASTags, National Common Mobility Card (NMC), etc., after February 29 in the wake of “persistent non-compliances and material supervisory concerns”.

“No other banking services...like fund transfers (irrespective of name and nature of services like AEPS, IMPS, etc.), BBPOU and UPI facility should be provided by the bank after February 29, 2024,” the RBI has said.

It has directed that the nodal accounts of the parent company One97 Communications and Paytm Payments Services should be terminated at the earliest, and not later than February 29.

The settlement of all pipeline transactions and nodal accounts — in respect of all transactions initiated on or before February 29 — should be completed by March 15, and no transactions shall be permitted thereafter, the central bank has said.

#### **Can customers use or withdraw their stored balances in various Paytm instruments?**

As per the RBI, withdrawal or utilisation of balances by customers from their Paytm accounts including savings bank accounts, current accounts, prepaid instruments, FASTags, NMC, etc. are permitted without any restrictions, “up to their available balance”.

The RBI statement, however, does not mention a number of other services like loans, mutual funds, bill payments, digital gold, and credit cards.

#### **What has Paytm said in response to the RBI action?**

As Paytm shares fell 20 per cent on the exchanges on Thursday (February 1), One97 Communications Ltd said it was “taking immediate steps to comply with RBI directions”, including working with the regulator to address their concerns as quickly as possible.

Depending on the nature of the resolution, the company expects the RBI action to have a worst-case impact of Rs 300-500 crore on its annual EBITDA (earnings before interest, tax, depreciation and amortisation) going forward.

Also, going forward, One97 Communications will be working only with other banks, and not with Paytm Payments Bank, it said in an exchange filing.

“We offer acquiring services to merchants in partnership with several leading banks in the country and will continue to expand third-party bank partnerships. The Paytm Payment Gateway business (online merchants) will continue to offer payment solutions to its existing merchants,” it said.

OCL’s offline merchant payment network offerings like Paytm QR, Paytm Soundbox, Paytm Card Machine, will continue as usual, where it can onboard new offline merchants as well, Paytm said.





### **What led to the RBI's action against Paytm?**

The central bank gave no reasons for its action. However, Paytm Payments Bank has been facing scrutiny from RBI since 2018.

Sources said the RBI's action could be due to concerns on KYC compliance and IT-related issues. The central bank is concerned about allowing any institution or banking entity to expose depositors' money to such risks.

It is learnt that Paytm Payments Bank and its parent OCL also came under RBI scrutiny for purported lack of requisite information barriers within the group, and data access to China-based entities that were indirect shareholders in the payments bank through their stake in the parent company.

The failure to address these concerns at multiple levels over an extended period led to the latest action by the RBI, it is learnt.

Antfin, an affiliate of the Chinese conglomerate Alibaba, is a shareholder in One97 Communications — as of December 31, 2023, Antfin held 9.89% stake in the company, stock exchange data show. Given the frosty relationship between India and China over the past few years, Chinese investments in Indian companies have attracted intense scrutiny by Indian regulators.

### **What other actions has RBI taken against Paytm earlier?**

In October 2023, the RBI had fined Paytm Payments Bank Rs 5.39 crore due to deficiencies in regulatory compliance. According to the regulator, the payments bank had failed to identify the beneficial owner in respect of entities onboarded by it for providing payout services; did not monitor payout transactions and failed to carry out risk profiling of entities availing payout services; had breached the regulatory ceiling of end-of-the-day balance in certain customer advance accounts; and had delayed reporting a cyber security incident.

In March 2022, the RBI directed Paytm Payments Bank to stop the onboarding of new customers with immediate effect. The Comprehensive System Audit report and subsequent compliance validation report of the external auditors revealed "persistent non-compliances and continued material supervisory concerns in the bank", warranting further supervisory action, the RBI said on January 31.

Even before 2022, the central bank had made certain observations in 2018 about the processes the company followed to acquire new users, especially on KYC norms.

The RBI also had concerns over the close relationship between Paytm Payments Bank and its parent One97 Communications. Payments banks are required to maintain an arm's length distance from promoter group entities. OCL held 49% stake in Paytm Payments Bank, while 51% was held by Paytm founder Vijay Shekhar Sharma.

There were also allegations that the payments bank had failed to meet the Rs 100-crore net worth criteria, and had exceeded the Rs 1-lakh deposit limit allowed per account for payments banks at the time.



## FPI DISCLOSURE NORMS DEADLINE EXTENDED: WHY IS SEBI SEEKING INVESTOR DATA?

Foreign portfolio investors (FPIs), who are mandated to liquidate their holdings as per the Securities and Exchange Board of India's (Sebi) January-end deadline, will get seven months more to provide additional disclosures.

In August last year, the markets regulator had asked FPIs, who were holding more than 50 per cent of their equity AUM in a single corporate group or with an overall holding in Indian equity markets of over Rs 25,000 crore, to disclose granular details of all entities holding any ownership, economic interest, or exercising control in the FPI. The norms were announced to prevent the possible round-tripping by certain promoters using the FPI route.

### **Why has SEBI asked FPIs to provide additional disclosures?**

In its August circular, Sebi said certain FPIs have been observed to hold a concentrated portion of their equity portfolio in a single investee company/ corporate group.

Such concentrated investments raise the concern and possibility that promoters of such investee companies/ corporate groups, or other investors acting in concert, could be using the FPI route to circumvent regulatory requirements such as that of disclosures under Substantial Acquisition of Shares and Takeovers Regulations, 2011 (SAST Regulations) or maintaining Minimum Public Shareholding (MPS) in the listed company.

The regulator said while Press Note 3 or PN3 issued by the government in April 2020 does not apply to FPI investments, there are concerns that entities with large Indian equity portfolios could potentially disrupt the orderly functioning of Indian securities markets by misusing the FPI route. To mitigate these concerns, a need was felt to obtain detailed information from FPIs.

### **What additional details are required from FPIs?**

Sebi said granular details of all entities holding any ownership, economic interest, or exercising control in the FPI will have to be provided by FPIs. While economic interest means returns from the investments made by the FPI, ownership interest means ownership of shares or capital of the entity or entitlement to derive profits from the activity of the entity.

### **Are all FPIs required to provide additional disclosures?**

No. Sebi has said FPIs holding more than 50 per cent of their Indian equity assets under management (AUM) in a single Indian corporate group or holding over Rs 25,000 crore of equity AUM in the Indian markets are required to disclose details.

### **What is the timeline to meet the disclosure norms?**

According to the standard operating procedure (SOP) issued by FPI custodians on additional disclosure norms, existing FPIs, which are in breach of the investment limits as of October 31, 2023, would be required to bring down such exposure within 90 calendar days i.e. January 29, 2024 (settlement date), unless they fall under any of the exempted categories.

However, sources said that FPIs will get seven more months to liquidate their holdings if they do not meet the January-end deadline to disclose data about their investors.

"There is no immediate deadline or cliff for FPIs to liquidate any holdings," sources said.



If FPIs continue to meet the criteria for enhanced disclosures as of January end, they would have an added 10/30 working days to provide the additional details required, they said. “Even thereafter, if they fail to provide any details, they would have a further 6 months to reduce their holdings,” sources said.

Some experts say that the recent withdrawal by FPIs from the domestic market may partly be to meet the end of January deadline of Sebi. So far in January, FPIs have sold Rs 24,734 crore worth of domestic shares, according to data from National Securities Depository Ltd (NSDL)

#### **Which FPIs are exempted from making additional disclosure?**

FPIs who are sovereign wealth funds (SWFs), listed companies on certain global exchanges, public retail funds, and other regulated pooled investment vehicles with diversified global holdings, are exempted from making enhanced disclosures, sources said.

#### **What quantum of FPIs would come under Sebi’s disclosure norms?**

In a consultation issued in May last year, Sebi had said that based on the data as of March 31, 2023, FPI assets under management of around Rs 2.6 lakh crore may potentially be identified as high-risk FPIs who would have to make additional disclosures.

Sources said FPIs which may be required to provide enhanced disclosures are expected to be significantly less than estimated in the consultation paper and the SEBI board note.

#### **What is Press Note 3?**

During the Covid-19 pandemic, the government amended the foreign direct investment (FDI) policy through a Press Note 3 (2020) on April 17, 2020. The amendments were said to have been made to check opportunistic takeovers/acquisitions of stressed Indian companies at a cheaper valuation.

The new regulations required an entity of a country, sharing a land border with India or where the beneficial owner of an investment into India is situated or is a citizen of any such country, to invest only under the Government route.

Also, in the event of the transfer of ownership of any existing or future FDI in an entity in India, directly or indirectly, resulting in the beneficial ownership falling within the restriction/purview of the said policy amendment, such subsequent change in beneficial ownership will also require government approval.

### **CENTRE LIKELY TO FOOT BILL FOR PM ROOFTOP SOLAR SCHEME**

As part of a renewed thrust to increase adoption of household rooftop solar systems (h-RTS) through the Pradhan Mantri Suryodaya Yojana, the Centre is likely to bear the entire cost of setting up such systems for households that consume less than 300 units of electricity a month.

This could potentially cost at least ₹1 lakh crore, and in a departure from the existing approach to h-RTS, it will see Union government companies — as opposed to the current set-up of individual State-run power distribution companies — taking up the responsibility of powering beneficiary households.



Union Finance Minister Nirmala Sitharaman in her Budget speech on Thursday said one crore households would be enabled to obtain up to 300 units of free electricity every month, which would translate to benefits of ₹15,000 to ₹18,000 annually for households. Prime Minister Narendra Modi had announced the scheme after the consecration ceremony in Ayodhya last month.

#### **Hassle-free installation**

For implementation, public sector units of the Power Ministry such as the National Thermal Power Corporation (NTPC) will be charged with identifying households that consume less than 300 units a month in States. This won't be challenging as about 85% of Indian households, on average, use 100 to 120 units a month. This done, they will install RTS with eligible householders having to pay effectively nothing. "Sixty per cent of the cost of installation will be subsidised by the Centre. For the rest, the PSU will take a loan (from a bank) and will repay from the cost of electricity (used by the household) over and above the 300 units. You as a householder pay nothing," R.K. Singh, Minister for Power and New and Renewable Energy, said on Friday.

Households with consumption of over 300 units can also use the scheme. However, they would be required to fund the 40% themselves through a loan or self-financing. "It's still a great scheme because it would pay itself back in seven to 10 years after which you can sell electricity back to the grid and earn," he added.

Each public sector unit will be tasked with reaching out to specific States. They will form special purpose vehicles (SPV) with private companies to execute the programme.

There is as yet no budgetary outlay specified for the scheme. However back-of-the-envelope calculation suggests that electrifying one crore households could cost at least ₹1.5 lakh crore. A 2 kilowatt to 3 kilowatt (kw) system is sufficient to draw a minimum 300 units for a household. Currently, it costs about ₹50,000 per kw, said Mr. Singh, implying ₹1,50,000 capital cost for a household. The Budget suggests that only ₹4,555 crore has been allocated this year, but being an interim Budget, this could change.

There is as yet no deadline for the scheme. India currently has 6.7 lakh households with rooftop solar systems, Mr. Singh said. Reaching one crore households is thus an exponential expansion. "Uptake has been low so far because people were unaware of how to install RTS. From now on, people (PSU) will reach out to those households (<300 units). The speed of installation will go up four to five times faster."

### **WHY HYBRID VEHICLES COULD BE A CLEANER SOLUTION FOR INDIA THAN EVS, AT LEAST FOR THE NEXT 7-10 YEARS**

India needs to "embrace" hybrid vehicles over the next 5-10 years on the way to full electrification, HSBC Research has said. Such vehicles are the more practical medium-term solution for the country's decarbonisation efforts and, more importantly, less polluting, according to the note.

The note says that currently, overall carbon emissions are lower in hybrids compared to both electrics and those that run on petrol and diesel for similarly proportioned vehicles. In fact, it could take as long as a decade for EV and hybrid vehicle emissions to come to the same level, it says.



Hybrids have both an internal combustion engine and an on-board electric motor, with the two systems working in tandem to provide motive power.

Countries everywhere, including India, are pushing toward electrification. In India, Tata Motors, Mahindra & Mahindra and Hyundai Motor have been betting big on EVs. But passenger car market leader Maruti Suzuki has taken a more conservative approach, with no battery electric vehicle in the market so far. Maruti has, however, prioritised hybrids in its portfolio in partnership with Toyota Kirloskar.

The Centre currently offers clear tax incentives for primarily one category of cars, with practically all other vehicular technological platforms clubbed together towards the upper end of the tax bracket.

India's electric mobility plan is largely focussed on battery electric vehicles or BEVs replacing internal combustion engine (ICE) vehicles. Li-ion is seen as the most viable battery option for now.

#### **Why does HSBC believe hybrid vehicles are a good medium-term solution?**

"We have a long-standing belief that hybrid and compressed natural gas cars are a practical medium-term (5-10 years) solution for India, while the country moves towards eventual electrification. Hybrids are critical not just from a cost of ownership perspective, but also for India's decarbonisation drive," the HSBC note issued to investors said.

The note said that total (well-to-wheel, or WTW) carbon emissions from an EV is currently 158 g/km, compared to 133 g/km for hybrids — which means that a hybrid is at least 16% less polluting than the corresponding EV. These numbers are 176 g/km and 201 g/km for corresponding petrol and diesel vehicles respectively.

This analysis does not focus only on tailpipe emissions, but includes vehicle emissions (tank-to-wheel, or TTW) and emissions from crude mining, refining, and power generation as well. "In the case of EVs we have only incorporated power generation emissions and not coal production emissions, which would have skewed the equation further in favour of hybrids," HSBC said in the note.

#### **For how long is this situation expected to hold?**

EV and hybrid emissions could converge after 7-10 years, according to estimates made by the HSBC analysis.

The non-fossil share of power generation in India in FY23 was 26%, and the blended Indian power generation emission was 716g/kWh. According to the note, total emissions from hybrid cars and EVs will converge if non-fossil power generation in India moves up to 44%. By 2030, even if India's share of non-fossil fuels is 40%, hybrids will still release 8% less emissions than EVs, which, however, will be half of the 16% of today, the note said.

Analysts at HSBC Research who authored the note did not respond to a request for comment.

#### **How is the overall global push for BEVs faring?**

There are a few speed bumps on the way to rapid adoption of battery electrics at scale.

UPFRONT SUBSIDY: The experience in markets from Norway to the US and China shows that the electric push works only if it is backed by state subsidies.



An elaborate system of incentives is central to Norway's EV policy, which has fostered the world's most advanced EV market. So, the government waives the high taxes it imposes on sales of non-electrics; it lets electric cars run in bus lanes; toll roads are free for electric vehicles; and parking lots offer a free charge.

The problem with this kind of overt subsidisation of EVs, especially in developing countries like India, is that much of the subsidy, especially the one offered as tax breaks for cars, ends up in the hands of the middle or upper middle classes, who are typically the buyers of battery electric four-wheelers.

**CHARGING NETWORK:** An analysis by the World Bank has found that investing in charging infrastructure is between four and seven times more effective in ensuring EV adoption compared with providing upfront purchase subsidies.

Both Norway and China, while offering purchase subsidies, have seen faster adoption of EVs also as a result of sustained efforts at expanding the public charging infrastructure. China, the leader in the number of publicly available chargers, accounts for 85% of global fast chargers and 55% slow chargers.

The situation in India is very different from these countries. While the number of EVs had crossed 1 million by mid-2022 and will likely grow to 45-50 million by 2030, only about 2,000 public charging stations are currently operational across the country.

Also, as a report by KPMG ('Electric vehicle charging — the next big opportunity') pointed out, India faces a unique challenge in building charging infrastructure because the vehicle mix in the country is dominated by two- and three-wheelers.

Given that cars and these smaller vehicles have different charging requirements — two- and three-wheelers have small, low-voltage batteries for which normal AC power charging is adequate, while four-wheelers have varying battery sizes and use different charging standards — the charging network strategy has to be tweaked.

**ELECTRICITY SOURCE:** In several countries that have pushed EVs, much of the electricity is generated from renewables — Norway, for example, has 99% hydroelectric power. In India, the grid is still fed largely by coal-fired thermal plants.

Therefore, unless the generation mix changes significantly, India would be using fossil fuel generation to power EVs. Theoretically, this would mean reduced tailpipe emissions in the cities, but continuing pollution from the running of the thermal plant. There is the advantage of substitution of oil imports, though.

**VALUE CHAIN:** As India struggles to make inroads into the global lithium value chain, there is discussion on the need to diversify the country's dependency on Li-ion batteries in the EV mix. The demand for Li-ion batteries from India is projected to grow at a CAGR of more than 30% by volume up to 2030, which translates to more than 50,000 tonnes of lithium requirement for the country to manufacture EV batteries alone.

However, more than 90% of the global Li production is concentrated in Chile, Argentina, and Bolivia, alongside Australia and China, and other key inputs such as cobalt and nickel are mined in the Congo and Indonesia. India would, therefore, be almost entirely dependent on imports from a small pool of countries to cater to its demand. While other options to Li-ion are being explored, viability remains a key factor.



## IMPROVING BATTERY TECHNOLOGIES FOR SPEEDY EV ADOPTION

Last year was a good year for Electric Vehicles (EV) in India with sales recording a 50% growth compared to 2022. While actual volumes remain small (6% of vehicles registered in 2023), the industry is poised for phenomenal growth with the Indian EV market expected to reach \$100 billion by 2030. The heart of an EV is its battery — with the battery system accounting for 40% of the vehicle cost. The projected growth of the EV market is dependent on advances in battery technology translating to better economics and enhanced user experience (longer range, faster charging and improved safety).

### The lithium battery

Almost all EVs on the road today are powered by lithium-ion batteries. It consists of two electrodes (an anode and a cathode) separated by a liquid electrolyte. Lithium atoms in the anode give up electrons which travel to the cathode through an external wire — this stream of electrons provide the current which powers the motor of the vehicle. Simultaneously, lithium ions (now positively charged from loss of an electron) travel through the electrolyte to reach the cathode. During charging, the process is reversed with lithium ions being forced to travel back through the electrolyte to the anode.

There is a good reason why lithium is the material of choice for EV batteries. Lithium, the lightest solid element known to man, has a high propensity to give up its electron. Its small size enables the lithium ion to efficiently travel between electrodes through the electrolyte. This translates to lighter and smaller batteries with an ability to store large amounts of energy. However, today's Li-ion batteries still leave a lot to be desired. Its energy density while high compared to earlier battery technologies, pales in comparison to petrol. Batteries are still slow to charge (compared to the few minutes it takes to fill petrol at a pump). There is a need to make batteries more affordable and increase their life-span. And then there are environmental concerns primarily related to the mining of lithium and other elements (such as cobalt, nickel).

### On improving the battery

The efforts toward improving the EV battery can be broadly classified into three approaches. The first approach retains the basic structure of the lithium-ion battery while making tweaks to the electrodes. An ideal electrode should be light weight; store a lot of lithium; provide sufficient pathways for lithium to easily enter and exit the electrode (=> higher voltages and faster charging); and be made of materials that are cheap, non-toxic and easily available. But invariably there are trade-offs involved. For example, Tesla uses cathodes based on Nickel-Manganese-Cobalt (NMC) and Lithium Iron Phosphate (LFP) in their batteries. While NMC batteries have high energy density and thus provide longer range, LFP batteries have longer life, better stability, are less toxic and have faster charging times.

Another approach to improving battery performance involves deploying sensing and control infrastructure around the battery to increase safety, extend battery life and speed-up charging. For instance, a temperature sensor can be installed to detect dangerous conditions and shut down the battery, preventing a fire. Monitoring parameters such as internal temperature, voltage and current and appropriately modulating the charging current and voltage can result in faster charging while maintaining battery life. This can be understood using a simple analogy. Charging a battery involves moving lithium ions from the cathode to the anode. This is akin to moving a bunch of kids from one classroom to another through a common door. Left to themselves the kids



are likely to jump across benches and rush to the door — potentially damaging furniture, resulting in crowding around the door and slowing down movement. A couple of monitors to control the kids can result in faster movement with lesser damage. A Battery Management System (BMS) consists of sensors to measure parameters such as temperature, voltage and current; electronic circuitry to control the battery; and a compute engine to process the sensor data and issue appropriate control commands. Advances in battery management and charging algorithms are generally easier to deploy since they do not involve any fundamental changes to the battery chemistry.

### Paradigm shifts

There is considerable effort being invested in approaches that promise quantum jumps in battery performance. One such approach is the Solid-State Lithium Battery (SSB), which seeks to fix two common drawbacks in prevalent batteries. The liquid electrolyte used in EV batteries is highly flammable. The SSB replaces this with a heat resistant lightweight solid electrolyte. Further, the anode of an EV battery consists of a carbon based porous/layered scaffolding (typically graphite) — which houses lithium atoms (a crude analogy is water stored in a sponge). The carbon scaffolding provides the required stability during charging and discharging, as lithium is reactive. However, the solid electrolyte in an SSB provides sufficient structural stability and good separation between the anode and the cathode, that the carbon scaffolding is no longer needed at the anode. This can significantly reduce the weight of battery and also improve charging speed. If SSB's live up to their promise, consumers can expect EVs that travel further with a single charge, are faster to charge and are safer across a wider range of temperatures, sometime before the end of this decade.

India has a good eco-system that can support further progress in EV batteries — an expanding market, an environment that supports start-ups, friendly government policies, and successful home-grown EV companies (Ather, Ola Electric). Further, fundamental research in material science at India's premier universities (IIT- Madras and Mumbai) and government research labs promotes innovation. The semiconductor industry in India (Texas instruments included) is also contributing advanced sensors and processors that will power the next generation of BMS. So, if you are an entrepreneur looking for a next start-up idea, or student/researcher looking for an area of specialisation, battery technology is something that you could consider.

### EXPRESS VIEW ON GOVERNMENT AND NON-UREA FERTILISERS: PRICE OF PRICE DISTORTION

The Centre's fertiliser subsidy bill has more than trebled from Rs 81,124 crore to Rs 2,51,339 crore between 2019-20 and 2022-23. Even the current fiscal's budget estimate of Rs 1,75,100 crore is likely to be overshoot in the final numbers. Not for nothing that the Narendra Modi government wants to derive maximum mileage, political as much as economic, from this humongous spend.

Since November 2022, all subsidised fertilisers are being marketed under a common Bharat brand, with companies having to print this (along with the Prime Minister's One Nation One Fertiliser scheme's logo) on two-third space of every bag and leaving only the balance one-third for their own name, logo and other product information. Now, the Modi government has capped the profit margins companies can earn from sales of di-ammonium phosphate (DAP), muriate of potash (MOP) and other subsidised non-urea fertilisers. The maximum retail prices (MRP) of these fertilisers cannot be more than 8-12 per cent higher than their total cost of sales.





The government's argument would be that when so much of taxpayer money is being spent on fertiliser subsidy, the benefits should also accrue to farmers. One way to ensure this is by making companies reveal their actual cost of production/imports, distribution and other expenses. Based on this self-assessed and duly audited cost data, they will be allowed to set MRPs that generate "reasonable" profit. Any unreasonable profit, in excess of 8-12 per cent, will have to be refunded with interest and adjusted against future subsidy payments.

In short, the current detailed cost monitoring and price control regime in urea will henceforth be extended to all other subsidised fertilisers. While urea is a controlled fertiliser — its MRP is fixed by the government — the likes of DAP, MOP and complexes (with varying nitrogen, phosphorus, potash and sulphur content) will also practically cease to be "decontrolled" fertilisers.

The flip side to the Modi government's move is that it takes the fertiliser industry back to the full-control era before the introduction of the nutrient-based subsidy (NBS) system in April 2010. Fertilisers are basically food for crops. NBS was supposed to foster product innovation, with newer and better fertilisers providing more balanced nutrition. That dream didn't materialise, as urea was excluded from NBS; its fixed MRP led to over-application, worsening nutrient imbalance and declining crop yield response. Farmer interest is better served by freeing up MRPs, encouraging balanced nutrient use and fertiliser products customised to different crop and soil-type requirements. The Rs 1,00,000-1,50,000 crore annual fertiliser subsidy can be converted into a direct income support scheme, be it on a per-farmer or per-hectare basis. Either way — India has about 10 crore farmers and 14 crore hectares net sown area — the benefits would be more than from distorted nutrient pricing.



# DreamIAS



LIFE & SCIENCE

AROUND 28% OF AMERICANS HAVE NO RELIGIOUS AFFILIATION: WHAT THEIR REASONS ARE, WHO THIS GROUP IS

Reflecting the trend witnessed in recent decades, a survey from Pew Research Centre has found that the number of Americans who do not identify with any religion has now increased to 28 per cent.

“As recently as the early 1990s, about 90% of U.S. adults identified as Christians,” according to an earlier Pew report, showing a shift within a relatively short period.

The new survey (‘Religious ‘Nones’ in America: Who They Are and What They Believe’) talks more about the profile of “nones” – people who say “none” when asked about their religious affiliation. It includes atheists (who do not believe in the existence of God), agnostics (who are sceptical of the existence of God) or those who believe in “nothing in particular”.

**What Pew’s report says – who are the “nones” in the US?**

**Pew’s January 24 report notes that the percentage of people identifying as “nones” has been increasing. Here’s what the report says about the group:**

On their belief in God: Among nones, 17% of people identify as atheists, 20% as agnostic and 63% say they believe in “nothing in particular.”

“Overall, 19% of religious “nones” are strict nonbelievers who don’t believe in God or any higher power, don’t believe humans have souls, don’t think there’s anything beyond the natural world, don’t think there’s a heaven and don’t believe in hell.” But the rest of the nones do have some kind of supernatural belief. Also, “About half say spirituality is very important in their lives or say they think of themselves as spiritual.”

On the reason for views on religion: According to Pew, “Overall, 43% of “nones” say religion does more harm than good in society, while 14% say it does more good than harm; 41% say religion does equal amounts of good and harm.”

The three most common reasons for the nones’ lack of identification with religion come from their questioning of religious teachings (60%), dislike for religious organisations (47%) and because they do not see a need for religion in their lives (41%). Also, many of the nones believe that science does more good than harm in American society, and are more likely to hold such views when compared to religiously affiliated people.

On Education, Race and Gender: Among nones, those who do not particularly believe in any supernatural power are likely to be less educated compared to religious Americans. But overall, atheists and agnostics have attained higher education levels compared to religious groups.

Adults make up larger shares of atheists (77%) and agnostics (69%) than of people whose religion is “nothing in particular” (57%). In general, the racial breakdown of nones is broadly similar to the racial breakdown of Americans who identify with a religion, the report says.

Also, 69% of nones are under the age of 50, while 45% of US adults who identify with a religion are under 50. Nones overall are roughly split between men (51%) and women (47%). The



populations of atheists and agnostics include far more men than women. More women are part of the “nothing in particular” group.

#### **So is the growing number of “nones” good or bad?**

While nones have flagged their criticisms of religion, the role it plays in organising individuals as a community and in involving people in acts of public service is still significant. The Pew survey found that religious “nones” are, on average, less civically and politically engaged than people who identify with a religion. Those identifying with “nothing in particular” see more pronounced differences on the matter than other nones.

Further, it is difficult to say so far what is driving these trends. Some scholars have said in the past that growing industrialisation and globalisation across the world have given rise to individualism. Or, as the respondents of this survey say, the factors responsible are their distrust in traditional, organised religion, even as they maintain some belief in spirituality.

#### **WATCH THIS SPACE: MARS HAS AN INJURED HELICOPTER WHERE IT ONCE HAD A LAKE**

As humans, we do not always get to choose who or, indeed, what we form an emotional connection with. Perhaps that is why hearing the news of NASA’s Ingenuity Mars Helicopter’s mission ending feels a little like hearing about a beloved celebrity passing away.

Ingenuity is not exactly Mathew Perry in terms of its popularity, but you cannot deny its contributions to humanity’s spaceflight ambitions. It hitched a ride to Mars inside the belly of the Perseverance Rover and landed there on February 18, 2021. Its first flight happened on April 19 that year, making history as the first time-powered controlled flight has been achieved on a world that is not the Earth.

It was originally designed as a technology demonstration that would perform up to five experimental flights over a period of 30 days. At the time, achieving that much would have been a massive accomplishment. But nearly three years later, the rotorcraft continued to perform a total of 72 flights, and it flew more than 14 times farther than planned and logged a total of two hours of flight time. All this while, it was acting as an aerial scout for the Perseverance rover. Perhaps, that would have been a better name for the helicopter.

But all things, good or bad, have to come to an end. The Ingenuity team at NASA was planning to make a short vertical hop on January 18 to determine its exact location after a previous flight ended in an emergency landing. Telemetry data from the helicopter showed that it achieved its maximum altitude of 12 metres and hovered there for 4.5 seconds before it started coming down at a speed of about one metre per second.

But just when it was about a metre above the surface, it lost contact with Perseverance. And since the rover acts as a relay between the helicopter and Earth, it meant that mission controllers lost communications with Ingenuity. They got back in touch the very next day, and more information about the flight was relayed back to controllers on Earth.

But images of the helicopter taken by Perseverance showed that one of its rotor blades took damage while landing and is no longer capable of flight. NASA is still investigating the cause of the communications dropout and the helicopter’s orientation at the time of touchdown. But the agency does confirm one thing — Ingenuity’s mission on Mars is over.



Not too far from what is most probably Ingenuity's final resting place, the Perseverance rover continues its job. What is its job, you may ask? Well, one of its key "responsibilities" is to look for signs of life in the red planet's past and, indeed, present.

A team of researchers led by UCLA and the University of Oslo on Friday published an article in the journal Science Advances where they confirmed the presence of an ancient lake in the Jezero crater where both the rover and the helicopter are. The research shows that at some point, the crater filled with water and deposited layers of sediments on the floor. This lake may have then shrank, and the sediments that carried the river that fed it would have formed an enormous delta. The lake's dissipation over time would have been accompanied by the erosion of sediments in the crater, and that would have formed the geologic features visible on the surface.

The scientists were able to glean all of this with data from Perseverance's ground-penetrating radar, which revealed aeons of environmental changes. The rover is also collecting rock and soil samples that NASA hopes to return to Earth during a future mission. The confirmation of lake sediments on the planet gives hope that these samples could hold traces of life.

### ASTRONOMERS SPOT UNUSUAL OBJECT THAT FALLS WITHIN THE BLACK HOLE 'MASS GAP'

The mass of a 'dark' companion in the NGC 1851E system is between the heaviest possible neutron stars and the possible lightest black holes. The nature and formation of objects in this gap is an outstanding question in astrophysics; the heaviest neutron stars, are thought to be around 2.2 solar masses, and the lightest black holes around 5

Sometimes astronomers come across objects in the sky that we can't easily explain. In our new research, published in Science, we report such a discovery, which is likely to spark discussion and speculation.

Neutron stars are some of the densest objects in the universe. As compact as an atomic nucleus, yet as large as a city, they push the limits of our understanding of extreme matter. The heavier a neutron star is, the more likely it is to eventually collapse to become something even denser: a black hole.

These astrophysical objects are so dense, and their gravitational pulls so strong, that their cores — whatever they may be — are permanently shrouded from the universe by event horizons: surfaces of perfect darkness from which light cannot escape.

If we are to ever understand the physics at the tipping point between neutron stars and black holes, we must find objects at this boundary. In particular, we must find objects for which we can make precise measurements over long periods of time. And that's precisely what we've found — an object that is neither obviously a neutron star nor a black hole.

It was when looking deep in the star cluster NGC 1851 that we spotted what appears to be a pair of stars offering a new view into the extremes of matter in the universe. The system is composed of a millisecond pulsar, a type of rapidly spinning neutron star that sweeps beams of radio light across the cosmos as it spins, and a massive, hidden object of unknown nature.

The massive object is dark, meaning it is invisible at all frequencies of light — from the radio to the optical, X-ray and gamma-ray bands. In other circumstances this would make it impossible to study, but it is here that the millisecond pulsar comes to our aid.



Millisecond pulsars are akin to cosmic atomic clocks. Their spins are incredibly stable and can be precisely measured by detecting the regular radio pulse they create. Although intrinsically stable, the observed spin changes when the pulsar is in motion or when its signal is affected by a strong gravitational field. By observing these changes we can measure the properties of bodies in orbits with pulsars.

Our international team of astronomers has been using the MeerKAT radio telescope in South Africa to conduct such observations of the system, referred to as NGC 1851E.

These allowed us to precisely detail the orbits of the two objects, showing that their point of closest approach changes with time. Such changes are described by Einstein's theory of relativity and the speed of a change tells us about the combined mass of the bodies in the system.

Our observations revealed that the NGC 1851E system weighs almost four times as much as our Sun, and that the dark companion was, like the pulsar, a compact object — much denser than a normal star. The most massive neutron stars weigh in at around two solar masses, so if this were a double neutron star system (systems that are well known and studied) then it would have to contain two of the heaviest neutron stars ever found.

To uncover the nature of the companion, we would need to understand how the mass in the system was distributed between the stars. Again using Einstein's general relativity, we could model the system in detail, finding the mass of the companion to lie between 2.09 and 2.71 times the mass of the Sun.

The companion's mass falls within the "black hole mass gap" that lies between heaviest possible neutron stars, thought to be around 2.2 solar masses, and the lightest black holes that can be formed from stellar collapse, around 5 solar masses. The nature and formation of objects in this gap is an outstanding question in astrophysics.

#### **Possible candidates**

##### **So what exactly have we found then?**

An enticing possibility is that we have uncovered a pulsar in orbit around the remains of a merger (collision) of two neutron stars. Such an unusual configuration is made possible by the dense packing of stars in NGC 1851.

In this crowded stellar dance floor, stars will twirl around one another, swapping partners in an endless waltz. If two neutron stars happen to be thrown too close together, their dance will come to a cataclysmic end.

The black hole created by their collision, which can be much lighter than those created from collapsing stars, is then free to wander the cluster until it finds another pair of dancers in the waltz and, rather rudely, insert itself — kicking out the lighter partner in the process. It is this mechanism of collisions and exchanges that could give rise to the system we observe today.

We are not done with this system yet. Work is already ongoing to conclusively identify the true nature of the companion and reveal whether we have discovered the lightest black hole or the most massive neutron star — or perhaps neither. At the boundary between neutron stars and black holes there is always the possibility that some new, as yet unknown, astrophysical object might exist.



Much speculation will be sure to follow this discovery, but what is already clear is that this system holds immense promise when it comes to understanding what really happens to matter in the most extreme environments in the universe.

#### EXPLAINED: WHY A 'NEW' PYRAMID IN EGYPT IS TRIGGERING EXCITEMENT WORLDWIDE

The Egyptian Ministry of Antiquities recently opened the “Bent” Pyramid to visitors for the first time since 1965. Located 40 km to the south of Cairo in the Dahshur royal necropolis, the pyramid is part of the Memphis Pyramid Fields, a UNESCO World Heritage Site.

The 101-metre-tall Bent Pyramid was built for the pharaoh Sneferu in ancient Egypt around 4600 years ago. It is considered to be an important milestone in pyramid construction. A satellite pyramid of 18 metres height, presumably built for Sneferu’s consort Hetepheres, has also been opened for the first time since 1956 when it was first excavated.

Egyptian Minister of Antiquities Al Anani said the pyramids were opened after the completion of major development and renovation works.

#### The Bent Pyramid

The Bent is one among the three pyramids built for the pharaoh Sneferu (25th century BCE), the founder of the Fourth Dynasty in ancient Egypt.

While building the pyramid, the first 49 metres were built at a 54-degree angle. However, a fault in its stability caused the pyramid’s angle to shift from 54 degrees to 43, prompting architects to taper the sides towards the top, giving the pyramid its ‘bent’ shape.

Its angular shape distinguishes the Bent Pyramid from other pyramids in the Memphis necropolis.

Visitors can now enter the pyramid by descending from the structure’s northern face through a narrow tunnel of 79 metres length and would be able to see two chambers in the 4 millennia old construction.

#### Other new finds

The ministry also announced that archaeologists had discovered the remains of a 60-metre-high ancient wall dating to the Middle Kingdom (1938–C. 1630 BCE) while excavating near the Dahshur pyramids.

Mummies, masks, tools and coffins of the Late Period (664–332 BCE) were also discovered during the ongoing excavations.

#### Heritage tourism in Egypt

According to a report by the World Travel & Tourism Council (WTTC), the tourism sector made up nearly 12% of Egypt’s GDP in 2018. The ancient pyramids at Giza and Saqqara are sites of chief interest among foreign visitors.

The tourism sector in Egypt was severely hit after an uprising in 2011 which led to the ouster of autocrat Hosni Mubarak. The promotion of new archaeological sites such as those as Dahshur is part of an effort to recover the lost market.

**EXPRESS VIEW ON MARK ZUCKERBERG'S APOLOGY TO PARENTS: SORRY IS NOT ENOUGH**

In his eighth appearance before the US Congress, Mark Zuckerberg — CEO of Meta, the parent company of Facebook, Instagram and WhatsApp — finally said sorry. Turning to the gallery filled with parents of children who had faced abuse on and through social media — some even committed suicide — Zuckerberg said: “No-one should have to go through the things that your families have suffered.” An apology is never wasted. In this case, though, it is far from enough. Earlier this week, the CEOs of Meta, TikTok, Snapchat and Discord appeared before a bipartisan committee of the US Senate to answer for how these platforms are used by predators against children. The issue, however, does not concern the US alone but parents, policy-makers and society, including and especially in India.

Between 2021 and 2023, at least two whistleblowers — Frances Haugen and Arturo Bejar — revealed that Meta has long been aware of the fact that its products cause harm to children and young people. An investigation by The Guardian in 2023 found in Meta's internal documents that 1 lakh minors, a majority of them female, face some form of harassment on its platforms every day. Platforms and apps are used by predators to “groom” minors and as a tool for human trafficking.

Two companion Amnesty International reports published in 2023 highlighted “the abuses experienced by children and young people using TikTok, and how these abuses are caused by TikTok's recommender system and the underlying business model”. Time and again, studies, reports and leaked documents have shown that social media platforms, reliant as they are on “engagement” and “attention”, have not done enough to address the harms caused by their amoral algorithms.

India has over 600 million smartphone users, and teenagers are among the fastest-growing segments within this category. These figures, along with data from the

National Crime Records Bureau (NCRB), present a chilling picture of the potential scale of minor abuse. According to the NCRB, about 28 per cent of the entire minor population has faced some form of sexual abuse, but many victims do not come forward to register a complaint. Despite this, in 2022 alone, 38,911 child rape and nearly 3,500 cases of sexual exploitation online were reported. Given these figures, it would be naïve at best and negligent at worst for social media platforms not to hold themselves to account.

India, despite being the largest market for Meta, has fewer content moderators — both proportionally and in absolute numbers — than the US or Europe. This must be addressed. It is also important to have mass awareness and education campaigns on safe and responsible smartphone use for parents and children, in schools and beyond, especially in non-metro towns and villages. Law enforcement too needs the requisite resources and training to deal with crimes online — even as the police finds its feet on social media misuse, AI-created deepfakes are becoming increasingly common. The Big Tech bosses in Silicon Valley have often used the excuse that their products are “platforms, not publishers” to escape accountability for their misuse. That argument is increasingly wearing thin.



## CRUSADER FOR AI REGULATION

In a year when rapid developments in artificial intelligence dominated headlines, an 18-year-old activist made it to the list of Time magazine's list of 100 most influential people. She calls for a "human-centered" approach to AI.

Sneha Revanur, an Indian American, became an active participant in shaping AI policy when she founded Encode Justice, a civil society group. In her blog, Ms. Revanur describes the group as a "youth-powered organisation leading a global movement for human rights and justice under AI through political advocacy, community organising, educational programming, and content creation".

The group has close to 900 active members across 30 countries and draws inspiration from earlier youth-led climate and gun-control movements. Every member of the group is either in high school or college. Ms. Renavur is advocating for the active participation of Gen Z, typically those born between 1997 and 2012, in the formation of a legal framework to regulate AI.

Her efforts have resulted in her being invited to attend a roundtable discussion on AI hosted by U.S. Vice President Kamala Harris. She is also involved in a project released by the White House Office of Science and Technology Policy (OSTP) in 2022. Her role in the project involved advising the OSTP on crafting a framework for AI.

Though a mere blueprint and not enforceable, the framework, released in 2023, became one of the first frameworks aimed at regulating the use and development of AI.

Seen as the Greta Thunberg of AI, Ms. Revanur's journey began at a young age. She once said her upbringing in Silicon Valley and her family background and association with the tech world helped shape her convictions and the formation of Encode Justice. Ms. Revanur's older sister works in tech and both her parents are software engineers.

## EXPRESS VIEW ON NEURALINK HUMAN TRIALS: MIND AND MATTER

With Neuralink, as with so many of Elon Musk's ventures, it is important to separate science from speculation, product development from wishful thinking. Musk announced on X (formerly Twitter) on January 30 that "The first human received an implant from @Neuralink yesterday and is recovering well. Initial results show promising neuron spike detection." Given that Neuralink had received approval from the US Food & Drug Administration in September last year, the announcement was somewhat expected. Last year, there was controversy over the company's disclosures, which led to investigations into dead study animals and the transportation of hazardous materials. The surgery, however, marks an important milestone — the beginning of human-computer interfaces that can possibly address physical and cognitive limitations and disabilities. Moving forward, who controls the technology and how it is distributed will be important in determining its impact.

Neuralink is building on work done by laboratories and companies that came before it — the first Brain-Computer Interface (BCI) dates back to the 1970s. The wireless device implanted by Neuralink contains a chip and arrays of electrodes, which are meant to register thoughts related to movement. Eventually, if successful, the device should enable people with disabilities to move a cursor or type just by thinking about it. The initial users are likely to be people who have lost their limbs. But as with SpaceX and Tesla, the claims made by Musk around Neuralink's BCI make





it seem like the science fiction future is now. Musk envisions a future where Neuralink's brain implants seamlessly merge with cognitive functions, offering a direct interface between the human mind and computers. Whether or not this comes to pass, it is important to approach the technological frontier with a discerning eye.

The first concern is around privacy. Who will control the data extracted from brains, and how can it be ensured that it is not exploited for nefarious purposes? As with AI, regulation must go hand-in-hand with the development of BCIs. Second, the development of significant medical technologies must not end up being a monopoly — publicly-funded research can help minimise the cost to the end user, who need not be only a customer who can afford the prohibitive cost of cutting-edge interventions. The Oxford Astra-Zeneca Covid vaccine, for example, was developed with public funds from multiple countries, and arguably reached far more people than its private-sector counterparts. Finally, if and when the technology gets closer to mass use, a dialogue involving experts, ethicists, and the public is essential to guard against its misuse, or even enthusiastic over-use. BCIs represent a potential paradigm shift in the relationship between people and technology. Its pitfalls, though, must be avoided.

### SCIENTISTS FUSE BRAIN-LIKE TISSUE WITH ELECTRONICS TO MAKE COMPUTER

Scientists have fused brain-like tissue with electronics to make an 'organoid neural network' that can recognise voices and solve a complex mathematical problem. Their invention extends neuromorphic computing — the practice of modelling computers after the human brain — to a new level by directly including brain tissue in a computer.

The system was developed by a team of researchers from Indiana University, Bloomington; the University of Cincinnati and Cincinnati Children's Hospital Medical Centre, Cincinnati; and the University of Florida, Gainesville. Their findings were published on December 11.

The study marks a significant advance in multiple areas of science and engineering. "It opens possibilities at the intersection of tissue engineering, electrophysiology, and neural computation," Thomas Hartung, a professor at Johns Hopkins University, in the U.S., said.

The work comes against the backdrop of the staggering rise of artificial intelligence (AI), itself founded on the development of artificial neural networks — brain-like networks of neurons except they're made with silicon chips — that can process large datasets that conventional computers struggle with.

#### **Separating memory and processing**

The hardware on which these neural networks run has a problem, however: the memory units and the data processing units are separate. When a neural network operates, the network will have to access the data in the memory unit, bring it over to the processing unit, and work on it — and it needs to do this many times over. If the problem is more complex, the time and energy demands increase further because the system will have to go back and forth between these units even more.

Scientists have tried to build more efficient neuromorphic chips that include some short-term memory, so they can avoid going back and forth just a bit. These chips have been used for applications like computer vision and speech recognition. But they can "only partially mimic brain functions, and there is a need to improve their processing capability and accounting for real-life



uncertainty and improving energy efficiency,” the authors of the new paper, published in Nature Electronics, wrote.

So scientists are now considering using a biological neural network: a network of live brain cells. As the authors described in the paper, the brain spends only 20 W to do the same amount of work that AI hardware would use about 8 MW to drive artificial neural networks made of silicon chips. This difference by a factor of 400,000 is because, unlike AI hardware, brain cells store memory and process data without physically separating the two.

#### **An ‘organoid neural network’**

This new area of research, called biocomputing, uses biological components to perform computational processes. Last year, for example, a group of researchers from Australia cultured brain cells and trained them to play pong (a table-tennis-like videogame), in the process demonstrating the initial steps of long-term training. Their paper was published in the journal Neuron.

In the new study, the U.S. researchers used actual brain organoids to make an ‘organoid neural network’ and tested it to recognise speech and solve a complex mathematical problem.

Brain organoids are three-dimensional aggregates of brain cells. The scientists made them by extracting human pluripotent stem cells, which are cells that can develop to become almost any kind of cell within the human body, and made them into brain cells. Brain organoids that are aggregates of such cells have a mix of the different types of cells in the brain. In this case, they were neuron progenitor cells, early-stage neurons, mature neurons, and astrocytes (cells that maintain and protect neurons).

Brainware-like systems also confront us with ethical concerns. For example, Julian Kinderlerer, an emeritus professor at Delft University of Technology, the Netherlands, asked in a March 2023 article whether an organoid would have the same dignity as the donor of its cells. He also considered whether it would be fair to “use organoids in a mechanistic way without ... being aware of their state of consciousness”.

Dr. Hartung nonetheless described the study as an “innovative and exciting proof-of-concept study of organoid intelligence, showing that brain organoids could be harnessed for adaptive reservoir computing.”

#### **‘HP TO OFFER AI PCS IN INDIA BY MID 2024, WILL TRANSFORM MARKET’**

AI PCs would be game changers in the personal computing space, and Hewlett-Packard (HP) is currently working closely with its silicon and software partners and other ecosystem players globally to redesign personal computers (PCs) architecture for AI compatibility, the company said.

“In mid calendar 2024, we will launch our first artificial intelligence (AI)-capable PCs that will enable users to run large language models (LLMs) locally, eliminating the need to upload private data to a cloud-based processor, minimising processing latency, and decreasing the cost of AI processing,” said Ipsita Dasgupta, MD and Senior VP for India, Bangladesh and Sri Lanka at HP.

Ms. Dasgupta claimed AI PCs would transform user experience by simplifying tasks and enhancing usability for various aspects of life and work. For instance, AI PCs will enable game developers automate tasks, designers iterate on sketches, data scientists benefit from faster data processing



and overall these devices would help optimise workflows, improve productivity, and capabilities for a wide range of professionals.

She said Generative AI had been working in the background for some years now. With AI PC, “it will be truly like having a trusted personal companion who will carry out a lot of mundane tasks, that still require time and smartness to accomplish, and therefore the users of AI PC can focus on core activities and enhance their output with better efficiency and timing,” Ms. Dasgupta added.

Commenting on India’s PC market Ms. Dasgupta said, “After two years of strong growth in the COVID years, we saw a softening in demand in 2023. However, it was higher than 50% of pre-COVID levels.”

On average, PC makers led by HP, Dell, Lenovo and Acer sell 16-20 million units a year in India. As per International Data Corporation, a U.S.-based PC market tracker, India’s PC sales in third quarter CY 2023 was 4.5 million.

## WHAT IS END-TO-END ENCRYPTION AND HOW DOES IT SECURE INFORMATION?

Information is wealth, and an important way to protect it is encryption. End-to-end (E2E) encryption in particular protects information in a way that has transformed human rights organisations’, law-enforcement agencies’, and tech companies’ outlook on their ability to access information about individuals to protect, prosecute or profit from their engagement, as the case may be.

### What is encryption?

Fundamentally, encryption is the act of changing some consumable information into an inconsumable form based on some rules. There are different kinds of such rules. For example, the Data Encryption Standard (DES), plus some settings, encrypts the words “ice cream” to AdNgzrrtxcpeUzzAdN7dwA== with the key “kite”. If the key is, say, “motorcycle” instead, the encrypted text becomes 8nR+8aZxL89fAwru/+VyXw==.

The key is some data using which a computer can ‘unlock’ (decrypt) some ‘locked’ (encrypted) text, knowing the set of rules used to ‘lock’ it.

Say I write down AdNgzrrtxcpeUzzAdN7dwA== on one piece of paper and “kite” on another piece of paper, crumple them both, and throw them at my friend across the room. Suddenly a man I didn’t notice in the middle of the room leaps up to snatch the piece of paper saying AdNgzrrtxcpeUzzAdN7dwA== and runs away with it. But since this fellow doesn’t know the key (“kite”), he won’t know what the piece of paper says.

This is how encryption protects digital information, digitally.

### What is E2E encryption?

E2E is encryption that refers to particular locations between which information moves. Say you are chatting with your friend on a messaging app. When you send a message, it first goes to a server maintained by the company that built the app; based on its instructions, the server routes the message to your friend. In this setup, two important forms of encryption are encryption-in-transit and E2E encryption.



Encryption-in-transit means before a message is relayed from the server to you (or vice versa), it is encrypted. This scheme is used to prevent an actor from being able to read the contents of the message by intercepting the relay. In E2E encryption, the message is encrypted both in transit and at rest — that is when being relayed from your phone to the server (or vice versa) and when it is sitting inside the server. It is only decrypted when your friend receives the message.

### How is information encrypted?

There are several ways to encrypt information depending on the level of secrecy and protection required. If some information is to remain encrypted for 100 years, a computer must require more than 100 years to decrypt it without the key.

One broad distinction is between symmetric and asymmetric encryption. In symmetric encryption, the key used to encrypt some information is also the key required to decrypt it. DES is a famous example of a symmetric encryption protocol. In a stronger version of DES, called Triple DES, the key a user provides is split into three parts. Let's say they are "mot", "orcy", and "cle". Then, the message — "ice cream" — is encrypted by the first part ("mot"); the result is decrypted by the second part ("orcy"); and its result is again encrypted by the third part ("cle"). The garbled text thus produced is then transmitted to the recipient along with the key. Symmetric encryption is useful when the sender and the recipient are the same person, for example when you encrypt the hard drive of your computer. The Advanced Encryption Standard (AES), which you might have noticed when setting your WiFi password, is also a symmetric encryption algorithm.

In asymmetric encryption, if the message "ice cream" is encrypted using the key "motorcycle", it can be decrypted using a different key that corresponds to "motorcycle" in a predetermined way. For example, say you and your friend agree that if you use the key "motorcycle" to encrypt the message, your friend will use the key "helmet" to decrypt it, and if you use "banana" to encrypt, your friend will use "pineapple" to decrypt. You and your friend go to a party and find yourself standing far from each other, and you wish to send them a message. So you encrypt "ice cream" with "banana" as the key, and you shout out the encrypted text to your friend along with the word "banana". Your friend now knows that they should decrypt the text using the key "pineapple" to reveal the underlying message. In this situation, using asymmetric encryption, you have been able to reveal the encryption key without compromising your or your friend's privacy. The key you shouted out is called the public key; the corresponding key you agreed your friend would use is called the private key.

Asymmetric encryption will work as long as the private key and the correspondence between the public key and the private key are kept secret. In advanced implementations of asymmetric encryption, this correspondence is 'stored' in the solution of a mathematical problem that even a computer would require a long time to solve. It is useful when the sender and the recipient are different. The level of protection it confers is greater the longer the key is.

There are different symmetric and asymmetric schemes that encrypt messages in different ways. For example, the messaging app WhatsApp uses the Curve25519 algorithm to create public keys for messages. Curve25519 uses the principles of elliptic-curve cryptography (ECC), which is based on some concepts in algebraic geometry. ECC's advantage is that it can provide the same level of security as an asymmetric encryption algorithm but with a shorter key.

### Can E2E encryption be 'cracked'?



Messaging apps with E2E encryption promise that even their parent companies won't be able to read messages sent and received by its users. However, the informational content of the messages can still be acquired in other ways.

A common example is the man-in-the-middle (MITM) attack. This is related to the example earlier of an unnoticed man in the middle of the room jumping up to intercept your message to your friend. In that instance, the man didn't have the key and couldn't decrypt the message. In an MITM attack, this man is the attacker and he has been able to acquire the key to decrypt the message, either by hacking your device to obtain the encryption key as well as the correspondence between the encryption and decryption keys or by hacking your friend's device to acquire the decryption keys. MITM attacks can be prevented by using and comparing fingerprints. Each fingerprint is some data that uniquely identifies a key. Users can compare the fingerprints of their public keys in a separate channel (that is different from the one susceptible to an MITM attack) to make sure an attacker doesn't intercept a message, modify it, re-encrypt it with a different key and send it to the recipient.

Another issue with E2E encryption is that it could induce complacency in a user who believes an attacker can't access, say, an image they're sending over a messaging app in any other way. Since the image may be stored on the sender's device, an attacker can hack the device to obtain it. Some potent malware can also 'snoop' on your messages by infiltrating your device via other means, an SMS, and reading them before they are encrypted.

Finally, the company that installs E2E encryption on its products can install a backdoor or an exception that allows the company to surmount the encryption and access the messages. Such a thing may be required by law, such as companies being expected to retain and, in the event of litigation, share that information with lawyers. Illegal use also abounds, of course, such as that exposed in the Edward Snowden affair in 2013. The whistle-blower revealed, for example, that Skype had installed a backdoor on its application that allowed it to access and make copies of the contents of messages to share with the U.S. National Security Agency even though the messages were E2E-encrypted.

If the goal is to surveil a user, an actor can do so if they can access the messages' metadata, that is data about the messages, such as when they were sent, to which user, how often at different times, from which location, etc., instead of the messages themselves.

## TEST TUBE RHINOS: WHY REBUILDING DOOMED SPECIES IS A DESPERATE RACE AGAINST TIME

The death of the last male in 2018 made the extinction of the northern white rhino an inevitability. But already in 2015, a group of 20 scientists from five continents had launched an audacious and expensive project to rebuild the subspecies through in vitro fertilisation (IVF).

Last week, the scientists announced the first-ever rhino pregnancy achieved by transferring a lab-made rhino embryo into a surrogate mother. It took 13 attempts for the breakthrough with a southern white rhino, a closely-related subspecies that branched away from the northern whites about a million years ago.

The international consortium of scientists, named BioRescue, is confident that the success can be replicated with 30 embryos of the northern white stored in liquid nitrogen. However, rebuilding a species is easier said than done.



### Process is the challenge

In 2009, four northern white rhinos were brought from a zoo in the Czech Republic to a conservancy in Kenya in the hope that they might breed in their natural environment. The two males — Suni and Sudan — have died since, and the two females — Najin and her daughter Fatu — turned out to be incapable of reproduction for pathological reasons. This meant surrogacy was the only option to produce a northern white calf through IVF.

Preparing a southern white female, the natural choice for a surrogate mother, is an elaborate process. The first step is to isolate her and put a protocol in place to guard against bacterial infections. The real challenge, though, is to spot when the animal is in oestrus — the fertile window for implanting the embryo.

This requires the services of a ‘teaser’ — a scrubbed and sterilised rhino bull to check when the designated surrogate mother gets interested. Mating also triggers an array of hormonal reactions that primes the female for the embryo implant, Thomas Hildebrandt of Berlin-based Leibniz-Institute of Zoo and Wildlife Research told National Geographic.

### Issue of genetic viability

In this case, since the embryos are all from eggs harvested from two females and sperm taken from a few deceased zoo males, even multiple successes with IVF and surrogacy cannot build a gene pool large enough for a viable northern white population.

One solution is to broaden the breeding pool by creating sperm and eggs from stem cells extracted from preserved tissue samples stored in zoos. The science has worked in lab mice, but it may not be easily replicable in rhinos.

Another optimistic argument is based on the natural resilience witnessed in the wild. Rampant hunting had resulted in the southern white rhino population crashing drastically in the 19th century when their numbers had possibly dropped to as low as 20. However, thanks to armed protection and multilateral conservation efforts, the subspecies has made a significant recovery since then, and now number more than 17,000.

But even favourable outcomes from experiments with stem cell techniques cannot stretch the northern white rhino gene pool beyond 12 animals, BioRescue project coordinator Jan Stejskal told The BBC. Crossbreeding the northern and southern subspecies is not a solution since this will result in the loss of certain unique attributes, such as hairier ears and feet, that make the northern white better adapted for swampy habitats.

### Being a northern white

Breakthroughs in IVF or stem cell technologies can in theory produce northern white rhino calves long after the species is extinct. However, babies are not born genetically hardwired to behave as one of the species. They pick up those traits from family and social interactions.

So the first batch of IVF northern white calves born to surrogate southern white mothers needs to be raised by northern white adults to learn to be northern whites and carry that legacy for the next batch of IVF calves and, if the species indeed survives, future generations.

That is why scientists consider it absolutely vital that the first IVF calves are born in time to learn the social and behavioural skills of northern whites from the last two surviving females in Kenya.



Najin is 35, and Fatu 24. Given that northern white rhinos rarely live beyond 40 in captivity, that window will be closing soon.

#### **Is it worth the money?**

The Biorescue consortium, which is led by the Leibniz Institute for Zoo and Wildlife Research (Leibniz-IZW), is funded by the German government and several other public and private donors. Millions of dollars have been spent on the project that aims to make “the seemingly impossible a reality”.

Questions have been asked on whether the project takes focus and resources away from other endangered species that could still be saved. Some critics have also questioned the purpose of rebuilding a northern white population without addressing the threats to its natural habitat, which may jeopardise its future in the wild all over again.

A victim of organised hunting for its horns, the northern white was officially declared extinct in the wild in 2008. In 2015, when Biosecure was launched, only three individuals survived in a Kenyan conservancy. The effort to rebuild the species was inspired by an obligation to try and undo the damage caused by the greed of humans.

One rhino is poached every 16 hours on average in Africa. While the southern whites form the largest surviving rhino species, there are fewer than 7,000 black rhinos in Africa, and only 4,000 one-horned rhinos in Asia.

Populations of the other two rhino species — the Javan and the Sumatran — are down to fewer than 100 each. But there may still be time to help them in the wild before test tubes become their future too.

### **HOW TO GROW SEAFOOD OUTSIDE THE SEA — AND WHY A GOVT LAB IN KOCHI HAS TAKEN UP THIS PROJECT**

Kochi-headquartered ICAR-Central Marine Fisheries Research Institute (CMFRI) has entered into a collaborative research agreement with a private-sector start-up offering cultivated meat technology solutions to grow fish meat in the laboratory.

The Memorandum of Understanding (MoU) signed by the institute, which works under the Union Ministry of Agriculture & Farmers’ Welfare, with New Delhi-based Neat Meatt Biotech is the first initiative of its kind in the country.

#### **What is lab-grown fish?**

It is merely a type of lab-grown — or cultivated/ cultured — meat. Seafood without the sea is ‘grown’ in the same way as other cultivated meats are grown — without the need to raise and kill an animal.

Cultivated fish meat is produced by isolating specific cells from fish and growing them in a laboratory setting using media that is free of animal components. The final product is expected to replicate the flavour, texture, and nutritional qualities of ‘real’ fish meat.

#### **What roles are CMFRI and Neat Meatt playing in this collaboration?**



According to the MoU signed by CMFRI Director Dr A Gopalakrishnan and Neat Meatt Biotech co-founder and CEO Dr Sandeep Sharma in Kochi last week, the institute will focus on the genetic, biochemical, and analytical work related to the project.

In its cell culture lab, CMFRI will carry out research on early cell line development of high-value marine fish species — a process that involves isolating and cultivating fish cells for further research and development. It will initially focus on developing cell-based meat of fish such as pomfret, kingfish, and seerfish.

Neat Meatt, with its expertise in cell culture technology, will lead the optimisation of cell growth media, development of scaffolds or microcarriers for cell attachment, and scaling up production through bioreactors. The company will also provide necessary consumables, manpower, and any additional equipment needed for the project, says the MoU.

#### **What is the need to grow fish meat in the lab?**

Experiments are ongoing in many countries on developing commercially viable lab grown fish meat, which is expected to address the ever growing demand for seafood, and reduce excessive pressure on wild resources. Overfishing — the removal of fish faster than the resource can replenish itself — has resulted in dramatic reductions in populations of certain species, which has impacted entire marine ecosystems in many areas.

In theory, lab grown fish meat has significant potential for ensuring food security and environmental benefits. Besides taking some load off traditional fishing, lab grown fish meat will be antibiotics- and environmental contamination-free, and will have no contact with microplastics or heavy metals in the polluted oceans.

#### **Which countries are growing fish meat in the lab?**

Large-scale commercial manufacture of lab-grown fish meat is probably still some years away, but a number of countries have made great strides in this pioneering technology. Israel is the frontrunner, followed by Singapore, the United States and China.

Earlier this month, Israel-based Forsea Foods successfully produced lab-grown freshwater eel meat, and hopes to be able to make this meat available in markets in the next couple of years. Last year, Israel's Steakholder Foods said that in association with Singapore-based Umami Meats, it had 3D printed the first ever ready-to-cook fish fillet using animal cells grown in a laboratory.

“This project aims to accelerate development in this field, ensuring India is not left behind in this emerging industry”, Dr Gopalakrishnan said of the CMFRI-Neat Meatt public private partnership.

“It marks a crucial step in bridging the gap between India and other nations like Singapore, Israel, and the USA, who are already advancing cultured seafood research... This collaboration leverages CMFRI's marine research expertise with Neat Meatt's technological know-how in this field, paving the way for a sustainable and secure future for seafood production in India,” he said.

Dr Sharma of Neat Meatt expressed confidence that the proof of concept of the project could be established within a couple of months.

#### **What other kinds of meat are being produced in labs?**





The Dutch pharmacologist Mark Post was the first to present a proof of concept for cultured meat in 2013. Several dozens of companies around the world are now reported to be working on developing lab-grown meat from cells, including chicken, pork, lamb, fish and beef.

According to the Good Food Institute, a global nonprofit think tank that also has an India chapter, the industry has “grown to more than 150 companies on 6 continents as of late 2022, backed by \$2.6 billion in investments... (and) dozens more companies have formed to create technology solutions along the value chain”.

In June 2023, the US Department of Agriculture cleared the sale of lab grown chicken meat in the country. Two California-based companies, Good Meat and Upside Foods, were granted permission to supply lab-grown chicken meat to restaurants and supermarkets.

#### CHROMOSOME STUDY REVEALS LOW GENETIC DIVERSITY OF ARABICA COFFEE

Commercial coffee is mainly produced from *Coffea canephora* and *Coffea arabica*, known as Robusta and Arabica coffee, respectively. Arabica coffee is derived from the hybridisation between the ancestors of present-day Robusta coffee and another closely related coffee species, *Coffea eugeniodes*.

##### **Complex genome**

This hybridisation resulted in Arabica's coffee flavour and its large and complex genome, which poses challenges for breeding and genetic studies. Several partial genome assemblies of Arabica coffee are currently available, but the mechanisms generating its genetic diversity are unclear.

Michele Morgante from the Istituto di Genomica Applicata, Udine, Italy, and others employed the latest sequencing technologies to generate a more complete genome assembly for Arabica coffee, allowing for a detailed analysis of the structure of its chromosomes. When analysing the genome, including previously inaccessible regions, such as those around centromeres, they found differences in the structure, function and evolution of the genomes contributed by its two progenitor species, especially for genes involved in caffeine biosynthesis.

The authors also analysed the genomes of 174 samples collected from different species within the *Coffea* genus and noticed a very low level of genetic diversity within Arabica coffee.

Diversity was found to increase in some Arabica coffee cultivars at specific genomic regions, due to two different sources of variation: chromosomal abnormalities and genetic segments donated by a Robusta-Arabica hybrid, known as the Timor Hybrid. This hybrid has become the parental line of many modern cultivars that combine the disease resistance trait of Robusta coffee and the unique flavour of Arabica coffee.

The authors suggest that the genetic diversity of Arabica coffee is essential for its commercial success, and the findings may help develop new coffee varieties with desirable traits, such as disease resistance or different flavour profiles.



## SILENT FLIGHT

### What enables owls to fly silently?

Owls' wings make no noise while flying, enabling them to accurately locate their prey while remaining undetected. While many studies have linked the micro-fringes in owl wings to their silent flight, the exact mechanisms have been unclear. Now, a team of researchers has uncovered the effects of these micro-fringes on the sound and aerodynamic performance of owl wings through computational fluid dynamic simulations. These trailing-edge fringes play a crucial role in suppressing the noise produced by wing flap-induced air movement. Simulations revealed that the trailing-edge fringes reduced the noise levels of owl wings and maintained aerodynamic performance comparable to owl wings without fringes. Researchers found that the fringes reduce the fluctuations in airflow by breaking up the trailing edge vortices, and they reduce the flow interactions between feathers at the wingtips, thereby suppressing the shedding of wingtip vortices. Synergistically, these mechanisms enhance the effects of trailing-edge fringes, improving aerodynamic force production and noise reduction.

## RAIN: HOW VAPOUR BECOMES WATER

### Q: Why does rain fall as drops and sheets?

A: Many windblown drops can be forced together to form what weather reporters call 'sheeting rain', but rain is always born as minuscule drops of condensed water vapour, according to the book *Clouds and Weather* by John A. Day and Vincent J. Schaefer.

The formation of these droplets depends on the right amount of water vapour at the right pressure and temperature, but it also requires the presence of tiny solid particles of matter in the air on which the water vapour can gather and condense.

These bits of dust and salt are called cloud condensation nuclei. Salt starts collecting vapour at about 80% relative humidity, while bits of clay begin to take on water molecules at 100% relative humidity.

As the water molecules slowly collect and condense on the particles, cloud droplets form. They are a million times the volume of the original particle but are still very tiny. It takes perhaps 3,000 droplets to form a small raindrop. The drops in a heavy shower are the size of around 6,000 droplets, according to *The New York Times*.

The droplets can grow into drops by several processes. First, they can slowly continue to attract vapour. Second, larger droplets fall faster than small ones and collide with them, sometimes joining into larger drops.

Finally, evaporating droplets may collect on ice crystals in clouds. The crystals may warm and melt into rain drops or they may grow 'branches' and fall as snowflakes.

## ACID RAIN HAS ITS ORIGINS IN FOSSIL FUELS

### WHAT IS IT?

Acid rain is rain that is acidic. When fossil fuels that contain sulphur are combusted, their emissions include sulphur dioxide (SO<sub>2</sub>). When such combustion happens at a higher



temperature, like inside the engine of a car, the combustion products also include nitrogen oxide and nitrogen dioxide (collectively called NO<sub>x</sub>). Both SO<sub>2</sub> and NO<sub>x</sub> are also produced naturally, such as when volcanoes erupt or when lightning passes through the atmosphere, but in and around cities, their principal source is the use of fossil fuels for transport and power generation. Once SO<sub>2</sub> and NO<sub>x</sub> rise into the air, they react with water and oxygen molecules to produce sulphuric acid (H<sub>2</sub>SO<sub>4</sub>) and nitric acid (HNO<sub>3</sub>), both of which are corrosive. When these molecules dissolve in water droplets and the droplets precipitate, we have acid rain, acid snow, and even acid fog. The typical pH of acid rain is around 4.2-4.4. When acid rain flows into rivers and lakes, it can render the water inhospitable to some species; in soil, it destroys some bacteria. These effects can in turn adversely affect forests and other large ecosystems in complex ways. To mitigate these effects, coal power plants have been able to reduce the SO<sub>2</sub> content in their atmospheric emissions by more than 90% using flue-gas desulphurisation. Many governments around the world have also been working together to minimise acid rain; an example in Asia is the Acid Deposition Monitoring Network in East Asia (EANET).

## WESTERN EQUINE ENCEPHALITIS OUTBREAK IN ARGENTINA

On December 20, 2023, the International Health Regulations National Focal Point (IHR NFP) in Argentina alerted the Pan American Health Organization/World Health Organization (PAHO/WHO) of a human case of Western Equine Encephalitis Virus (WEEV) infection. The patient had a sudden onset fever and neurological features on November 19, 2023 and was later admitted to a provincial hospital, and discharged on close follow-up on December 20. The outbreak has since grown to 21 confirmed new cases of the infection in Argentina and comes after more than two decades since the last case was reported in the country. The last cases of human infections in Argentina were reported in 1982, 1983, and an isolated event in 1996. The present outbreak also comes in the context of an ongoing outbreak in horses in Argentina and Uruguay. Multiple outbreaks and human cases of Western Equine Encephalitis have been reported in the past from the U.S. and Canada and over 3,000 cases of infection have been reported over these years.

### Mosquito-borne infection

Western Equine Encephalitis is a mosquito-borne infection caused by the WEEV, which belongs to the Togaviridae family of viruses. The virus has an approximately 11.5 kilobases long single-stranded RNA genome and is a recombinant of the eastern equine encephalitis virus and a Sindbis-like virus.

Passerine birds are thought to be the reservoir and equine species as intermediate hosts. The primary mode of transmission of the infection to humans is through mosquitoes which act as vectors for the virus. While most of the infections are asymptomatic, the infection may lead to severe consequences in rare cases. An estimated 4-5% of cases may manifest as infection/inflammation of the brain, resulting in neurological symptoms and sequelae of disease. With no specific antiviral treatment, symptomatic care is crucial, especially for neurologic symptoms.

In Argentina, there have been 1,258 cases of infections in animals in 15 provinces, with the province of Buenos Aires having the highest number of cases. In Uruguay, there have been 56 cases of Western Equine Encephalitis Virus in equines, with no reported human infections. After the detection of the initial case of the ongoing outbreak in Argentina reported in December 2023, a total of 91 additional suspected cases have since been tested across 11 provinces in the country



out of which 21 have been confirmed positive for the virus. Of these cases, eight individuals needed intensive care unit care, 13 required general hospitalization and one case resulted in a fatality. In the cases for which exposure history is available, three individuals were veterinarians, two were construction workers, and two reported engaging in outdoor recreational activities.

While PAHO/WHO has issued an alert on the risk of the spread of WEEV in the Americas, enhanced surveillance and detection of infections will be crucial for preventing the spread of the virus. Following a One Health approach is essential for the control of the virus. Environmental modifications, vector control, and vaccination for equines in affected and high-risk regions to curb the potential spread of the virus.

## CAN MALARIA VACCINE ROLLOUT BE SCALED UP?

### The story so far:

On January 22, Cameroon in Africa became the first country in the world to launch the RTS, S malaria vaccine for children into its routine national immunisation services. According to the World Health Organization (WHO), the rollout follows a malaria vaccine pilot programme in Ghana, Kenya and Malawi, as efforts gather pace to scale up vaccination against the disease in high risk areas. Twenty countries aim to roll out the programme this year, according to GAVI, the Vaccine Alliance, and other outfits which aim to provide equal access to new and underused vaccines for children living in the world's poorest countries.

### Where is the malaria burden highest?

Malaria is one of the biggest killers of children under five across the world and according to WHO data, more than 30 countries have areas with moderate to high malaria transmission. Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bite of the infected female Anopheles mosquito. It is preventable and curable.

In 2022, nearly half of the world's population was at risk of malaria. According to the WHO's World Malaria Report 2023, while Africa bears the highest malaria burden, accounting for 94% of cases and 95% of global malaria deaths in 2022, India in 2022, accounted for a staggering 66% of malaria cases in the WHO South-East Asia Region. India and Indonesia accounted for about 94% of all malaria deaths in the WHO South-East Asia Region. Despite a 55% reduction in cases since 2015, India remains a significant contributor to the global malaria burden. The Health Ministry said that over the past 15 years, India has made progress in reducing its malaria burden. It has a vision for a malaria-free country by 2027 and elimination by 2030.

### Who funds the vaccine?

The current rollout is part of a UNICEF initiative where the contract for the first-ever supply of a malaria vaccine was given to British multinational pharmaceutical and biotechnology company GSK with a value of up to \$170 million, according to an official release by the organisation. This, it said, would lead to 18 million doses of the vaccine — RTS,S/AS01 — being available over the next three years. UNICEF adds that the RTS,S malaria vaccine is the result of 35 years of research and development and is the first-ever vaccine against a parasitic disease. The vaccine acts against Plasmodium falciparum, the most deadly malaria parasite globally. Meanwhile, the anticipated rollout of a second jab — R21 — developed by Oxford University, is expected to significantly increase the number of doses available for use. This is to be manufactured by the Serum Institute



of India, which aims to make 100 million doses per year, so long as it passes the regulatory approvals following its recommendation for use by the WHO last year.

#### **How does the dose work?**

The vaccine, as per WHO, should be provided in a schedule of four doses in children from around five months of age. It further adds that a 5th dose, given one year after dose 4, may be considered in areas where there is a significant malaria risk remaining in children a year after receiving dose 4.

While India will have to wait for the vaccination to be introduced here with no date set as of now, the vaccine is currently for areas with highly seasonal malaria or areas with perennial malaria transmission with seasonal peaks; countries may consider providing the vaccine using an age-based administration, seasonal administration, or a hybrid of these approaches. WHO adds that countries should prioritise vaccination in areas of moderate and high transmission. Decisions on expanding to low transmission settings should be considered at a country level, based on the overall malaria control strategy, affordability, and programme considerations. Given this spread and the need for a vaccine, Dr. Kate O'Brien, WHO Director of the Department of Immunization, Vaccines and Biologicals, had noted that with the initial limited supply of the current vaccine "it is crucial that children living in areas where the risk of disease and need is highest are prioritised first." Efficacy of RTS,S/AS01 vaccine is modest, yet still provides significant public health benefits. The current vaccine works well with the malaria control interventions recommended by WHO including insecticide-treated bed nets, indoor residual spraying of insecticides, rapid diagnosis and treatment etc.

#### **What are some of the challenges?**

Experts say climate change emerges as a major driver, affecting malaria transmission and overall burden. Changing climate conditions enhance the sensitivity of the malaria pathogen and vector, facilitating its spread. WHO emphasises the substantial risk climate change poses to malaria progress, necessitating sustainable and resilient responses.

"The science spells it out — as the climate changes, vulnerable corners of South East Asia face a growing threat of malaria. Rising temperatures let mosquitoes spread to new turf, while warmer, more humid conditions help the parasite prosper inside the bug. Regions like eastern India, the hill tracts of Bangladesh, parts of Myanmar, and Indonesian Papua already grapple with malaria. With increased travel around the globe, infections could easily spill over into new areas," said Dr. Kaushik Sarkar, director, Institute for Health Modelling and Climate Solutions. He added that to get ahead of this, India needs to double down on ways to battle the bite, from better tracking of illnesses to making prevention and treatment more available where it's needed most.

### **ADDRESSING THE ISSUE LEFT IN THE CLOSET: MALE CHILD SEXUAL ABUSE**

Child sexual abuse (CSA), is a subject people are evasive about and reluctant to discuss. When it comes to the sexual abuse of boys, the problem is exacerbated – even though one in six boys worldwide experience sexual abuse during childhood, this is an under-researched and under-addressed area. Additionally, how male survivors' view their abuse experiences, their lives after it, their disclosures of it, and the support they receive, can all be shaped by patriarchal notions and socio-cultural norms of what is expected of boys and men, says Alankaar Sharma, senior lecturer, School of Health and Society, University of Wollongong Australia.



Abuse can have profound and long-lasting impacts on survivors' mental and physical health, says Dr Sharma. There's research that shows even older men continue to experience significant physical, mental and sexual health issues. "That's not to say that every survivor experiences the same adverse effects or the severity of these effects is the same. But many struggle emotionally," he points out. Some struggle with substance use or alcohol dependence. Women tend to internalise experiences, whereas men externalise. "There is greater permissiveness within patriarchal societies for men to talk about sex and to engage in sexual activity," he says, and so, with men, this can play out with, struggling with fidelity, sexual compulsivity or sexual addiction. For women, the outcome could be more of avoidance rather than addiction.

When a boy gets abused in a patriarchal society, what many survivors make of this is that their masculinity has been damaged, or eroded, says Dr Sharma. "And as a consequence," he says, "they may overcompensate through hyper-masculine activities, for example, by participating in violence. This could be physical violence, emotional violence, or even sexual violence." It could also be expressed in other ways, hitting the gym or building their bodies.

Dr. Sharma says there long-standing research literature on the sexual abuse of girls and women, but it is only over the last 20 years that male child sexual abuse has been looked at seriously, globally. In India, he says, a lot of the research is prevalence studies, which go on to establish the fact that CSA is everywhere. Much of the research is also from a biomedical standpoint, he points out, and while there is a place for these studies, they're also limited in what they're able to examine and explore, because the overwhelming majority of CSA survivors never seek professional support.

Is disclosure the first step to healing? Dr Sharma believes it can be. "I think there is power in being able to share emotional experiences, physical experiences, vulnerable experiences and be supported," he says. And the reason people don't disclose often has to do with shame or guilt. In the last 10-15 years, Dr Sharma says, the understanding of disclosure has also progressed. "Our current understanding is: it's not a one time event," he says. It's a process, and many disclosures happen over many years. "The support one gets when they disclose," he emphasises, "really qualitatively influences, when or how that person is able to disclose again."

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