



# CURRENT AFFAIRS FOR UPSC

6th to 12th October 2024



## INTERNATIONAL

### TRUMP KEEPS UP HIS RHETORIC AGAINST MIGRANTS, SAYS THEY ARE BRINGING 'BAD GENES' INTO U.S.

Donald Trump said on Monday that illegal immigrants were bringing “bad genes” into the United States, doubling down on previous inflammatory rhetoric about migrants poisoning the blood of the country.

Mr. Trump was criticising his Democratic presidential rival Vice-President Kamala Harris in a radio interview when he brought up government figures showing 13,000 immigrants in the U.S. were not in federal immigration detention, despite homicide convictions.

“How about allowing people to come to an open border, 13,000 of which were murderers, many of them murdered far more than one person? They are now happily living in the United States,” he told conservative host Hugh Hewitt.

“You know now, a murderer — I believe this — its in their genes. We have got a lot of bad genes in our country right now. They had 4,25,000 people come into our country that should not be here that are criminals.”

Mr. Trump was misconstruing data released in September by the Immigration and Customs Enforcement (ICE) agency.

The figures don't include people incarcerated outside of ICE facilities — in State, local or other federal facilities, for example — and they cover a period spanning decades, including when Mr. Trump was President.

U.S. media reported on Monday that migrant apprehensions at the U.S.-Mexico border fell 75% year-on-year in September — to the lowest level since the Trump administration — citing Department of Homeland Security statistics.

Mr. Trump has spent much of his campaign demonising both undocumented immigrants and those in the United States legally.

During a rally last month, he said Ms. Harris should be prosecuted over President Joe Biden's border policies and called illegal immigrants “animals,” out to “rape, pillage, thief, plunder and kill.”

### WHAT'S BEHIND ISRAEL'S BAN ON THE UN CHIEF?

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

On October 2, Israeli Foreign Minister Israel Katz announced that Israel had banned United Nations Secretary-General (UNSG) António Guterres from entering the country, accusing him of “backing” Hamas, Hezbollah, the Houthis, and Iran.

#### **Why did Israel ban the UN chief?**

According to Mr. Katz, the decision to declare Mr. Guterres “PNG” (persona non grata) was taken because he hadn't “unequivocally condemned” Iran's missile strikes on Israel earlier in the week,



and thus the UNSG does not “deserve to set foot on Israeli soil”. Mr. Katz also claimed that the UNSG had not denounced the terror attack by Hamas on October 7 last year, which left about 1,200 Israelis dead, and 250 taken hostage. The UNSG and UN bodies have, in fact, condemned the attack a number of times. In a statement in April, Mr. Guterres had condemned the use of “sexual violence, torture and kidnapping of civilians”, calling the “horror unleashed by Hamas” unjustifiable. In the context of the latest escalation, which included Israel’s strikes on Lebanon that killed hundreds and took out the top leadership of Hezbollah, as well as Iran’s launch of 200 missiles targeting Israeli bases, Mr. Guterres named neither country, saying in a statement that he “condemned” the broadening of the West Asia conflict, calling for a ceasefire. A day after the Israeli ban was announced, the UNSG issued a clarification, saying that he “strongly condemned” the “massive missile attack by Iran on Israel.” However, Israel has not withdrawn the ban.

#### **Is there a history to Israel-UN tensions?**

The ban on Mr. Guterres is part of a larger Israeli argument against the UN, which it claims is run by the “anti-Israel” bloc of Arab and Islamic countries and affiliated organisations like UNRWA that it alleges are involved with Hamas. At the UN General Assembly last week, angry at a number of UN resolutions backed by a big majority of countries that called for a ceasefire and criticised Israel, Israeli Prime Minister Benjamin Netanyahu called the UN an “anti-Semitic swamp”. Israel has in the past banned UN Special Rapporteurs and other senior officials accusing them of “bias” against Israel and in favour of the Palestinian side. Last year, outraged at Mr. Guterres’ remarks to the UNSC that the October 7 attacks had not occurred “in a vacuum” and that they followed “56 years of suffocating occupation” of Palestinian areas, Israel banned then-UN Under-Secretary General Martin Griffiths. Alongside his comments on Hamas, Mr. Guterres has also been consistently critical of Israeli bombardment of Gaza. More than 40,000 Palestinians have been killed thus far, including 15,000 minors, and a record number of 135 UN personnel working with Palestinian refugees, which the UNSG called a “moral stain”, referring to Gaza as a “graveyard for children.”

#### **Has such a ban happened before?**

According to former Indian Permanent Representative to the UN, Asoke Mukerji, the ban on the UNSG is “unprecedented”, recalling that the closest a country came to such an action was in 1950, when the then-USSR accused UNSG Trygve Lie of bias on the Korean crisis and threatened to veto his re-election. Citing the UN charter (Article 100, para 2), which says “each Member of the United Nations undertakes to respect the exclusively international character of the responsibilities of the Secretary-General and the staff and not to seek to influence them in the discharge of their responsibilities,” Mr. Mukerji told The Hindu, “we all need the Secretary-General for substantive and logistical reasons.” In 1987, the U.S. had banned Kurt Waldheim who had earlier been UNSG (1972-1981) and Austrian President (1986-1992), when it emerged that he had been complicit in Nazi war crimes during his time in the Austrian Army in the Second World War.

#### **How has the world reacted to Israel’s ban?**

A day after the ban was announced, the UN Security Council issued a statement, which is only possible with the concurrence of all P-5 members, that said “any decision not to engage with the UN Secretary-General or the United Nations is counterproductive, especially in the context of escalating tensions in the Middle East.” The U.S. State Department called it “not productive to improving [Israel’s] standing in the world.” Even the Ministry of External Affairs, that has taken care not to be over-critical of Israel, was dismissive. “Mr. Guterres is the UNSG for us. What



somebody else says about it, what third person says is not our area of outlook or a matter to comment on,” said spokesperson Randhir Jaiswal on Friday.

#### EXPRESS VIEW: ONE YEAR AFTER HAMAS ATTACK ON ISRAEL, THE MIDDLE EAST IS A TINDERBOX

A year after the terror attack on Israel by Hamas, followed by the brutal reprisal in Gaza by Tel Aviv, the expansion of Israel’s military campaign against Hezbollah in Lebanon, and the war of missiles between Israel and Iran have brought the Middle East to the brink of a regional war with deadly consequences for the entire world. Even by the traditional standards of violence in the Middle East, the costs of the current cycle of conflict have been immense. If the terror attack by Hamas on October 7 last year took the lives of more than 1,200 Israelis, Tel Aviv’s disproportionate response has already seen the death of more than 40,000 people in Gaza, 1,00,000 injured and about two million Palestinians displaced from their homes and living in conditions of abject misery. The death toll has begun to mount in Lebanon, where Israel’s ongoing ground invasion to decimate Hezbollah is turning the country into an uninhabitable zone like Gaza. All this could be overshadowed by the scale of potential regional carnage if Israel and the Islamic Republic stand by their declared intent to destroy the other in the next phase of the war.

In a region riven with centuries-old grievances and a modern history of extreme violence rooted in religious, ethnic, territorial and nationalist resentments, it is pointless to focus on “who started it?”. The quest for regional domination in the name of Islam by the clerical regime in Tehran, and Tel Aviv’s refusal to accommodate the aspirations of the Palestinian people in its uncompromising pursuit of absolute security, have left little room for common sense to prevail. Meanwhile, the growing salience of ideological extremism in Tehran and Tel Aviv has only reinforced the temptations for an all-out war. The US, the only country with the political influence to promote a ceasefire, has struggled to persuade Prime Minister Benjamin Netanyahu to silence his guns and create some room for diplomacy. If President Joe Biden’s call for restraint has fallen on deaf ears in Tel Aviv, the Republican candidate and former president, Donald Trump, is egging Israel on to embark on a massive confrontation with Iran. With the US elections less than a month away, Washington has become a pitiful spectator.

As the Middle East stares at a great war, India’s stakes in the region have never been as large as they are today. With nearly 10 million Indians living in the Gulf, an economy extremely sensitive to oil prices, and rapidly growing trade and investment relations, India needs to contribute its bit towards averting the drift to calamity in the region. Until now, India has been reluctant to call out the dangerous policies of Iran and Israel that are driving the current tragedy in the Middle East. But silence is no longer an option. While pressing Tehran and Tel Aviv to walk back from the abyss, Delhi must join hands with India’s most important partners in the region — the moderate Arab states including Egypt, Jordan, Saudi Arabia and the United Arab Emirates — to help calm things down and create pathways for regional stability and peace.

#### IRAN’S FORWARD DEFENCE NETWORK

The 1979 Iranian revolution, which saw the fall of a thousands-of-years-old monarchy and spawned the birth of a theocratic republic, was one of the most consequential events of post-World War West Asia. Shah Mohammed Reza Pahlavi, the last king of Iran, was a close ally of the U.S. and Israel. In 1953, the U.S. helped orchestrate a violent coup in Iran against Mohammad Mosaddegh, an elected Prime Minister, and reinstated the authority of the Shah. The monarch was



seen as a pawn of the U.S. by the revolutionaries. Anti-imperialism was one of the ideological forces behind the revolution. The theocratic regime, established by Ayatollah Khomeini, broke with the U.S., “the great Satan”, and the existing order of the day in West Asia.

Then the Islamic Republic was instantly seen as an enemy by Sunni Arab states and the U.S. Within a year, when the Ayatollah was still consolidating his authority in Iran, neighbouring Iraq, backed by Sunni Arab monarchies and the U.S., attacked Iran. Isolated, attacked and lacking conventional capabilities to face the growing geopolitical challenges around it, Iran turned to a new model of deterrence — forward defence or the formation of a network of militias across the region through which it can project its influence. This is how the so-called Axis of Resistance was born.

### **Hezbollah**

Among the groups that are part of the Axis, there are organisations that Iran helped create and groups that it co-opted into its orbit. Hezbollah is part of the former. In 1982, after the Israeli invasion of Lebanon, the Islamic Revolutionary Guard Corps (IRGC) helped form a loose network of Shia militias called the ‘Islamic Resistance’, whose initial target was the Multi-National Force (MNF) deployed in Lebanon. After the 1983 U.S. embassy and military barracks bombing orchestrated by the new militia group, the MNF announced its withdrawal from Lebanon. But Israeli troops continued its occupation of a sliver of territory in southern Lebanon. In 1985, the network announced itself as Hezbollah (Party of God), whose primary objective was to fight the occupying Israeli troops.

In 2000, when Israel announced its withdrawal from Lebanon, Hezbollah claimed ‘the first Arab victory against the Zionist entity’. From the 1990s, Hezbollah, under the leadership of Hassan Nasrallah, who was killed on September 27 by an Israeli strike on Beirut, transformed itself into a state within the state of Lebanon. According to the Office of the U.S. Director of National Intelligence, Hezbollah has over 40,000 well-trained fighters and many more reservists. The group has been the crown jewel of the Axis of Resistance — Iran’s arm on Israel’s borders.

### **Hamas and Islamic Jihad**

If the Shah’s Iran was a close ally of Israel, the Islamic Republic, driven by anti-imperialism, turned against Israel (the ‘little Satan’). Ayatollah Khomeini said support for Palestine was a duty of the Islamic Republic. Two years after the revolution, the Islamic Jihad was formed in the Palestinian territories. A Sunni Islamist outfit, it was inspired by the clerical rule established by Khomeini in Iran.

In Gaza, there was another Islamist organisation, the Islamic Centre, which was established by Sheikh Ahmed Yassin as a branch of the Muslim Brotherhood in the 1970s. In late 1987, after the first intifada broke out in Palestinian territories, the Islamic Centre reinvented itself as Hamas (Harakat al-Muqawamah al-Islamiyyah, or the Islamic Resistance Movement).

Theocratic Iran saw allies in these Islamist groups rather than the secular Palestinian Liberation Organisation, which was backed by Arab countries and was ready to engage with the Israelis. Unlike Hezbollah, which gets direct Iranian support through Syria, Hamas and the Islamic Jihad get limited material support from Tehran. But they are the Palestinian wings of the Axis and enjoy unlimited political support from Tehran. When Hamas carried out the October 7, 2023 attack in Israel, Iran instantly supported the group.



### **Ansar Allah (Houthis)**

Unlike Hezbollah, Hamas and the Islamic Jihad, the Houthis of Yemen came into the picture much later. The roots of the Houthi movement can be traced to “Believing Youth”, a Zaydi revivalist group founded by Hussein al-Houthi and his father, Badr al-Din al-Houthi, two Zaydi clerics, in the early 1990s.

They called themselves Ansar Allah (Partisans of God), mobilised tribesmen in the north against the government of Ali Abdullah Saleh and chanted “Death to America”. In 2004, Saleh’s government issued an arrest warrant against Hussein al-Houthi. He resisted the arrest, starting an insurgency. In September, government troops attacked the rebels and killed Hussein. The government’s high-handedness only strengthened the Houthis, who are named after their slain leader. When Yemen fell into chaos after the Arab Spring-inspired protests in 2011, the Houthis marched towards Sanaa and by January 2015, they captured the capital and much of northern Yemen. They still control those parts, despite a large-scale bombing campaign launched by a Saudi alliance. When Israel launched its retaliatory war on Gaza after the October 7 attack, the Houthis declared war against Israel. Ever since, they have targeted hundreds of commercial vessels in the Red Sea and launched direct missile attacks on Israel.

### **Hashad al-Shabi**

When the U.S. invaded Iraq and brought down the Saddam Hussein regime in 2003, the country fell into chaos and spiralling violence. Subsequently, a new Shia political class emerged in Iraq. Iran, which had historically built close ties with Shia groups in Iraq, found the fall of Saddam an opportunity to expand its influence in the neighbouring country.

When Syria fell into a civil war following the 2011 protests, which also saw the rise of the Islamic State in Syria and Iraq, Iran offered direct support for Shia militias that fought in Iraq and Syria against the IS. These groups came to be called the Shia Popular Mobilisation Forces or Hashad al-Shabi. This includes Kata’ib Hezbollah, Asa’ib Ahl al-Haq, Harakat al-Nujaba, Kata’ib Sayyid al-Shuhada, and the Badr Organisation.

Gen. Qassem Soleimani, the commander of Iran’s Quds Force, was the main architect of the Hashad and the key strategist of the Axis. Gen. Soleimani was killed in an American airstrike on Baghdad in January 2020, along with Abu Mahdi al-Muhandis, the leader of Kata’ib Hezbollah. The killings were a setback for the network, but the militias remain powerful across Iraq and Syria.

All these groups have been part of the unfolding conflict in West Asia. Hamas attacked Israel on October 7. When Israel retaliated, Hezbollah and Houthis started attacking Israel. Hashad targeted U.S. bases in Iraq, Syria and Jordan. In response, the U.S. and allies have carried out air strikes against Hashad and Houthis. Israel has taken the war straight to Hezbollah, killing Nasrallah and launching an invasion of Lebanon. In retaliation, Iran launched its second direct missile attack on Israel and the latter has vowed to hit Iran back. When viewed collectively, these actions constitute a regional conflict, with Iran and the Axis on the one side and Israel and its allies on the other, both willing to climb up the escalation ladder.

## **WHY ISRAEL HAS INVADED LEBANON — AND WHAT TO MAKE OF THE WAR SO FAR**

Early on October 1, the Israel Defense Forces (IDF) launched “limited, localized, targeted ground raids” against Hezbollah infrastructure in South Lebanon. Many of the personnel involved in the raid were incrementally re-deployed from Gaza to the Israel-Lebanon border over this year. Since

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



then, Israel has expanded its operation, repeatedly bombing the capital Beirut, and targeting a possible successor to Hassan Nasrallah, the leader of Hezbollah who was killed last week. Lebanon's Health Ministry said on Saturday morning that more than 2,000 people have died in Israeli attacks across the country.

#### **For Your Information-**

- For Israel, there has never been a larger geopolitical window to press against Hezbollah, the Iran-backed Shia military and political group, than now. Through Israel's year-long war in Gaza, the United States has provided steady tailwinds in the form of sustained arms supplies, despite some political dithering. In the region, Israel's new Arab partners have restricted themselves to rhetorical criticism and diplomatic efforts for a ceasefire. This did not change as Israel expanded its target profile across states, with the Arab nations offering no punitive threats, whether economic or political.
- With Iran's new moderate government focused on economic recovery and sanctions relief by engaging the West, Israel's first major gambit was to kill Ismail Haniyeh, the political leader of Hamas, in the heart of Tehran. The harsh punishment that Supreme Leader Ayatollah Ali Khamenei promised in response never came, with Iran choosing "strategic patience" instead. To Israel, it confirmed that a window for escalation indeed exists, as it expanded air strikes to eliminate top leaders of the so-called "axis of resistance" — Iranian overseas proxies Hezbollah, Hamas, and the Houthis — leading to Nasrallah's assassination. This hunt has not stopped, as the IDF's air strikes on Beirut show.
- Hezbollah has long been the biggest and most proximate manifestation of the Iranian threat, located in the north at Israel's jugular. Israel's long-time objective has been to push Hezbollah to the north of the Litani river in Lebanon, where the UN Security Council's Resolution 1701 mandates it to be. Defence Minister Yoav Gallant had underlined this objective as early as on December 6, 2023 — and having destroyed Hezbollah's senior leadership, the IDF now looks to decimate its rank and file.

## THE STATUS OF THE CIVIL WAR IN SUDAN

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

On September 26, the Sudanese Armed Forces (SAF) launched a major offensive against the paramilitary Rapid Support Forces (RSF) in Khartoum and Bahri. Thus, the war which was quiet for a few months has gained momentum again. Eighteen months into the civil war, the UN said that more than 20,000 people have been killed. Additionally, the International Organization for Migration has recorded an estimated total of 10,890,722 internally displaced persons (IDPs) as of October 1. All ceasefire efforts and peace talks have failed so far. The latest offensive comes ahead of the U.S.-led ceasefire talks on the sidelines of the UN General Assembly.

### **Who are the actors in the civil war?**

The civil war in Sudan between two military factions, the SAF and the RSF has crossed 18 months. It started as a power rivalry between the military heads of the SAF and the RSF, Abdel Fattah al-Burhan and Hamdan Dagalo respectively. What began as a conflict in the capital city of Khartoum has spread to Omdurman, Bahri, Port Sudan, El Fasher and the Port Sudan cities, as well as the Darfur and Kordofan states.



The RSF has an upper hand in multiple war zones. However, since August, the SAF has been carrying out frequent airstrikes and has captured pocket regions around Khartoum. The humanitarian crisis is worsening countrywide amidst limited and restricted access to aid and health care, especially in the Darfur states. The warring sides are also accused of carrying out war crimes including sexual violence and extrajudicial killings in several regions. In August, the UN declared famine in the Zamzam camp in North Darfur which hosts nearly 5,00,000 IDPs. The UN-Integrated Food Security Phase Classification (IPC) Famine Review Committee says that 14 regions in the Greater Darfur, South and North Kordofan, and Jazeera states face conditions similar to Zamzam. According to the latest UN-backed IPC initiative, 25.6 million people, more than half of Sudan's population, face "crisis or worse" levels of food insecurity. Conditions have further worsened amidst heavy rains and floods and the subsequent spread of cholera. The outbreak has killed more than 200 people.

### **Why is the war continuing?**

There is no sign of an end to the war. Firstly, both warring parties are adamant about gaining ground and legitimising their power. The SAF claims to be the legitimate government, with the UN just about recognising their claims, although it came to power through a coup in 2021. However, the RSF has territorial gains around the capital and other war zones. It opposes the SAF's efforts to represent Sudan internationally, claiming legitimacy. The RSF, a former Arab militia known as Janjaweed, seeks alliances from several Arab countries to support its claim to power.

Secondly, Sudan has been under the UN arms embargo, since the 2004 Darfur crisis, which has recently been extended for another year. However, the embargo has not blocked the flow of weapons. A Human Rights Watch report in July claimed that the warring parties have been using armed drones, drone jammers, anti-tank guided missiles, truck-mounted multi-barrel rocket launchers, and mortar munitions produced by companies registered in China, Iran, Russia, Serbia, and the UAE. Easy weapon procurement and use have aided the continuation of the war.

Thirdly, the war has become complex with the involvement of multiple actors and issues. What began as a military rivalry has now evolved through ethnic lines, involving several regional ethnic militias. Arab and non-Arab militias have taken sides with the RSF and the SAF respectively. The rebel group Sudanese People's Liberation Movement has been fighting alongside the SAF. The RSF and its allied Arab militias have been targeting the Masalit community and other non-Arabs in Darfur states. Ethnic tensions have intensified the war.

Fourthly, the SAF has accused the UAE and previously Russia's Wagner Group of supporting the RSF. Although the Wagner group and the RSF have rejected any direct military engagement, the group is allegedly supporting the RSF by facilitating the supply of UAE's weapons through the Central African Republic. At the same time, Russia has been supplying weapons to the SAF as well. With abundant external support, both parties have little motive to end the war.

### **Have there been peace talks?**

There were nine rounds of ceasefire efforts led predominantly by the U.S. and Saudi Arabia; all failed in their primary phase. On August 14, the latest round of U.S.-led peace talks were held in Geneva, Switzerland. But, neither of the warring parties attended. SAF boycotted the meeting, blaming the RSF for not adhering to the Jeddah Declaration 2023, including the withdrawal of forces from civilian regions. RSF also pulled out from the talks at the last moment.





The UN, the African Union, the U.S., the Intergovernmental Authority on Development, and the EU have all urged the parties to end the violence and work together to de-escalate the crisis. Egypt initiated a draft resolution on May 1 at the Arab League meeting in Cairo, calling for an “immediate and comprehensive cessation” of hostilities. Until now, any and all efforts at a long-lasting ceasefire have been ineffective.

The RSF and the SAF claim they are open to negotiations but have shown little commitment to comply. They attempt to gain a military advantage during the ceasefire, owing to mistrust between the parties. Both sides have not reached a possible bargaining stage for an effective mediation.

Another reason is that international media attention to the war on the ground is limited. International organisations’ access to war zones is also restricted. With a limited understanding of the conflict on the ground, mediators like the U.S. and Saudi Arabia are challenged to formulate a ceasefire or peace talk which fit the multifaceted war situation.

#### **What are the regional implications?**

More than two million people have sought refuge in neighbouring countries including Chad, South Sudan and Ethiopia. The refugee camps are overflowed and have raised concerns in Europe that many will attempt to reach the continent. In February, dozens of Sudanese drowned when a migrant boat capsized along the Tunisia-Italy route. A lack of state apparatus and institutions has triggered ethnic clashes along the South Sudan, Ethiopia and Eritrea borders. Since January, ethnic violence in the Abiey region, a disputed land between Sudan and South Sudan, has increased, with the UN reporting more than 100 casualties. Frequent clashes over agricultural land are reported in the El Fashaga region on the Sudan-Ethiopia border. The war has jeopardised an oil pipeline from South Sudan to the Red Sea.

#### **What next?**

The involvement of multiple actors and extended geography has made the war complex, challenging international actors to bring the warring parties to the negotiating table.

Multiple failed ceasefire attempts and peace talks imply the need to revisit international actors’ approach to the war in Sudan. Although SAF has been gaining pockets in Khartoum, defeating the RSF is a long road. The RSF lacks international support to claim legitimacy. And, a RSF-SAF compromise is highly unlikely. The war will likely be prolonged until a major breakthrough.

There is an increasing fear that the military rivals will divide the country, leading to a plight similar to that of Libya’s. Sudanese people have started to live with the war, and with much attention given to Gaza and Ukraine, the war in Sudan will continue to rage on the sidelines.



## NATION

### WHAT DOES USCIRF REPORT SAY ABOUT INDIA?

#### The story so far:

The Washington DC-based United States Commission on International Religious Freedom (USCIRF) on October 2 released a country update on India, flagging “collapsing religious freedom conditions”. Among other things, the report highlighted how throughout 2024, individuals from minority communities have been killed and lynched by vigilante groups, religious leaders have been arbitrarily arrested, and places of worship have been demolished. The Indian government has rejected the report as coming from a “biased organisation”.

#### What is the USCIRF?

The USCIRF is an independent, bipartisan U.S. federal government agency created under the 1998 International Religious Freedom Act (IRFA). It monitors the universal right to freedom of religion or belief (FoRB) in countries other than the U.S. Its assessments of countries are based on international human rights standards, and in particular, Article 18 of the Universal Declaration of Human Rights, which states, “Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.”

The USCIRF is distinct from the Office of International Religious Freedom (IRF), which is part of the U.S. State Department. The IRF also releases annual reports on religious freedom. While the USCIRF’s reports could have a bearing on a country’s image, the IRF’s stance is more consequential for bilateral relations.

#### What does the USCIRF do?

As per its mandate under the IRFA, the USCIRF monitors religious freedom conditions across the world through travel, research and meetings with representatives of international human rights groups, NGOs, victims of persecution, and foreign officials with the aim of putting out a report every year, listing the countries that meet the threshold for designation by the U.S. State Department as a “Country of Particular concern” (CPC). It also shares another list of countries that, in its assessment, ought to be included in the State Department’s ‘Special Watch List’ (SWL).

Countries that “commit systematic, ongoing, and egregious violations of religious freedom” would be designated as a CPC. Countries “whose governments engage or tolerate in severe religious freedom violations, but do not rise to the CPC standard of “systematic, ongoing, and egregious” would be included in the SWL. If the U.S. State Department accepts the USCIRF’s recommendation and designates a country as a CPC, then under the IRFA, it has a range of policy options, including sanctions, to address such kind of violations.

#### What does USCIRF’s country update on India state?

The report, authored by Sema Hasan, Senior Policy Analyst with the USCIRF, says that religious freedom in India in 2024 has been on a “deteriorating and concerning trajectory”. It stated that the Indian government, through legislations such as the Citizenship (Amendment) Act, 2019 for which the rules were published in May this year, and “through the enforcement of discriminatory



legislation like anti-conversion laws, cow slaughter laws, and antiterrorism laws”, continued to “repress and restrict” religious minorities. It also details how “Indian officials have repeatedly employed hateful and derogatory rhetoric and misinformation to perpetuate false narratives about religious minorities, inciting widespread violence, lynchings, and demolition of places of worship.” In its 2024 annual report, the USCIRF designated India as a CPC.

#### **How did India respond?**

Spokesperson of the Ministry of External Affairs Randhir Jaiswal rejected the report, stating, “Our views on the USCIRF are well known. It is a biased organisation with a political agenda. It continues to misrepresent facts and peddles a motivated narrative about India. We reject this malicious report, which only serves to discredit USCIRF further.” He further added, “We would urge USCIRF to desist from such agenda-driven efforts.”

#### **Is the USCIRF ‘biased’ and ‘agenda-driven’?**

Its reports are backed by research and numerous citations sourced from credible domestic and international media, besides direct testimonies. In the case of the country update on India, there is no evident instance of misrepresented facts, with every claim backed by publicly verifiable documentation. However, the timing of this update has raised eye brows, and opened it up to concerns such as those voiced by the MEA, about the report being “agenda-driven”.

The USCIRF, as a body that works with the U.S. government, and notwithstanding its ‘independent’ status, is considered by many countries as a tool of U.S. foreign policy.

#### **Are the USCIRF’s recommendations binding?**

No, they are not. It is up to the U.S. State Department whether or not to accept them, and typically, calculations related to bilateral relations and larger foreign policy goals come into play.

### FIRST RESPONDER

Nearly a year after his election, Maldives President Mohamed Muizzu made his first bilateral visit to Delhi, seen as an attempt to mend fences with Delhi. India was not his first bilateral destination, a tradition leaders of friendly neighbouring countries observe, although Mr. Muizzu and Prime Minister Narendra Modi met briefly at a summit in the UAE in December 2023 and he attended Mr. Modi’s swearing-in in June. Tensions between India and Maldives were originally a consequence of Mr. Muizzu’s Presidential campaign, that was built on the opposition’s “India Out” campaign. Next came a controversy that pitched tourism in Lakshadweep as an alternative to the Maldives following criticism of Mr. Modi by Maldivian Ministers that led to a “Boycott Maldives” campaign in India. Mr. Muizzu’s decision to travel to Turkey, China and the UAE before he came to India also rankled. Even as Mr. Muizzu said he would pursue a “Maldives first” policy, critics in New Delhi grew concerned over Male’s economic initiatives and defence pact with China. Amidst the change in regimes in Bangladesh and Sri Lanka, India has been under some fire over its Neighbourhood First policy, further fuelled by this perceived distancing from the Maldives. As Mr. Modi and Mr. Muizzu held their first formal bilateral negotiations, some of the work in smoothening their path had been done. After India acceded to Mr. Muizzu’s demand that Indian troops stationed in the Maldives since 2012, for aircraft maintenance, be replaced by technical personnel, both sides turned course, with their Foreign Ministers exchanging visits and new joint projects being announced. India’s decision to extend \$100 million in SBI subscriptions of Maldivian T-bills enabled Male to make its debt service payments at a time it was in danger of



defaulting. Mr. Muizzu has also softened his rhetoric and sacked the Ministers who were critical of Mr. Modi.

India's extension of \$400 million in support and Indian ₹3,000 crore in a currency swap arrangement has shored up Male's record-low currency reserves. The joint announcement of infrastructure projects, Free Trade Agreement talks, and the outline of a vision statement on a comprehensive and maritime security partnership to be concluded indicate a change. In Mumbai and Bengaluru, Mr. Muizzu made a strong case for the return of Indian tourists to previous levels, and offered more avenues for investment and employment. The turnaround is welcome news, given the historic relationship, and shows how sensitive and subtle diplomacy can surpass muscular posturing and brash statements. This also allows the natural logic of close geography to reassert itself, which has ensured that India is always, as Mr. Modi put it, the "first responder" for the Maldives in times of need.

#### Trivia-

- **India's Neighbourhood First Policy:** According to Ministry of External Affairs, India's 'Neighbourhood First policy' guides its approach towards the management of relations with countries in its immediate neighbourhood. the concept of the Neighbourhood First Policy came into being in 2008. It was conceived to bolster relations with certain priority countries such as Afghanistan, Bangladesh, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka. The Neighbourhood First policy, inter alia, is aimed at enhancing physical, digital and people to people connectivity across the region, as well as augmenting trade and commerce. This policy has evolved into an institutional priority for all the relevant arms of the Government managing relations and policies with our neighbourhood.

- **SAGAR:** The 'Security and Growth for All in the Region' (SAGAR) concept was first articulated by the Prime Minister in Mauritius in 2015. Under this concept, India envisages a free, open, inclusive, peaceful, and prosperous Indo-Pacific region, one which is built on a rules-based international order, sustainable and transparent infrastructure investment, freedom of navigation and overflight, unimpeded lawful commerce, mutual respect for sovereignty, peaceful resolution of disputes, as well as equality of all nations. Guided by SAGAR, India is making concrete contributions in connectivity, capacity building, disaster management, enhancing people to people exchanges, promoting sustainable development, creating awareness on illegal, unreported, unregulated fishing, enhancing maritime safety and security as well as strengthening underwater domain awareness in the Indian Ocean Region.

- The swap arrangement for \$400 million and an additional ₹3,000 crore (\$357 million), signed between the Reserve Bank of India and the Maldives Monetary Authority under the South Asian Association for Regional Cooperation (SAARC) Currency Swap Framework, will be available until 2027. It enables payments between the two countries to be made in different currencies.
- Among the agreements signed are for the launch of the RuPay card in the Maldives and handover of 700 houses built with assistance by India. Memorandums of understanding were inked between the Central Bureau of Investigation and the Anti-Corruption Commission of the Maldives and between policing institutes and judicial training institutes; and also for cooperation in sports and youth affairs.
- The two countries released a "vision statement" for a "comprehensive economic and maritime security partnership" to be negotiated in the future; inaugurated a jointly  
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constructed runway for an international airport at Hanimadhoo island; and signed an agreement for India to support the Maldives on the refit of a Coast Guard ship.

- There was no mention of the return of Indian military personnel to the archipelago, however, a subject that had led to tension between New Delhi and Male, until India agreed to withdraw them and replace them with technical personnel in May 2023.
- He clarified that the refit of the Maldivian Coast Guard ship Huravee would be carried out at an Indian facility. This will not require Indian personnel to travel to the Maldives.
- India had played a “historic” role in the Maldives, including thwarting a coup there in 1988, and sending emergency assistance after the tsunami in 2004.

#### EXPRESS VIEW ON JAISHANKAR’S PAKISTAN VISIT: A LONG ROAD AHEAD

There is a frisson of anticipation ahead of External Affairs Minister S Jaishankar’s visit to Pakistan on October 15-16 for the summit-level meeting of the Shanghai Cooperation Organisation (SCO). After all, the last time an Indian Foreign Minister was in the country was nine years ago when Sushma Swaraj visited Islamabad for the Heart of Asia Conference on Afghanistan in December 2015. Her trip was followed by Prime Minister Narendra Modi going to Lahore to meet then-Prime Minister of Pakistan Nawaz Sharif. Since then, however, the bilateral relationship has been on a downward trajectory. A thaw in ties seems unlikely in the near term.

The elephant in the room remains Pakistan’s use of cross-border terror as a part of its security and strategic calculus. Despite the fact that its support for extremist groups has had grave consequences domestically, Rawalpindi continues to support separatist elements across the border. As Minister Jaishankar said at an event in New Delhi on Saturday, “if you’re all sitting together and cooperating, and at the same time, you know this kind of terrorism go(ing) on openly... in which case, you are normalising it, you are accepting that this is a legitimate tool of statecraft.” It is for this reason that the SAARC has become nearly defunct. Islamabad, for its part, is stuck with the maximalist position it took in the aftermath of the abrogation of Article 370 in Kashmir. Its stand that Delhi must undo the change in Jammu & Kashmir’s constitutional status as a precursor for dialogue cannot now be softened without political consequences domestically.

Jaishankar has made it clear that the visit is for the multilateral SCO summit and not to discuss India-Pakistan ties. When the then Foreign Minister of Pakistan, Bilawal Bhutto Zardari, visited India for the SCO meet last year, he exchanged barbs with Jaishankar, who had reacted sharply to Bhutto’s comments on Kashmir. A similar script could well play out in Islamabad this month. It is possible, of course, that Jaishankar interacts with leaders in Pakistan who have in the past hinted at less hostile ties with India. Such an engagement is important in itself and, given the volatile nature of Pakistan’s politics, a hedge for the future. At the current moment, however, Pakistan’s domestic political turmoil and uncertainty mean that it is not just a question of whether the SCO meeting is an appropriate forum to build bridges but also of who to build those bridges with. Jailed former PM Imran Khan’s party, Pakistan Tehreek-e-Insaf (PTI), has been protesting alleged delays in implementing the judicial verdict recognising its legislators and allowing the PTI to nominate women and minority members to the country’s National Assembly. The timing of the protests also casts a shadow over the SCO meeting. The PTI under Khan has directly challenged the Pakistan Army. Given this political uncertainty and continuing disagreements on core issues, the visit can, at best, be the first step in a long road to better ties between the two countries.



**For Your Information:**

— The Shanghai Cooperation Organisation (SCO) is a permanent intergovernmental international organisation. The main objectives of the SCO are to promote good relations among member countries, strengthen mutual confidence, make collective efforts to maintain peace, security, and stability in the region, and promote effective cooperation in various fields such as trade and economy, science and technology, culture, energy, transportation, tourism, environmental protection, etc.

— The member countries are India, Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, Uzbekistan, and Belarus. Belarus joined SCO as the 10th member on 4th July 2024. Afghanistan and Mongolia hold Observer Status.

**21ST ASEAN-INDIAN SUMMIT 2024**

— The 21st ASEAN-India Summit was held in Vientiane, Lao PDR, on 10 October 2024.

— Participating in the summit, PM Modi announced a 10-point plan to strengthen India-ASEAN relations.

— The 10-point included ASEAN-India Cyber Policy Dialogue, 2025 as the ASEAN-India Year of Tourism, doubling the number of scholarships at Nalanda University among others.

— The theme was “*Enhancing Connectivity and Resilience*”.

— The 10 member states of ASEAN are Indonesia, Thailand, Singapore, Philippines, Vietnam, Malaysia, Myanmar, Cambodia, Brunei and Laos.

— **Laos is the current chair** of the Association of Southeast Asian Nations.

**19TH EAST ASIA SUMMIT**

— The 19th East Asia Summit (EAS) was attended by Prime Minister Modi on 11th October 2024 in Vientiane, Lao PDR.

— The EAS process was initiated in 2005 with the convening of the 1st East Asia Summit in Kuala Lumpur, Malaysia.

— At its inception, it comprised 16 participating countries, namely ASEAN Member States, Australia, China, India, Japan, New Zealand, and the Republic of Korea. The United States and the Russian Federation joined at the 6th East Asia Summit in Bali, Indonesia on 19 November 2011.

**INDIA’S TERRITORIAL INTEGRITY MUST BE RESPECTED, SAYS CANADA**

In a first such statement that could thaw the frozen diplomatic ties between India and Canada over the assassination of Khalistani separatist Hardeep Singh Nijjar last year, Canada’s Deputy Foreign Minister David Morrison has said there is “one India” and “India’s territorial integrity must be respected”. He noted that there was an “upswing in the ties” till the G20 Summit in September 2023, and the two nations were also working on a foreign trade agreement. However, the assassination of Nijjar, a Canadian citizen, on Canadian soil “set in train a series of events culminating in the expulsion of 41 diplomats”.



### Know The Background-

- In September 2023, Canadian PM Justin Trudeau made a statement in the House of Commons about the “potential involvement” of Indian agents in the killing of Nijjar. India rejected Trudeau’s allegations as “absurd” and “motivated” and expressed concern over Canada becoming a hub of pro-Khalistan Sikhs. Bilateral ties plummeted following the row and trade talks between the two nations derailed. Canada arrested four Indian nationals in the course of their investigations into the Nijjar case.
- On September 7, 2023, Canada established a Public Inquiry into Foreign Interference in Federal Electoral Processes and Democratic Institutions, focusing on India, China, Russia and other foreign actors. The final report of the inquiry is to be submitted by December 31 this year.
- After Lok Sabha polls in June this year, Trudeau, while congratulating PM Narendra Modi on his re-election, had said talks with India can now resume on “some very serious issues around national security and keeping Canadians safe and the rule of law”.
- In June this year, the Canadian Parliament had observed a moment of silence in the memory of Nijjar. India had responded with a memorial service in Vancouver to pay tribute to the 329 victims of the Air India flight bombed by Khalistani terrorists in 1985.

### For Your Information-

- Canada hosts one of the largest Indian diasporas in the world, numbering 16 lakh people of Indian origin, accounting for more than 3 percent of the total Canadian population and 700,000 NRIs.
- India became the top source of foreign students studying in Canada — 2.3 lakh, according to 2022 data. India’s total trade with Canada (goods and services) in 2021-22 was US \$11.68 billion, much below potential, but when it comes to India’s import of pulses, almost 30% of the total import comes from Canada.
- Canadian pension funds have cumulatively invested around US \$55 billion in India. Cumulative FDI from Canada since 2000 is about US\$4.07 billion. All these have continued despite speed bumps like the recent pause in trade talks — and despite challenges over the Khalistan issue.
- As per the 2021 Canadian census, Sikhs account for 2.1 per cent of Canada’s population, and are the country’s fastest growing religious group. After India, Canada is home to the largest population of Sikhs in the world. Today, Sikhs lawmakers and officials serve at all levels of Canada’s government, and their burgeoning population is one of the most important political constituencies in the country. In 2017, Jagmeet Singh, 39, became the first Sikh leader of a major Canadian political party when he took the reins of the left-leaning New Democratic Party (NDP).

### Do You Know-

- Canada-India relations have see-sawed over the last 50 years. During the Cold War, bonhomie developed between Ottawa and New Delhi due to their shared commonwealth status and convergent views on the importance of the United Nations, multilateralism, and advancing global development. Differences over Cold War crises in Korea, Hungary, and Vietnam strained the relationship. India’s nuclear programme tested ties further.



• In the 1980s, Ottawa's interest in India was rekindled by rising Indian immigration. With limited prospects for trade or security relations, there was no basis for meaningful diplomatic engagement. Since then, however, much work has gone into reviving the relationship from its nadir in 1998, following Ottawa's repudiation of India's nuclear power status. Investment and trade form the heart of the relationship now, with considerable scope for growth. These issues and the bilateral relationship are held hostage by specific diaspora elements that harbour a deep hatred toward India, abhor its territorial unity and strive to Balkanise it.

#### Trivia-

- Canada is an important strategic partner for major western powers — it is part of the G7 grouping and shares the table with the US, UK, Germany, France, Italy, and Japan. It also shares intelligence with the Five Eyes grouping — with the US, UK, Australia, and New Zealand.
- All these countries are also close strategic partners of choice for India. India has the Quad partnership with the US, Australia, and Japan, and strong and growing bilateral ties with each of them.

### WHY DID SUPREME COURT STRIKE DOWN DISCRIMINATORY RULES ACROSS STATE PRISON MANUALS?

The Supreme Court on Thursday (October 3) struck down a series of rules in several state prison manuals which “reinforce caste differences” and target members of marginalised communities, especially those dubbed “criminal tribes” in the colonial era for violating the fundamental rights of the prisoners.

#### Why did SC strike down these rules now?

The decision follows a plea filed by journalist Sukanya Shantha, highlighting a series of rules and provisions in prison manuals from states including Uttar Pradesh, West Bengal, Andhra Pradesh, Madhya Pradesh, Odisha, Kerala, Tamil Nadu, Maharashtra, Karnataka, Rajasthan and Himachal Pradesh. The rules deal with the classification of prisoners and the assignment of work based on such classifications.

According to the 148-page decision authored by Chief Justice of India D Y Chandrachud, these manuals assigned prison work in ways that “perpetuate(s) caste-based labour divisions and reinforce social hierarchies”, violating the fundamental rights of prisoners.

For instance, under the Madhya Pradesh Jail Manual, 1987, prisoners from the ‘Mehtar’ caste — a Scheduled Caste community — are specifically assigned latrine cleaning work. They are required to “empty the contents of the small receptacle into large iron drums and replace the receptacles in the latrine after having cleaning them” during routinely conducted ‘latrine parades’.

Similarly, under the West Bengal Jail Code Rules, 1967, some work is explicitly divided based on caste. Rule 741 dealing with ‘Sickness in cells’ states, among other things, that “Food shall be cooked and carried to the cells by prisoner-cooks of suitable caste, under the superintendence of a jail officer”.

The Supreme Court has declared all the provisions and rules in question unconstitutional, and directed states and union territories to revise their prison manuals within three months. It has also directed the Centre to make necessary changes to address caste discrimination in the Model





Prison Manual 2016 and the draft Model Prisons and Correctional Services Act, 2023 within the same period.

#### **How do the prison manuals reinforce caste and colonial stereotypes?**

The Criminal Tribes Act of 1871 allowed the British Raj to declare any community as a “criminal tribe” if they were deemed “addicted to systematic commission of non-bailable offences”. With this declaration, these tribes were forced to settle in designated locations, subjected to constant checks and the threat of arrest without a warrant, and more draconian restrictions “based on a stereotype which considered several marginalized communities as born criminals”.

After multiple amendments and iterations, the Act was repealed in 1952 and the former ‘criminal tribes’ became known as ‘denotified tribes’. However, according to the apex court, “The manuals/rules also reinforce stereotypes against denotified tribes” through the classification between habitual and non-habitual criminals.

The court uses the example of Madhya Pradesh, where “any member of a denotified tribe may be treated as a habitual criminal, subject to the discretion of the State Government” (Rule 411). It also mentions rules in Andhra Pradesh, Tamil Nadu and Kerala where a person can be designated as a ‘habitual criminal’ if they “are by ‘habit’ a ‘robber, housebreaker, dacoit, thief or receiver of stolen property’ ... even if ‘no previous conviction has been proved, that he is by habit a member of a gang of dacoits, or of thieves or a dealer in stolen property”.

The West Bengal Jail Code Rules classify prisoners into ‘B’ or ‘A’ classes based on whether they are ‘habitual’ criminals or not respectively.

#### **Upholding the fundamental rights of prisoners**

The apex court detailed how the rules flagged by Shantha violate a host of fundamental rights under the Constitution of India:

**RIGHT TO EQUALITY (Article 14):** The court held that caste can only be used as a ground for classification “...as long as it is used to grant benefits to the victims of caste discrimination”. It also stated that “Segregating prisoners on the basis of caste would reinforce caste differences or animosity that ought to be prevented at the first place” and that such classification “deprives some of them of equal opportunity to be assessed for their correctional needs, and consequently, opportunity to reform.”

**RIGHT AGAINST DISCRIMINATION (Article 15):** The court held that the manuals both directly and indirectly discriminate against marginalised communities. “By assigning cleaning and sweeping work to the marginalized castes, while allowing the high castes to do cooking, the Manuals directly discriminate” it held. Further, “By assigning specific types of work to marginalized castes based on their supposed “customary” roles, the Manuals perpetuate the stereotype that people from these communities are either incapable of or unfit for more skilled, dignified, or intellectual work” which the court held results in indirect discrimination.

**ABOLITION OF UNTOUCHABILITY (Article 17):** The court reproduced a series of rules and held that they were representative of untouchability being practised in prisons. In Uttar Pradesh, a convict “shall not be called upon to perform duties of a degrading or menial character unless he belongs to a class or community accustomed to perform such duties”. To this, the court held that “The notion that an occupation is considered as “degrading or menial” is an aspect of the caste system and untouchability”.



**RIGHT TO LIFE WITH DIGNITY (Article 21):** The court held that the right to life with dignity under Article 21 “envisages the growth of individual personality” and “provides for the right to overcome caste barriers as a part of the right to life of individuals from marginalized communities”. These rules in prison manuals, it held, “restrict the reformation of prisoners from marginalised communities” and “deprive(s) prisoners from marginalized groups of a sense of dignity and the expectation that they should be treated equally”, violating this right.

**PROHIBITION OF FORCED LABOUR (Article 23):** Referring to how work is distributed such that some communities perform ‘honourable’ work while marginalised communities are relegated to ‘undesirable’ work, the court held “Imposing labour or work, which is considered impure or low-grade, upon the members of marginalized communities amounts to “forced labour” under Article 23”.

### THE RATS DID IT – COURT PULLS UP INDORE POLICE AFTER SAMPLES IN HOMICIDE CASE ARE DESTROYED BY RODENTS

The Madhya Pradesh High Court has pulled up the Indore police after they submitted that 29 samples, including crucial evidence in a culpable homicide case, were destroyed by rats. The court observed that the incident has shed light on the “pathetic condition in which the material collected during investigation is kept in police stations”.

The matter of the missing evidence came to light when the court was hearing a bail application moved by Ansar Ahmad, who is accused of beating his wife Tahira B with a stick in August 2021, causing injuries to her head, hand, and spine. She later died during treatment, after which police registered a case under sections 304 (culpable homicide not amounting to murder) and 323 (voluntarily causing hurt) of the IPC.

On October 4, Abhinay Vishwakarma, DCP Zone 2, along with Vijay Nagar SHO Chandrakant Patel, appeared before the court and answered queries regarding the destruction of evidence by rats.

The DCP informed the court that the “bottles in which the viscera were kept were plastic cans which were damaged by rats in the rainy season”, and that because of this, “histopathological reports could not be obtained.” He said 28 other samples were also destroyed by rats.

The High Court directed the state’s police chief to “take stock of all the malkhanas of all the police stations, so as to ensure that such incidents are avoided in future...”

The DCP told the court that a departmental inquiry has been initiated against the malkhana in-charge and the SHO over the lapses. Police also submitted that items in the malkhana have now been moved to another room, and “extra precaution has been taken to sanitise and seal the room”.

The court said the police’s explanation was “by no stretch of imagination, can be said to be satisfactory...”

### BOMBAY HC ALLOWS SINGLE WOMAN TO TERMINATE OVER 20-WEEK PREGNANCY

The Bombay High Court recently allowed a 23-year-old unmarried woman in a consensual relationship to terminate her unwanted pregnancy. The HC held that observations in the September 2022 judgment of the Supreme Court that extended the right to safe and legal abortion up to 24 weeks to unmarried and single women were applicable in the present case. It directed the state government to make changes as per SC observations, in forms, formats, and

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procedures seeking to be followed in cases seeking an abortion under the Medical Termination of Pregnancy Act, 1971.

**For Your Information-**

- The Medical Termination of Pregnancy Act, 1971 (MTP Act) allows the termination of pregnancy under the following circumstances. Upto 20 weeks, termination is allowed on the advice of one doctor.
- In case of a pregnancy of 20-24 weeks, abortion is allowed as an exception, but only under certain categories, after two registered medical practitioners have evaluated the right to seek termination.
- Rule 3B of Rules annexed to the MTP Act, which was amended in 2021, specify seven categories of women who are eligible for termination between 20-24 weeks. These are: survivors of sexual assault or rape or incest; minors; those who have a change of marital status during the ongoing pregnancy (widowhood and divorce); women with physical disabilities; mentally ill women; women carrying malformed foetus that has substantial risk of being incompatible with life; and women with pregnancy in humanitarian settings or disaster or emergency situations as may be declared by the government.
- While courts have read the MTP Act liberally, the test of “foetal viability” as a benchmark to allow abortion is new in India. The landmark 1973 US Supreme Court verdict in ‘Roe v Wade’ that made abortion a constitutional right allows abortion up to the point of foetal viability, that is, the time after which a foetus can survive outside the womb.

**BACKWARD CLASSES PANEL RECOMMENDS INCLUSION OF 7 CASTES, SUB-CASTES FROM MAHARASHTRA IN CENTRAL OBC LIST**

Ahead of the Maharashtra elections, the National Commission for Backward Classes (NCBC) Wednesday recommended the inclusion of seven castes and sub-castes from the state in the Central list of Other Backward Classes (OBC).

The castes and sub-castes recommended for inclusion are — Lodh, Lodha, Lodhi, Suryavanshi Gujar, Leve Gujar, Reve Gujar, Reva Gujar, Dangari, Bhojar, Pawar, Kapewar, Munnar Kapewar, Munnar Kapu, Telanga, Telangi, Pentarreddy, Bukekari.

NCBC chairperson Ahir and commission member Bhuvan Bhushan Kamal held two hearings on the issue, on July 26 and October 17, at Sahyadri state guest house in Mumbai, an NCBC statement said.

The statement said it had decided to “tender its advice” to the Union government on the issue.

All the castes recommended for inclusion are already part of the state OBC list, officials of the state government said. In the case of Powar, Bhojar and Pawar castes, the central list had already included them as Powar, Bhojar Pawar and Bhojar. However, the communities had submitted representations that they should be included separately. Hence, in this instance, the NCBC has recommended adding all three separately.

The Bhojar, Powar and Pawar communities are concentrated in Vidarbha region of eastern Maharashtra, especially in Bhandara and Gondia districts. They were first added to the central list



between 1996 and 1998, as per public records. The Gujar sub-castes recommended for inclusion are largely concentrated in north Maharashtra across Nashik, Jalgaon, Dhule and Nandurbar.

As of now, 261 castes from Maharashtra are on the Central list of OBCs. In their proposals, state governments have to back recommendations for addition of castes with data on the social, economical and educational backwardness of the communities.

The commission then vets the data and recommends it to the Centre for their approval. Subsequently, the Centre then notifies the recommended list of castes.

The communities added to the list are eligible for availing reservation in central government jobs, institutes of higher education and scholarships.

## WHAT IS LAND FOR JOBS SCAM, IN WHICH LALU PRASAD AND HIS SONS WERE GRANTED BAIL

Rashtriya Janata Dal (RJD) chief Lalu Prasad, and his sons Tejashwi Yadav and Tej Pratap Yadav, were granted bail by Delhi's Rouse Avenue court in a money laundering case linked to the alleged "land for jobs scam" being investigated by both the Central Bureau of Investigation (CBI) and the Enforcement Directorate (ED). The matter will now be heard on October 23 and 24.

### What is the case against Lalu and his family?

There are, in effect, two different cases against the family pertaining to the same matter.

#### 01 CBI's corruption case

The Bureau's case pertains to the alleged transfer of land at cheap rates to Lalu and his family in return for appointments made in Group-D substitute jobs in the Central Railways between 2004 and 2009, when Lalu was the Union Railway Minister.

According to the CBI, Lalu "influenced two officers of Central Railway... by virtue of his position as Minister of Railways... and got appointed [to Railway jobs] the owners and family members of owners of the land parcels wherein he was having interest". The CBI alleged that three land parcels in Patna were transferred to Lalu and his family either by candidates (who wanted the jobs) or their family members. Lalu got nine personse appointed in the Central Railways in lieu for the same, the agency said.

"As a quid pro-quo, the candidates directly or through their relatives/family members, sold land to Lalu Prasad Yadav at highly discounted rates up to 1/4th to 1/5th of the prevailing market rates," the CBI's charge sheet said. In total, Lalu's family acquired over 1 lakh sq ft of land for only Rs 26 lakh (as against the circle rate of over Rs 4.39 crore), the Bureau alleged.

Moreover, the CBI said that there were glaring discrepancies in the documents supplied by those who were given the jobs in this alleged scam. For instance, some candidates had sequential roll numbers on their caste and residence certificates implying that the accused had obtained these certificates "altogether and for a common purpose", the Bureau alleged.

The CBI's first chargesheet named Lalu, his wife Rabri Devi and his daughter Misa Bharti as an accused along with 13 others. The supplementary chargesheet added Tejashwi's name to the list of the accused. Till date, the CBI has filed five chargesheets in the case.



## 02 ED's money laundering case

The ED, in its over 4,700 pages long chargesheet, has alleged that a company was incorporated solely to buy land parcels from job seekers. In a money laundering case related to the land for jobs scam, the agency has named Rabri Devi, her daughters Misa Bharti and Hema Yadav, companies AK Infosystems and AB Exports Pvt. Ltd (ABEPL), former Railways employee Hridayanand Chaudhary, and Amit Katyal, director of A K Infosystems, as an accused. Last year, it attached immovable properties worth Rs 6.02 crore in this case, and also arrested Katyal.

According to the chargesheet, Katyal "in connivance with Lalu hatched a conspiracy" to incorporate a company in Delhi to buy land parcels situated in Bihar from prospective job seekers. The ED alleged that Rabri Devi was a beneficiary of the proceeds of crime, and that through a shell company, she helped in transferring funds to her son Tejashwi Yadav, which were allegedly used in the construction of a property in Delhi's New Friends Colony.

According to the ED, several parcels of land were acquired by Katyal in "return for giving undue favours by Lalu". After acquiring these lands, the shares of AK infosystems were transferred to Lalu's family members of Lalu Yadav in 2014 for just Rs 1 lakh, even though the company allegedly owned land worth Rs 1.77 crores. AK Infosystems, thus, served as a tool for Lalu to conceal the proceeds of crime in a way which would hide any apparent link between the crime and its real beneficiaries, the agency said in its submissions to the Court.

Moreover, the agency has alleged that A B Exports Pvt. Ltd (ABEPL), a shell company controlled by Lalu's family members with Katyal, served the purpose of holding the property situated at D-1088, New Friends Colony. This, the agency alleged, was used to integrate the proceeds of crime into the mainstream economy.

### How have Lalu and his lawyers responded to these allegations?

"This matter is entirely political. It is a conspiracy against us. Central agencies are being misused. The people know this. The case is totally false," Tejashwi told the media outside the Rouse Avenue Court on Monday.

The RJD has previously referred to the ED's actions in the case as a "sheer act of political vendetta" and an attempt to "weaken" the Opposition. "It is a malicious intention to target and tarnish the image of Lalu Prasad, Rabri Devi and Tejashwi Prasad Yadav," RJD national spokesperson Subodh Kumar Mehta had previously told The Indian Express.

Lalu's lawyers will formally respond to these allegations in court only when the charges are being framed. Currently, the case is at the stage of scrutiny of documents, and the investigation has not yet concluded.

The accused were represented by Senior Advocate Maninder Singh, and Advocates Varun Jain, Navin Kumar, Akhilesh Singh, Sumit Singh and Aekta Vats.

## SWEET AND SOUR

Last week, the Supreme Court of India rightly asked the petitioners in the case of the alleged adulteration of ghee used in the famed Tirupati laddu prasadam not to make the Court a "political battleground", but the issue is unlikely to remain one about ensuring quality control of a food item associated with pomp and sanctity. By appointing an "independent Special Investigation Team



(SIT)” under the direct supervision of the Director, Central Bureau of Investigation (CBI), the Court deftly made the Centre accountable in ensuring an impartial inquiry. But given the composition of the five-member SIT — two CBI officials, two Andhra Pradesh police officers and a domain expert from the Food Safety and Standards Authority of India (FSSAI) — questions are likely to be raised about its neutrality. The CBI and A.P. police come under the jurisdictions of political alliance partners, the Bharatiya Janata Party (BJP) led by Prime Minister Narendra Modi and the Telugu Desam Party (TDP) led by A.P. Chief Minister N. Chandrababu Naidu. The Centre’s conduct in court is likely to invite further allegations of bias, where it expressed ‘full confidence’ in the SIT formed by Mr. Naidu before the Court decided to hand the case over to the CBI-led SIT. Mr. Modi’s government has not expressed such confidence in inquiry panels set up by Opposition-ruled States such as the one in West Bengal to inquire into corruption allegations against the Saradha Group’s ponzi scheme in 2013.

The laddu issue has already taken on communal overtones with A.P. BJP chief and Rajahmundry MP Daggubati Purandeswari seeking a ‘declaration of faith in Lord Venkateswara’ from former A.P. Chief Minister and YSRCP chief Y.S. Jagan Mohan Reddy, a Christian. Mr. Reddy had to cancel his visit to Tirupati in September after protests by cadres of the ruling TDP and its allies, the BJP and Deputy Chief Minister Pawan Kalyan’s JSP. They have blamed the erstwhile Jagan Mohan Reddy administration of complicity in the alleged adulteration. The Naidu government buttressed Ms. Purandeswari’s demand by releasing “declaration of faith” documents signed purportedly by Bollywood actors and even former Jammu and Kashmir Chief Minister Farooq Abdullah. As The Hindu reported, the gas chromatography method, used to detect dairy contaminants, is unlikely to determine the exact quantum of “foreign fat” in the ghee samples. The central government must ensure that there is an impartial inquiry into the allegation that there was an attempt to contaminate the ghee supplied by a dairy in Tamil Nadu, samples of which were tested on July 6 and July 12. It must ensure that this is done without communalising the issue.

#### EXPRESS VIEW ON HARYANA, J&K POLL RESULTS: TWO DECISIVE WINS & ONE SORE, IRRESPONSIBLE LOSER

THE ASSEMBLY polls in Jammu & Kashmir and Haryana took place together, but their outcomes are momentous in different ways. In J&K, there is a need to pause at the election itself before taking stock of the result. After all, this contest came after a decade of electionlessness in the erstwhile state and five years after it was stripped of its special status by the abrogation of Article 370 and split into two Union Territories. The Supreme Court laid down a deadline, the Centre respected it and the Election Commission stepped up to the challenge of holding an election, despite the surge of violence in the Jammu region. Now the National Conference’s remarkable achievement — it has held together through great adversity and in alliance with the Congress, crossed the halfway mark — must take second place to the trust reposed in the power of the vote by the J&K electorate. Commendably, and in a constitutional democracy, hearteningly, the people of J&K have cast aside narratives of alienation and boycott politics and embraced a new consensus on political participation and electoral engagement.

In Haryana, the BJP has coursed to a historic third consecutive win in a state that is not a traditional bastion. Its victory, only months after the unambiguous setback in the Lok Sabha verdict in June, speaks of the party’s ability to get back on its feet again and go for the win. For students of Indian politics, it is a cautionary tale — this country’s politics retains its ability to spring a surprise. But it seems that the story of the Haryana election is not yet over even after the votes have been counted — and therein lies a second cautionary tale.



THE CONGRESS party has taken a step that is as unprecedented as it is bizarre. It has become the first mainstream party to question an election result in an electoral system deservedly applauded for its streamlined machinery and impeccable credibility. That the Congress is imputing that the Haryana election was less than free and fair is outrageous. It speaks of a sore loser and, much more than that, an irresponsible stakeholder.

In a system in which candidates who have lost by narrow margins, or even by one vote, have not questioned the fairness of either the umpire or the electoral mechanisms, the Congress's unchecked flailing is enormously disturbing and a huge self-goal. Rahul Gandhi's party needs to take a step back from its moment of defeat. It must ask itself if its extreme petulance is doing itself, and the people who vote for it, a grave disservice. As the leading Opposition party at the Centre, which also leads governments in three states, it ill behoves it to refuse to respect the result just because it has gone against its ambitions and expectations. To make matters more absurd, two prominent Haryana Congress leaders, Bhupinder Singh Hooda, also the face of its campaign, and chief ministerial wannabe, Kumari Selja, have conceded defeat, even as their party's central leadership challenges the result.

AS THE Congress conjures up spectres and focuses on conspiracy theories in Haryana, it risks losing sight of the task it shares with the National Conference in J&K. Here, the hard work of politics and governance lies ahead.

It will include arduous negotiations within the structural constraints. The Lieutenant Governor was given a role larger than the assembly by the Jammu and Kashmir Reorganisation Act 2019; recent amendments to the transaction rules have increased the already considerable powers of the Centre's nominee. Delhi, the only other UT with a legislature, has showcased the damage that can be wreaked by constant attrition between the elected government and the unelected constitutional functionary.

In an interview in August, on the occasion of the fifth anniversary of the abrogation of Article 370, J&K L-G Manoj Sinha told this newspaper: "I will work towards achieving a fine balance with the elected government to achieve peace, prosperity and development... If this is the objective, then where is the possibility of a clash?" Omar Abdullah, who did well to change his mind on entering the electoral race — he had told this paper, also in August: "I have been... the CM of the (once) most empowered state. I can't see myself in a position where I would have to ask the L-G for appointing my peon" — will need to hold the L-G to his words. And as his ally, the Congress will need to help him to do that.

By giving in to its own worst instincts in Haryana, the Congress could be abdicating its opportunity in J&K, where sobriety and sagacity are demanded of it as a partner in the new government, which must contend with the people's high expectations even as it possesses truncated powers.

IT MUST be hoped that the Congress will retrace its steps on the perilous path it set out on, on Tuesday. In Haryana, instead of quarreling with the verdict, it needs to ask itself some tough questions. While the Lok Sabha verdict gave its hopes a leg-up, it may have overread it. It may have sought to counter the BJP's Hindutva appeal with a crude caste politics, that sought to draw us-and-them lines deeper, instead of building larger coalitions, and smudging identity politics, if not transcending it.

The Congress lost in Haryana, and has a chance to govern in J&K, and the sooner it gets down to its work in both states, the better for it. And for the BJP, the stunning Haryana triumph and the



healthy showing in Jammu mean that the road ahead from the Lok Sabha verdict towards Maharashtra and Jharkhand suddenly looks less uphill.

## CONGRESS ALLEGES 'CONSPIRACY' IN HARYANA POLLS: HOW AN EVM BATTERY WORKS

The Congress has rejected the outcome of the Haryana Assembly election, raising “serious questions” about the Electronic Voting Machines (EVMs).

Congress general secretary in charge of communications Jairam Ramesh said some candidates had noticed that on EVMs that had 99% battery charge, the party had lost, while those with a charge of 60-70% showed a victory for the Congress.

The party did not elaborate on this allegation on Tuesday. It said it would bring the issue to the notice of the Election Commission of India (ECI) over the coming days.

Lok Sabha Leader of Opposition Rahul Gandhi posted on X on Wednesday (October 9) that the Congress would take up complaints coming from several Vidhan Sabha seats with the ECI, but gave no details of those complaints.

### **How does the battery in an EVM work?**

EVMs run on alkaline batteries (instead of electricity), so they can be used in areas that do not have electricity. According to the ECI, the control unit (CU) of the EVM has a power pack of 7.5 volts or 8 volts, and the Voter Verifiable Paper Audit Trail (VVPAT) unit, which is attached to the EVM, has its own power pack of 22.5 volts.

The EVM batteries are manufactured by the two public sector undertakings that make the machines themselves, Bharat Electronics Limited (BEL) and Electronics Corporation of India Limited (ECIL).

In the Frequently Asked Questions section of its website, the ECI says: “The power packs of CU and VVPAT are periodically monitored and the balance power status is displayed by the control unit as “High”, “Medium”, “Low”, “Marginal” and “Change Battery” along with the percentage. The power packs are replaced from the “Reserve” power packs available with the Sector Officers when the “Change Battery” status is displayed by the CU.”

ECI sources said a new battery usually lasts for an entire election and counting process, and can sometimes be used in case of a re-election in that constituency as well. The display unit shows “99%” charge till the time the electric potential of the battery is between 7.4 volts and 8 volts, the sources said. Once the level falls below 7.4 volts, the actual percentage of the charge is displayed. When the battery reaches 5.8 volts, the display unit shows an indication to change the battery.

How long the battery lasts depends on the usage — how many votes were cast during the mock poll, how many times the votes were totalled by pressing the ‘total’ button, and the number of votes cast during the poll.

### **What is the procedure to change an EVM battery?**

A new battery is installed in the EVM at the time of first-level checking before any election. Political parties are informed beforehand, and their representatives can be present during the check.





On the day of the poll, a mock poll is held before electors are let inside the polling stations, again in the presence of the polling agents of candidates. If the battery level dips during the polling, and the battery has to be changed, it is done in the presence of the polling agents of the candidates.

The EVM Manual of the ECI says: “In case the power pack of CU does not function properly or show low battery, replace power pack of CU. For this purpose presiding officer shall replace the power pack of CU in presence of polling agents and sector officer and again seal the battery section of CU with address tag and obtain their signatures.”

At the close of the poll, the presiding officer of each polling station has to submit a report to the EC about any battery change as a part of the overall presiding officers’ report. The format includes the unique ID of the control unit, the reason for replacement of the power pack of the CU, and signatures of polling agents present.

#### **So what has the Congress alleged?**

Addressing a press conference on Tuesday, Jairam Ramesh said the party had received very serious complaints regarding the counting process from at least three districts, and more were coming in. 10-12 Assembly constituencies were affected, he said.

“Did you understand the conspiracy? Wherever there was a 99 per cent battery, the BJP won. And where the battery is less than 70 per cent, the Congress won. If this is not a conspiracy, then what is?... I hope the ECI gives us time, and we can put the complaints in front of it,” he said.

However, the party has not explained the “conspiracy”, or what it thinks is the correlation between the higher battery percentage and alleged tampering. At the same time, its own senior Haryana leaders, Bhupinder Hooda and Kumari Selja, have conceded defeat.

#### **And what has the ECI said?**

So far, the ECI has not commented officially on the Congress’ allegations. However, sources said the ECI did not receive any complaints from candidates or polling agents at the time of polling regarding EVM batteries.

Earlier on Tuesday, the Congress had written to the ECI alleging a slowdown in the updates of results on the ECI’s website — a complaint that the ECI had said was “ill-founded”.

#### **So what is the upshot of this controversy?**

The Congress’ latest attack is in a long line of questions that have been raised on the functioning of EVMs by almost every party over the years.

Congress leader Digvijaya Singh had raised questions about the EVMs after the party lost power in the Madhya Pradesh, Chhattisgarh and Rajasthan Assemblies last year. Both the Samajwadi Party and the Bahujan Samajwadi Party had doubted EVMs after the BJP won the 2017 Uttar Pradesh Assembly elections.

Over the years, however, the ECI has pointed to the several legal challenges that have failed, and maintained that the EVMs cannot be manipulated. Most recently, the Supreme Court in April rejected a plea for returning to paper ballots or 100% counting of VVPAT slips.



## HIZB-UT-TAHRIR BANNED, MHA SAYS GROUP INTENDS TO ESTABLISH CALIPHATE

The Centre on Thursday banned Hizb-ut-Tahrir (HuT), a global pan-Islamic group set up in Jerusalem in 1953, under UAPA, saying that the organisation aims to establish Islamic state and caliphate globally, including in India, through jihad and terrorist activities. In a notification, the MHA said the HuT is involved in radicalisation and motivation of gullible youth to join terrorist organisations, such as ISIS, and raising funds for terror activities.

Hizb ut-Tahrir is an international pan-Islamist and Islamic fundamentalist political entity that seeks to restore the Islamic caliphate to unify the Muslim community (referred to as ummah) and enforce sharia law worldwide.

- Hizb ut-Tahrir perceives global history as a perpetual struggle between Islam and non-believers, viewing the state system as a historical affront to Islam. The group perceives Jihad as a fundamental component of its ideology and regards it as a mandatory obligation to combat disbelief until universal submission to Islamic governance is achieved, without differentiating between the violent and spiritual facets of Jihad. Initially, Hizb ut-Tahrir focusses on the 'near enemy', promoting the ousting of rulers who "feign adherence to Islam", which they deem essential for the worldwide proliferation of Islam.

### Do You Know-

- The UAPA gives powers to the government to probe and prosecute people for acts of terrorism, and to designate an organisation as an "unlawful association" or a "terrorist organisation", or an individual as a "terrorist".
- It was enacted on the recommendation of the National Integration Council, set up in 1961 to find ways to counter problems that were dividing the country. In 1962, the Council constituted a committee that recommended introduction of "reasonable restrictions" in the exercise of certain fundamental rights. The UAPA was enacted with the objective of implementing these restrictions. However, in its original form, the Act largely dealt with secessionist activities, with no explicit mention of terrorism.
- In 2004, the Act was amended for the first time, with "and for dealing with terrorist activities" added to its title. The UPA government had repealed the much criticised Prevention of Terrorist Activities Act (POTA) that year, and the amendment to the UAPA sought to fill the void left by it. The amendment introduced Chapter IV (Sections 15 to 23) to the statute, which defines the act of terrorism, the punishment for it, and various activities associated with the same. It also introduced Chapter V which deals with "proceeds of terrorism", and provides for seizure of such proceeds by authorities and forfeiture of properties owned by those accused of terrorism.
- The government also amended Section 1 of the Act, to make illegal acts committed by Indian citizens abroad punishable under the law. In Section 2, which in the original Act defined "unlawful activity" as an act aimed at secession of a part of India or an act intended to disrupt sovereignty and territorial integrity of the country, the government added the clause "which causes or intended to cause disaffection against India".

Over the years, however, UAPA has further evolved such that it can be invoked in situations which do not appear to be 'acts of terror', as the term is generally understood.



- In 2019, the Narendra Modi government pushed through Parliament a controversial amendment in the Act which gave the government the powers to designate an individual as a terrorist. Until then, only organisations could be designated as “terrorist”. This was criticised as overturning the founding principle of the criminal justice system that presumes innocence until proven guilty for every suspect. The amendment also allowed the National Investigation Agency (NIA) powers to seize assets belonging to terrorists across the country without seeking consent or even informing the state concerned. It allowed even an NIA inspector to become the investigating officer of a terror case. Earlier, only DySPs could do so.

## A DEFEAT FORETOLD

In yet another blow to the Maoists, 31 of their cadre, including senior members, were killed in a firefight with security forces on Friday in Abujmadh, the unsurveyed and forested stretch in south Chhattisgarh that is considered the last bastion of the insurgents. Scores of left-wing extremist cadres have been killed in “encounters” in Chhattisgarh and other States in recent months, as coordinated actions by various paramilitary forces and the police have intensified following significant attacks by the Maoists in recent years. The security forces are cognisant of the fact that while the Maoists have likely lost much of their clout and presence across jungles in central and eastern India, their remaining firepower poses a threat in places where they remain active. The intensified campaigns, supported fully by the Union Home Ministry, have dealt blow after blow to the insurgents, leading to numerous surrenders. It should also be noted that the setbacks to the Maoists would not have been possible if the people in tribal areas, where the insurgents have mounted a guerrilla struggle, had adhered to the Maoist cause. After years of putting tribal people in India’s remotest areas in harm’s way, the Maoists are now facing fatigue from them, as well as alienation.

There are several problems with Maoist theory and political practice that suggest that the weakening of the insurgency was always on the cards. Similar insurgencies in Peru, the Philippines, Malaysia, and Colombia also failed. For the Indian Maoists, an over-dependence on militarism to pursue political aims and the subordination of political-ideological work, resulting in a spiral of violence, have turned away potential supporters, mostly poor tribal people. The adherence to an anachronistic ideology of Maoism in a diverse country where the terrain and political system bear little resemblance to 1920s China combined with an inability to recognise the resilience of electoral democratic institutions and the nature of the Indian state are other factors. These issues have led the Maoists to neglect the opportunities available within Indian democracy, despite its flaws. In an unsigned pamphlet released in August to mark 20 years of the movement since the formation of the CPI (Maoist), following the merger of the two strongest remnants of the Naxalite movement, the Maoists lamented their weakening and setbacks but doubled down on their ideological intent. This shows their unwillingness to learn from their own experiences. For the sake of the tribal people, whose interests they claim to represent, the Maoists must abandon arms and enter the democratic process.

## 95% OF HOUSEHOLDS HAVE PHONE IN INDIA, ONLY 9.9% OWN COMPUTER

Over 95 per cent of households possess a telephone or mobile phone in India, while just 9.9 per cent of households possess a computer including desktop, personal computer and laptops, the Comprehensive Annual Modular Survey 2022-23 released by the Ministry of Statistics and Programme Implementation (MoSPI) on Wednesday showed. The concentration of ownership of



computers is with urban households with a 21.6 per cent share, while rural households have a 4.2 per cent share.

#### **For Your Information-**

- Approximately 96.9 percent of persons aged 15-24 years are able to read and write simple statements with understanding and also able to perform simple arithmetic calculations. In the same age group, the figure stands around 97.8 percent for males and 95.9 percent for females.
- The mean years of schooling in formal education, for persons age 15 years and above is 8.4 at the all-India level and the same is 7.5 for persons age 25 years and above.
- The average out-of-pocket medical expenditure per household on hospitalization during last 365 days in rural and urban areas are Rs 4,129/- and Rs 5,290/- respectively. Additionally, the average out-of-pocket medical expenditure per household on non-hospitalization during last 30 days in rural and urban areas are Rs 539/- and Rs 606/- respectively.
- Approximately 93.7 percent urban population has convenient access to low-capacity public transport (bus, car, taxi, auto etc) within 500 meters from the place of living.
- 78.4% of youth aged 15-24 years can send messages with attached files, while 71.2% can use copy-and-paste tools. Additionally, 26.8% can perform more advanced tasks like searching for information, sending emails, and conducting online banking.
- 95.7% of persons aged 15-24 years in rural areas can use mobile phones, with the figure being 97% in urban areas.
- 82.1% of rural youth aged 15-24 years can use the internet, compared to 91.8% in urban areas.
- Around 94.6% persons aged 18 years and above, having an account individually are jointly in any bank / other financial institution at all India level.

### **NATIONS WITH MINERAL RESERVES NEEDED FOR ENERGY TRANSITION**

The world's energy system is mainly powered by fossil fuels. The transition to a low-carbon one will shift its underpinnings away from coal, oil, and gas to the minerals needed for solar, wind, nuclear, and other technologies. Which countries have such mineral reserves that can be mined? Below we explain the importance of each mineral. The graphic shows the share of the world's reserves in each country.

**Bauxite:** Primary source of aluminum. Essential for wind turbines, solar panels, batteries, electrolyzers, and transmission cables.

**Chromium:** Key for geothermal and concentrated solar power. Used in wind turbines, and for radiation shielding in nuclear power plants.

**Cobalt:** Used in consumer electronics, catalysts for the oil industry, resistant metal alloys, critical components in many lithium-ion battery technologies.

**Copper:** Critical element in solar photovoltaics, wind power, battery storage, and electricity grids.

**Graphite:** Key component of battery anodes and therefore important for the transition to electric vehicles, and stationary batteries for balancing electricity grids.



Lithium: Core component of lithium-ion batteries.

Manganese: Widely used in solar and wind power, and in lithium-ion batteries for electric cars.

Molybdenum: Has a very high electrical conductivity but expands little when exposed to heat.

Nickel: Key component in the cathodes of lithium-ion batteries in electric cars.

Rare earths: Used in wind power for permanent magnets.

Silver: It's most important role in clean energy is in solar photovoltaics and electric vehicles.

Uranium: Primary fuel for nuclear energy production.

## UPPER STAGE OF PSLV C-37 RETURNS TO EARTH, SAYS ISRO

The Indian Space Research Organisation (ISRO) said that the upper stage of the Polar Satellite Launch Vehicle C-37 (PSLV C-37 mission) re-entered the Earth's atmosphere on Sunday.

The PSLV-C37 mission was launched on February 15, 2017, with Cartosat-2D as the main payload along with another 103 satellites as co-passengers, namely INS-1A, INS- 1B, Al-Farabi 1, BGUSAT, DIDO-2, Nayif 1, PEASS, 88 Flock-3p satellites, and 8 Lemur-2 satellites. The space agency created history as it was the first mission to launch 104 satellites with a single vehicle. After injecting the satellites and passivation, the upper stage (PS4) was left at an orbit of approximately 470x494 km.

"It was regularly tracked by U.S. Space Command (USSPACECOM) as an object with NORAD id 42052. Its orbital altitude slowly decayed, primarily due to atmospheric drag effects," ISRO said on Tuesday.

Since September, ISRO System for Safe and Sustainable Space Operations Management (IS4OM) regularly monitored the orbital decay as part of its regular activities and predicted re-entry into the atmosphere in the first week of October. "The orbit had decayed to a size of 134x148 km, as of October 6, 2024. As per USSPACECOM prediction, the re-entry took place on October 6 at 15:49 UTC (+/-1 minute of uncertainty) while IS4OM prediction also showed that re-entry would occur on October 6 at 15:48:25 UTC. The corresponding impact point is in the North Atlantic Ocean," ISRO said.

The atmospheric re-entry of the rocket body is fully compliant with the international debris mitigation guidelines, in particular, the guideline of Inter-Agency Space Debris Coordination Committee (IADC) that recommends limiting the post-mission orbital life of a defunct object in Low-Earth orbit to 25 years.

## MARINA MAYHEM

Events that draw huge crowds require careful preparations. The loss of five lives during an air show at mid-day on Chennai's Marina beach on October 6, organised by the Indian Air Force (IAF) as part of its 92nd anniversary, could have been avoided with better anticipation of the surge in spectators. The cause of death was attributed to heatstroke, though dehydration and suffocation may also have been factors. More than 200 people reportedly fainted. The IAF had issued advisories urging attendees to be well protected against the heat of around 34°C to 35°C. After the show, many complained of dizziness. Tamil Nadu Health Minister M. Subramanian said 102

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



individuals were sent to government hospitals nearby. In addition to the medical emergencies, chaos ensued on Chennai's roads for hours. Metro Rail and Mass Rapid Transit System (MRTS) trains were overcrowded. Stations were extremely congested and services were insufficient. Tamil Nadu Chief Minister M.K. Stalin announced a solatium of ₹5 lakh each to the families of those dead. He attributed the traffic congestion to the "overwhelming response", despite multiple departments coordinating preparations.

This is not the first time that Chennai has hosted such an event. An IAF air show on September 6, 2003, drew an estimated 13 lakh people, just 2,00,000 less than this year. Notably, there were no heatstroke fatalities then, although two children went missing. Traffic management and train services were similarly chaotic. Clearly, lessons have not been learned. The blame should be shared not only by the State government, responsible for logistical support, but also by the railway administration for its inadequate response. Defence officials should have provided more critical inputs than they did, given their experience in conducting such shows nationwide. After the crash of a fighter jet at an air show in New Delhi on October 8, 1989, the IAF seemed to have addressed its weak points to ensure smooth events related to Air Force Day. In a social media post, Mr. M. Subramanian claimed that the government had exceeded the requirements requested by the IAF. However, his assertion about sufficient toilets and drinking water did not align with complaints about inadequacies at the venue. The authorities should not have allowed several lakhs to converge at the Marina. Giant screens could have livestreamed the display and volunteers from higher education institutions could have assisted the police, transport and health officials to attend to those in distress. Defence officials and host States should critically review their plans. Only then can such mayhem be prevented.

## HOW ARE TANKS ARMOURING LADAKH SECTOR?

### The story so far:

The Ukraine war front has showcased the adaptability of battle tanks, proving that armour is even more essential in the new-age battlefield in addition to long-range firepower. In another arena, after the May 2020 stand-off in the Eastern Ladakh sector between India and China, armies and tanks of both have been deployed at altitudes of 13,000-15,000 feet, in some cases barrels facing each other 100 metres apart.

### What is the current situation?

In September 2024, the Army demonstrated the capabilities of its armour deployed close to the Line of Actual Control (LAC) in Eastern Ladakh. T-90 tanks and BMP-2 armoured carriers demonstrated their capabilities including crossing the Indus river at Nyoma located at an altitude of 13,700 feet and around a 30 km straight line from the LAC. Army personnel explained the challenges in maintaining the machines and keeping them optimally functional in extreme weather conditions to a group of visiting journalists. "We are fully prepared to destroy our enemy at this altitude. It (T-90) can be deployed anywhere and remove obstacles to cross the area. It is capable of deep-fording (the technique used to cross water bodies)," said tradesman Manoj Kumar. He termed the T-90, manufactured in India as the Bhishma, as one of the best tanks in the world.



### **What happens when the temperature dips?**

The performance of tanks can be affected due to the rarefied air (with low oxygen level). “When the temperature dips at night, we have to start the engine two-three times so that it can remain functional,” Mr. Kumar explained. The T-90, manned by a three-member crew and powered by a 1,000-hp engine, has a 125-mm main gun, a 7.62-mm machine gun and a 12.7-mm gun for aerial targets. It can also fire an Anti-Tank Guided Missile (ATGM). The Army is also planning to upgrade the T-72s with a 1,000-hp engine. The BMPs can go under water and even float and are much faster than tanks, one officer observed as several T-90s and BMPs raced across the uneven terrain raising waves of dust all around, the ground vibrating as they passed.

Since 2012, India has been significantly augmenting its infrastructure and deployments in Ladakh. For instance, the Army began deploying troops on longer tenures along the LAC instead of loop battalions on six-month tenures. This has meant availability of more acclimatised troops and increased patrols in the claim areas. Beginning 2014, India started deploying tank regiments consisting of T-72s in Eastern Ladakh. One tank regiment each was deployed in 2014, 2016 and 2018 completing the full brigade. More tanks, BMPs as well as artillery guns were pushed in since the stand-off. Eastern Ladakh has several plains in between the mountain ranges and the terrain permits use of tanks and mechanised elements. India has deployed tanks in Sikkim since long.

### **What happened after 2020 Galwan clash?**

After May 2020, there was a major force accretion as well as reorientation of troops from the western to the northern borders. As the stand-off unfolded, the Indian military went all-out in mobilisation to counter Chinese build-up as well as its ingress into Indian-held territory. The Indian Air Force (IAF) pressed its entire transport fleet, airlifting over 68,000 troops, 330 infantry vehicles and over 90 tanks in addition to artillery guns in the initial phase, according to defence sources. In all, over 9,000 tonnes were airlifted including radars and surface-to-air guided weapon systems.

At the height of the tensions in Eastern Ladakh, the Army deployed one regiment of K9 Vajra tracked self-propelled Howitzers to augment its long-range fire power to counter a massive Chinese build-up. The K9 Vajra is a 155-mm, 52 calibre tracked self-propelled Howitzer built by Larsen & Toubro (L&T) with technology transfer from South Korean defence major Hanwha Defence. Impressed with their performance, the Army is now in the process of procuring another 100 of these guns. “Acceptance of Necessity (AON) for repeat order of 100 Guns was granted. Further process is on,” said Lt Gen Adosh Kumar, Director General of the Regiment of Artillery.

At the end of August in 2020, as tensions flared up once again on the north and south banks of Pangong Tso, tanks of both sides came dangerously close, about 100 metres apart, on the Kailash ranges. They were subsequently pulled back some distance from the friction points as part of the disengagement reached between the two countries.

### **What are the challenges due to high altitude?**

Dialling back to the 1962 war, the Indian Army had attempted using tanks at these heights as six AMX-13 tanks were airlifted to Ladakh in AN-12 transport aircraft. However, their trust was blunted as both the men and the machines were not prepared for the high altitude. Oxygen levels go down at high altitudes while temperatures dip to minus 40 degrees. Most military hardware, especially built by other countries, is not designed to operate in those conditions. There is also high wear and tear and degradation, requiring quicker turnaround of spares and systems. This



time too, transporting the tanks to these locations and then ensuring they are fully operational was a Herculean task. The tanks which have been transported remain there as troops and units rotate. The Army has created maintenance facilities for the tanks and armoured vehicles at Nyoma and also on the axis to Daulat Beg Oldi. Special lubricants and fuel are used to keep the tanks running, and engines are revved-up to keep the systems in order. For the K9s too, to ensure their optimal performance, the Army has procured winterisation kits to protect batteries, oils and lubricants and such. There are nine items, which don't freeze at -20 degrees, as reported by The Hindu earlier.

#### **What is India up against?**

The Chinese People's Liberation Army (PLA) has rapidly upgraded its troop strength and fire power along the LAC. It has deployed the ZTQ 15 (Type 15) 3rd generation modern light tank, in addition to the Type 96A 2nd generation tanks. Chinese mechanised brigades opposite Eastern Ladakh have inducted new wheeled APCs as also the CSK series of assault vehicles.

Not just India and China, several European countries have outlined major tank acquisition plans, while major tank producers, like the U.S., the U.K., Germany among others, are adding new protective systems to existing tanks. France and Germany recently announced plans for the joint development of a new tank.

#### **What lies ahead?**

From lessons drawn from Ukraine, the Armenia-Azerbaijan war and the Israeli offensive in Gaza and Lebanon, among the top threats are long-range projectiles, drones of various kinds and loitering munitions. Measures are already being implemented to counter them and protect armoured columns and other assets. The Army is looking for air burst ammunition to be fired from 30mm cannons on the BMP-2s to shoot down drones as well as more potent ammunition for the tanks. This is in addition to planned upgrades for the armoured carriers, which includes a 3rd gen ATGM replacing the existing 2nd gen Konkurs wire guided ATGM. Procurement of other variants of the BMP are in the pipeline while a range of specialised vehicles have been inducted since the stand-off. The U.S. Stryker infantry combat vehicle is also under evaluation and a few hundred vehicles could possibly be procured. Aside from the upgrades, the hunt is on for new Future Ready Combat Vehicles (FRCV) and Future Infantry Combat Vehicles (FICV) to replace the existing tanks and BMPs in service. These are long-term projects, which have failed to take off in the past, but are now expected to see faster progress given the relative development of the domestic industry in the last few years. With the main battle tank proving to be pivotal in modern day battlefields, the Indian Army is looking to procure a new generation 'Future Tank' under the FRCV project in a phased manner, with expected induction by 2030, according to official sources.

In the immediate term, the most pressing project is the light tank weighing 25 tonnes, the need for which was felt by the Army during the stand-off, as China deployed its own light tanks along the LAC which are agile and more manoeuvrable. The indigenous light tank 'Zorawar' being developed by the Defence Research and Development Organisation (DRDO) along with L&T has just successfully completed preliminary automotive as well as firing trials. After a series of trials, the light tank is planned to be handed over to the Army for user trials by August 2025, officials said.

Given the hectic pace of developments, tanks and armoured platforms are adapting to the changing nature of warfare, and are going to remain a potent force for both offensive and defensive purposes.





## NORTHERN LIGHTS

- Northern lights, or aurora borealis, were observed in parts of the world including the United States, Canada, the United Kingdom, Germany, and even Hanle village in Ladakh, India.
- Auroras are essentially natural lights that appear as bright, swirling curtains in the night sky and can be seen in a range of colours, including blue, red, yellow, green, and orange. These lights primarily appear near the poles of both the northern and southern hemispheres all year round but sometimes they expand to lower latitudes.
- When witnessed near the North, these bright and colourful lights are called Aurora Borealis, while those in the South are called Aurora Australis.
- India's **first dark-sky** preserve is the Indian Astronomical Observatory (IAO), a high-altitude astronomy station in **Hanle (Ladakh)** operated by the Indian Institute of Astrophysics.
- Recently, in January 2024, **Pench Tiger Reserve (PTR)** in Maharashtra was designated as **India's first Dark Sky Park in India**.

## FRESH GREEN NOD FOR UTTARAKHAND HYDRO PROJECT WILL HINGE ON FOREST, WILDLIFE CLEARANCES: EXPERTS PANEL

A fresh environmental approval for the 76 MW Phata Byung hydropower project on the Mandakini river, which was severely damaged during the 2013 Uttarakhand disaster, will largely depend on forest and wildlife clearances owing to the dense vegetation surrounding the project site, an expert panel from the environment ministry has stated.

- Envisaged as a run-of-the-river project, it will draw water from the Mandakini, a tributary of the Alaknanda, which is one of the headwaters of the Ganga. It is the first hydropower dam located downstream of Kedarnath.
- The project suffered extensive damage during the 2013 floods, which were triggered by a cloudburst and subsequent glacial lake outburst. The dam structure was compromised, the reservoir area became filled with debris, and machinery was washed away. In 2021, the central government recommended the resumption of work on seven under-construction hydropower projects in Uttarakhand, with Phata Byung being one of them. Other notable projects include Tapovan Vishnugad (520 MW), Vishnugad Pipalkoti (444 MW) and Singoli Bhatwari (99 MW).
- The Expert Appraisal Committee on river valley and hydroelectric projects, one of the 11 sectoral panels responsible for granting prior environmental approvals, gave preliminary permission for the hydropower project in April this year. A fresh application for environmental approval was submitted to the environment ministry after Lanco Infratech, the previous project proponent, went into liquidation.

### Trivia-

- The Mandakini River is a tributary of the Alaknanda River in the Indian state of Uttarakhand. The river runs for approximately 81 kilometres between the Rudraprayag and Sonprayag areas and emerges from the Chorabari Glacier. At the end of its course it drains into the Alaknanda, which flows into the Ganges.



- Between June 13 and 17, 2013, the state of Uttarakhand had received an unusual amount of rainfall. This led to the melting of the Chorabari glacier and the eruption of the Mandakini river. The floods affected large parts of Uttarakhand, Himachal Pradesh and Western Nepal. The heavy rainfall caused massive flash floods and landslides resulting in the death of residents and tourists as well as extensive damage to property.

## WHAT IS FORTIFIED RICE? WHY DID CENTRE EXTEND ITS DISTRIBUTION IN SCHEMES?

The Union Cabinet on Wednesday (October 9) extended the universal supply of fortified rice in all central government schemes providing free food grain under the National Food Security Act, 2011, in its present form, until December 2028.

In a briefing on the Cabinet decision, Union Information and Broadcasting Minister Ashwini Vaishnaw said that the aim of this was to “address anaemia and micro-nutrients deficiency”.

The Cabinet Committee on Economic Affairs (CCEA), in April 2022, had decided to implement the rice fortification initiative throughout the country in a phased manner by March 2024. All three planned phases have now been successfully completed, with the target of universal coverage achieved by March 2024, an official statement following the Cabinet announcement said.

### **What is rice fortification, and why is it needed?**

The Food Safety and Standards Authority of India (FSSAI), country’s top food regulator, defines fortification as “deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health”.

India has very high levels of malnutrition among women and children.

According to the Food Ministry, every second woman in the country is anaemic, and every third child is stunted.

“According to the National Family Health Survey (NFHS-5) conducted between 2019 and 2021, anaemia remains a widespread issue in India, affecting children, women, and men across various age groups and income levels. Besides iron deficiency, other vitamin and mineral deficiencies, such as Vitamin B12 and folic acid, also persist, impacting the overall health and productivity of the population,” the aforementioned government statement said.

Fortification of food is considered to be one of the most suitable methods to combat malnutrition. Rice is one of India’s staple foods, which is consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month. Fortifying rice with micronutrients is an option to supplement the diet of the poor.

### **What is the process by which rice is fortified?**

Various technologies, such as coating, dusting, and ‘extrusion’, are available to add micronutrients to regular rice. The last mentioned technology involves the production of fortified rice kernels (FRKs) from a mixture using an ‘extruder’ machine. It is considered to be the best technology for India.

Dry rice flour is mixed with a premix of micronutrients, and water is added to this mixture, which is then passed through a twin-screw extruder with heating zones. Kernels similar in shape and



size to rice are produced, which, as per Ministry of Consumer Affairs, Food and Public Distribution guidelines, must “resemble the normal milled rice as closely as possible”.

The kernels are dried, cooled, and packaged. FRK has a shelf life of at least 12 months. The kernels are blended with regular rice to produce fortified rice. Under the Ministry’s guidelines, 10 g of FRK must be blended with 1 kg of regular rice.

According to FSSAI norms, 1 kg of fortified rice will contain the following: iron (28 mg-42.5 mg), folic acid (75-125 microgram), and vitamin B-12 (0.75-1.25 microgram).

Rice may also be fortified with zinc (10 mg-15 mg), vitamin A (500-750 microgram RE), vitamin B-1 (1 mg-1.5 mg), vitamin B-2 (1.25 mg-1.75 mg), vitamin B-3 (12.5 mg-20 mg) and vitamin B-6 (1.5 mg-2.5 mg) per kg.

#### **How is fortified rice cooked and eaten?**

It is no different from the way any rice is cooked and eaten. The rice needs to be cleaned and washed in the normal way before cooking. After cooking, fortified rice retains the same physical properties and micronutrient levels as it had before cooking.

Fortified rice is packed in jute bags with the logo (+F) and the line “Fortified with Iron, Folic Acid, and Vitamin B12”.

#### **How has the fortification initiative fared so far?**

In his Independence Day speech in 2015, Prime Minister Narendra Modi announced that rice distributed under various central government schemes like the Public Distribution System (PDS) and Mid-Day Meal Scheme in schools, would be fortified by 2024. In April 2022, the Centre cleared a phase-wise plan to implement the rice fortification initiative.

Phase 1 had already been implemented when the Centre’s plan was cleared. It saw two programmes — Integrated Child Development Services and PM POSHAN — covered by March 2022.

Phase 2 extended the supply of fortified rice to PDS and other welfare schemes in 112 Aspirational Districts in 27 states, and 291 high stunting burden districts by March 2023.

Phase 3 saw all remaining districts in the country get covered under the initiative by March 2024.

The cost of rice fortification is around Rs 2,700 crore per annum — less than 2% of India’s annual total food subsidy bill. Since the 2019-20 fiscal year through March 31, 2024, approximately 406 lakh metric tonnes (LMT) of fortified rice have been distributed through the PDS, the government said in a statement issued in July this year.

As per officials, there are 925 fortified rice manufacturers in the country, with a capacity of 111 LMT per annum. FRK produced by these manufacturers are sent to India’s 21,000-odd rice mills for blending. Installed blenders in these mills have a monthly capacity to produce 223 LMT of fortified rice.

According to Vaishnav, the Centre has invested Rs 11,000 crore for developing the fortified rice supply chain in India.



## TWO MONTHS ON, MEGHALAYA POLIO CASE SHROUDED IN SECRECY

In 2017, the Health Ministry and the Gujarat government covered up three Zika virus cases detected between November 2016 and February 2017. India informed the WHO about the outbreak in Gujarat only in May 2017, six months after the first case was detected. The news of the outbreak became known only when the WHO posted the information on its website. Eight years later, India has been found shying away from divulging all the details of a polio case detected in Meghalaya's West Garo Hills district in early August this year.

On August 12, the ICMR-NIV Mumbai Unit, which is a WHO-accredited polio laboratory, confirmed that the polio case detected in Meghalaya was a type-1 vaccine-derived poliovirus (VDPV), and reported the results to the Union Health Ministry, the Meghalaya State government and the WHO. Dr. Roderico H. Ofrin, WHO Representative to India, told The Hindu in an email.

Yet, the first report of the polio case published by PTI two days later on August 14 called it a "suspected" case of polio. Based on unnamed officials, the PTI report from Shillong said: "A two-year-old boy in a remote village in Meghalaya's West Garo Hills district has been found with symptoms of poliomyelitis or polio, prompting health authorities to start an investigation." The report, which quoted a senior doctor at the Directorate of Health Services, further added that "a boy with symptoms of poliomyelitis was detected yesterday [August 13] during routine surveillance" even when the results were available on August 12.

### **Immune-deficient**

According to an August 15 report in The Hindustan Times, a Union Health Ministry official said that the polio case was vaccine-derived and the child was "immunocompromised". Vaccine-derived polio can be of two types — circulating vaccine-derived polio (cVDVP) or immunodeficiency-related vaccine-derived poliovirus (iVDPV). In the case of iVDPV, polio is caused in an immune-deficient individual. By saying that the child is "immunocompromised", the official was suggesting that it was a case of iVDPV. In reality, on August 15, it was not known whether the child was immunocompromised. It finally turned out that the child was not immunocompromised, and therefore was not a case of iVDPV.

On August 20, a senior official from the Union Health Ministry told The Hindu that the Meghalaya case had been confirmed as being vaccine-derived polio, and ruled out wild-type virus causing polio in the little child. However, on the same day, health officials in Meghalaya were ambiguous on whether it was vaccine-derived or caused by wild poliovirus. The State health officials said samples collected from the child were sent to ICMR-NIV's Mumbai unit for testing, and the government was "awaiting the test results to ascertain if it is a case of wild poliovirus or a circulating vaccine-derived poliovirus".

While the Union Health Ministry officials told The Hindu that the polio case was vaccine-derived, details about whether the virus belonged to type-1, type-2, or type-3 have not been revealed to date.

### **'Incorrect statements'**

Dr. Ofrin's email makes it clear that the Union Ministry officials and Meghalaya health officials were making conflicting and incorrect statements — whether the polio was vaccine-derived or caused by wild poliovirus, the date when the case was detected, insinuation by the State government officials that it might be a case of iVDPV, and refusal to divulge the details about



poliovirus typing (type-1, type-2 or type-3) — despite being aware of the results, which were shared by the ICMR-NIV Mumbai Unit on August 12.

“The type 1 VDPV was confirmed and reported by ICMR-NIV Mumbai on August 12, 2024. It has been determined... that the polio case is not caused by the wild polio virus type 1,” Dr. Ofrin told The Hindu by email on September 16. “The virus has been confirmed as type 1 VDPV by ICMR-NIV Mumbai as well as by CDC Atlanta. Both labs have confirmed that this is not an imported strain of type-2 VDPV or wildpoliovirus type-1.”

#### **No evidence**

Explaining the delay in confirming whether the vaccine-derived polio is due to a circulating virus or due to immunodeficiency in the child, Dr. Ofrin said: “As per standard protocols laid down for responding to such isolations, immediate actions were initiated by the programme to assess the immunological profile of the child from whom the virus had been isolated and to also assess if there is any evidence of the circulation of the virus in the community. It generally takes three-four weeks to complete the process and receive the results.”

According to Dr. Ofrin, the follow-up tests conducted by ICMR-NIV Mumbai have confirmed that the immunological profile of the child was normal and there was no evidence that the virus was circulating in the community. “The Ministry of Health and Family Welfare, the State government of Meghalaya, and WHO are fully aware of the details of the results,” he said.

### **NEW ADDITIONS TO CLASSICAL LANGUAGES LIST: YET ANOTHER DIVIDE-AND-RULE STRATEGY**

The colonial British regime controlled India by using a “divide and rule” policy, inducing alienation between apparently dissimilar social segments. The colonial policy resulted primarily in a horizontal fragmentation of culture, geography and society. In post-colonial times, we seem to be invoking the age-old Indian practice of vertically dividing society, not in the name of pseudo-metaphysics, but in the name of electoral politics. Varna and caste had been the pre-colonial methods of vertical divide and rule. Added to these in the post-colonial times are religion and language as the grounds for a vertical divide. The recent decision of the Union Cabinet to inscribe Bangla, Assamiya and Marathi as classical languages illustrates the method.

“Classical” is not, as is often thought, a linguistic feature of a given language; it is an ex-post-facto historical description. Linguists and historians dealing with the ancient world mainly count Chinese, Sanskrit, Arabic, Greek and Latin as “classical”. These are mainly the languages that offer root words or affixes to form new words in contemporary languages; for instance, the ancient “er” suffix in a modern word like “computer”, and the ancient Latin “intelligentia” in a modern compound noun like “artificial intelligence”. The term “classical” came to be used in English during the 16th century, to refer to the bygone literary eras of Greek and Latin. It acquired wider currency after John Dryden wrote his celebrated Essay on Dramatic Poesy in 1668, setting the modern against the classical. Since then, other scholars have added different historical phases of Coptic, Egyptian, Sumerian, Babylonian, Assyrian, Hebrew, Persian, Tamil, Pali and Syriac to the universally accepted list of classical languages.

The concept “classical” indicates not just the longevity of an ancient language; it is, at the same time, a social class marker. In the context in which Latin was described as “classical”, there was a perception that the non-Latin languages of the Roman Empire were either “barbaric” or



“vernaculars”. The term gained currency against the background of the rising international aspirations of France, Prussia and England. The unstated initial logic later became manifest when these European nations started justifying plunder in the name of “civilising” other nations. The stated intent may have been pious, but not so the content imposed. Adjectives are rarely innocent; “classical” is no exception. Were that so, as Indians we would be justified in adding to the universally accepted list of “classical languages” those in India that have not got well-deserved attention. The term “classical” holds within it a long history of discrimination.

Sanskrit, Pali and Tamil are universally accepted by historians as classical languages. These three produced, in ancient times, a wealth of philosophical and literary texts, although Pali was perhaps a language designed to primarily be only textual. As against these, “Prakrit” — as a singular — cannot lay that claim with equal ease. Prakrits were of many hues, being somewhat like a basket of regional languages, such as Gandhari, Maharashtri, Shauraseni, Paishachi and Kamrupi, or wide-spread speech varieties, such as the Apabramshas and Ardhamagadhi. Often, Pali too gets listed among the Prakrits. The term Prakrit denotes an earlier phase of several of India’s modern languages, such as Gujarati, Bangla, Marathi and Odia. It also indicates the last remnants of the pre-Sanskrit languages in use for millennia in the Indian subcontinent. The literary and philosophic production of the Prakrits has been noteworthy, but not as phenomenal as that of Sanskrit, Pali and Tamil. Placing Prakrit in India’s official list of “classical languages” is anomalous and insufficiently justified.

The question is not whether the list is scientifically compiled, but whether such a list should be prepared at all for recognition. As a proven historical fact, there were numerous predecessors of the many languages of India in the millennia before Sanskrit emerged as a major language, soon followed by Tamil. The first Holocene migration to India took place some 9,000 to 8,000 years ago. Human settlements, along with domestication of cattle, around cultivated areas, would have formed the foundation of the villages in India. The ability to acquire language was one of the factors that made prehistoric migrations possible. Though we have neither any written nor oral evidence as to the characteristics of the languages used by the pre-Sanskrit groups in India, it won’t be illogical to assume that they created a profusion of nature-related and agriculture-related terminologies. Most of these subsequently survived in Prakrits which are known as the languages contemporary to Sanskrit. But they were not just a “single” language; they could not have been.

Let me explain why broadening the list of Classical Languages results in a vertical fragmentation of Indian society. During the 1961 Census, Indian people had returned the names of 1,652 “mother tongues”. That figure had sunk to 1,369 in the 2011 Census. Besides these, there were other “mother tongues”, but they were filtered by the Census office. In 2011, the Census office rejected 1,474 such other mother tongues. Of the 1,369 accepted names, the Census positioned 121 as “languages”, a category positioned as “superior” to “mother tongue”. Of these, 22 languages have so far been included in the 8th Schedule of India’s Constitution. Of these, nine are now “classical”: Assamiya, Bangla, Kannada, Malayalam, Marathi, Odia, Sanskrit, Tamil and Telugu. Pali and the Prakrit(s) are designated “classical” but not included in the 8th Schedule. So the language pyramid in the Indian Republic has over a thousand “mother tongues”, a little over a hundred “languages”, over a score of “scheduled languages” and eleven “classical languages”. The four-fold administrative division of languages, reminiscent of the chatur-varna, has come into being when every passing year dozens of mother tongues are getting closer to extinction. Bolstering majoritarian language pride may be a useful electoral tool; but it is as harmful as dividing people on the lines of religion or caste. Let me repeat what I have so often said: Every language is a unique worldview. Every language deserves respect from its speaker as well as the state. If only some are inscribed for a cosmetic honour, India will soon become, as in George Orwell’s Animal Farm, a



republic of languages where all are equal but some are more equal. Or, as the Romans would have said, some are classical — all the others are merely plebeian.

## WHY IS SALT PAN LAND BEING USED FOR HOMES?

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

The Maharashtra government has issued a GR (Government Resolution) allocating 255.9 acres of salt pan land, distributed over three land parcels in Mumbai's eastern suburbs, for the construction of rental houses in the Dharavi Redevelopment Project through a lease agreement.

### **What are salt pans?**

Salt pan lands are ecologically important salt marshlands. They are low-lying areas around the shore that are used for salt cultivation. They act as holding ponds and work as a sponge for the absorption of rain. They are a coastal area's natural defence against flooding. They help intertidal activity, and are home to diverse flora and fauna.

### **What does the decision entail?**

The government has allocated 255.9 acres of salt pan land distributed over three land parcels — 120.5 acres of Arthur Salt Works land at Kanjur, 76.9 acres of Jenkins Salt Works land at Kanjur and Bhandup, and 58.5 acres of Jamasp Salt Works land at Mulund — to Dharavi residents. Maharashtra has almost 13,000 acres of salt pan land, of which over 5,000 acres are in Mumbai. The DCPR-2034 (Development Control and Promotion Regulations) document says 1,781 acres of that land can be developed. The land parcels allocated for rental housing for the Dharavi project are under the ownership of the Central government. After the Maharashtra government sought these parcels from the Centre, the Union Cabinet approved the proposal in September 2024.

### **What are the terms for allocation of land?**

Four conditions have been put forth for the allocation of the land which will be given at a concessional rate of 25% of the prevailing rate. The State government will collect the land revenue from the Dharavi Redevelopment Project Private Limited (DRPPL), the special purpose vehicle (SPV), and pay it to the Central government. The DRPPL will bear the cost of resettlement of the labourers working on the land, and other incidental costs for the acquisition of the land. But the court cases and other legal matters will be handled through the Dharavi Redevelopment Project (DRP), a government body. The land will be used for rental housing, slum rehabilitation, and affordable housing for economically weaker sections. The DRPPL is an SPV in which an Adani Group entity holds 80% stake and the State government has a 20% stake. The land will be leased to the Maharashtra government for a period of 99 years, and it cannot be used for commercial activities.

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

Urban planners and environmentalists say that an impact assessment study needs to be done before opening up large packs of land for intensive activities like housing. They also say that the salt pan lands on the Eastern Express Highway have played an important role in keeping the eastern suburbs free from flooding. The most important demand with respect to the Dharavi project has been for in-situ rehabilitation. Urban planners point out that handing over land parcels



in different parts of the city for a developer will lead to formation of ghettos. They also say that the impact of hyperactivity on ecologically sensitive areas needs to be studied.

#### What lies ahead?

The Centre will hand over the land to the State government, which will give permission to DRPPL to go ahead with the construction after their plans are approved. For that, the DRPPL will have to seek an approval from the Ministry of Environment, Forest and Climate Change. Environmentalists claim that the entire process from here on can be challenged in the court of law. As per the GR issued by the government of Maharashtra, the litigation will be taken care of by DRP, the government body.

### AFRICAN ELEPHANT

— Shankar, aged around 27, has been the Delhi Zoo's sole African elephant since 2001. Now Delhi Zoo has decided to get two female elephants, one each from Botswana and Zimbabwe, as companions for Shankar.

— Shankar, a diplomatic gift from Zimbabwe in 1996 to then Indian president Shankar Dayal Sharma, arrived in Delhi in 1998 with Vimbai, a female African elephant. But Vimbai died in 2001 and a young Shankar was left all alone.

— India has two male African elephants, one is in Delhi and the other is in Mysuru Zoo, named Richie.

— Under the IUCN Red List of threatened species, the **African forest elephant** (*Loxodonta cyclotis*) is listed as **Critically Endangered**, and the **African savanna elephant** (*Loxodonta africana*) as **Endangered**.

— Asian elephants' ears are smaller, and only some male Asian elephants have tusks, while African species have large fan-shaped ears. and both male and female African elephants grow tusks.

### GLOBAL BODY SUSPENDS DELHI ZOO MEMBERSHIP OVER WELFARE OF ELEPHANT

World Association of Zoo and Aquarium, a global alliance, on Monday suspended the membership of Delhi's National Zoological Park for six months, over concerns related to the welfare of an African elephant, Shankar, who has been kept chained in his enclosure.

The CEO of WAZA had visited the zoo and met officials of the Central Zoo Authority (CZA), a statutory body of the Government of India, and had raised concerns about the mistreatment of animals, Sanjay Shukla, member secretary of the CZA, told The Hindu.

"The issue of the African elephant Shankar being in chains was brought up. The elephant was shackled because it was in 'musth' (a biological state in male elephants marked by increased aggression) and had broken a wall," Mr. Shukla said.

"Secondly, Shankar is without a mate and we have entered into a deal with Botswana to ship a female elephant from there. We expect the matter to be resolved soon," he added.

WAZA is a non-governmental organisation and sets accreditation standards that member-zoos across the world adhere to which gives the latter prestige. A zoo being suspended means it cannot attend conferences or activities organised by WAZA, said Mr. Shukla.





### 6-month suspension

The WAZA did not respond to questions about the situation.

They told The Hindu that the Delhi Zoo is under a six-month suspension due to a breach of the WAZA Code of Ethics.

### NUMBER OF INDIAN WILD ASSES IN GUJARAT UP BY 26%: GOVT

The population of wild asses in Gujarat has been estimated at 7,672, as per the 10th Wild Ass Population Estimation (WAPE) conducted by the Gujarat government earlier this year. This is a rise of 26.14% in its population. In the last WAPE, done in 2020, the population was estimated at 6,082.

#### Know Basics-

- Wild asses are animals protected under Schedule I of the Wildlife Protection Act. As per a report by the International Union for Conservation of Nature in 2008, wild asses are found in very few numbers. They are listed as an “endangered species”. In the past, the wild ass could be found in North-West India, Pakistan, and even in Central Asia. However, now they are found only in the Little Rann of Kutch and Great Rann of Kutch.

#### For Your Information-

- Minister of State for Forest and Environment Mukesh Patel said that WAPE-2024 was conducted in a 15,510 square kilometre area using the Direct Count Method. Patel added that a special camp was organised for the enumerators. Apart from training on conventional methods of enumeration, the enumerators were reportedly provided with modern technology like drone cameras, camera traps, and forest modules.
- The state government said that following their efforts, the population of wild asses has been witnessing an upward trend since 1976, when there were 720 of them in the state. The release added that the enumerations of other wild animals like Asian antelope, Indian gazelle, blackbuck, wild boar, Indian jackal, and Indian desert fox were also done.

### EXPRESS VIEW ON RATAN TATA: SHAPER OF TOMORROW

Ratan Tata will be remembered as the man who steered India’s largest and oldest business house from an unwieldy domestic and commodity-centric leviathan to a global and consumer-facing conglomerate, cementing its eminence in the post-liberalisation era. The remarkable transformation of the group is perhaps best illustrated by the valuation of its three largest companies today — Tata Consultancy Services, Tata Motors and Titan. TCS, India’s largest IT company, generates nearly 95 per cent of its revenues from exports. Tata Motors, while continuing to be a leading commercial vehicle maker, derives the bulk of its sales from cars, SUVs and its UK-based luxury vehicle subsidiary, Jaguar Land Rover. Titan is a completely consumer-facing company that sells jewelry, watches and eyewear. So are the retailer Trent, the FMCG major Tata Consumer Products and the home appliance maker Voltas. The fact that Titan’s current market capitalisation is more than one-and-a-half times that of Tata Steel, twice that of Tata Power and more than 10 times of Tata Chemicals, shows the extent of the transition of the group achieved under Ratan Tata.



Under JRD Tata, Russi Mody at Tata Steel, Darbari Seth at Tata Chemicals and Tata Tea and Ajit Kerkar at Taj Hotels exercised great sway, and ran the companies almost like independent empires. However, Ratan Tata, who took over as chairman in 1991, took a different approach. He eased out the old satraps and exerted greater control over the companies. He was clear about the group's trajectory in the post-reforms era — it had to remain a diversified salt-to-software conglomerate, but also cohesive with a group strategy to increase the holding company Tata Sons's effective control and stake and leverage the Tata brand better. The group had to think and act lean, which meant shedding businesses that weren't delivering shareholder value or were too reliant on government policy (fertilisers and infrastructure). A greater portion of the group's revenue sales had to come from consumer brands and global operations than commodities. By concentrating the group's energies on building and nurturing the relationship with consumers and shareholders, rather than with the corridors of power in Delhi, Ratan Tata's priorities were in sync with the spirit of liberalisation.

Ratan Tata recognised that the future of Indian business lay not in remaining confined to home ground, but going global. Tata Motors, Tata Steel and Tata Tea (now part of Consumer Products) acquired JLR, Corus and Tetley respectively. However, not all the group's new ventures played along expected lines. For instance, Tata Steel's acquisition of the Anglo-Dutch steel company Corus turned sour, and was considered a "mistake" by JJ Irani, former managing director of Tata Steel. The group's foray into telecom did not yield desired results. Similarly, the Tata Nano — Ratan Tata's pet project — did not prove to be commercially viable. Dubbed the "people's car", its sales dwindled over the years. Equally contentious was the ouster of Cyrus Mistry as chairman of the Tata group, shrouded in a bitter feud that ended up playing out in the courts. N Chandrasekaran, who replaced Mistry, thereafter steadied the ship. For the group that has ventured into newer areas, from semiconductors to contract manufacturing, the question now is: Who will carry forward the Tata legacy?

## SHORT NEWS

### NATIONAL COOPERATIVE CONSUMERS' FEDERATION OF INDIA

- The National Cooperative Consumer's Federation of India Ltd (NCCF) is a cooperative body under the **Ministry of Consumer Affairs, Food and Public Distribution**.
- It was established on 16<sup>th</sup> October **1965** to function as the apex body of consumer cooperatives in the country.
- It is registered under the Multi-State Co-operative Societies Act, 2002.
- The headquarters is in **Delhi**.

### NATIONAL STATISTICAL OFFICE (NSO)

- In 2019 the government decided to merge the Central Statistical Organisation (CSO) and National Sample Survey Organisation (NSSO) into a single entity called the National Statistical Organisation (NSO).
- It comes under the Ministry of Statistics and Programme Implementation (MoSPI).



— The Statistics Wing – National Statistical Office(NSO)- consists of the Central Statistical Office (CSO), the Computer centre, and the National Sample Survey Office (NSSO).

#### KAZIND

— The 8th edition of India-Kazakhstan Joint Military Exercise KAZIND-2024 is taking place at Surya Foreign Training Node, Auli, Uttarakhand.

— The Joint Exercise has been held annually since 2016.

— The last edition of the Joint Exercise was held at Otar, Kazakhstan from 30th October to 11th November 2023.

#### AMAZON RIVER FOREST

— The Amazon rainforest is reeling from an intense drought. Numerous rivers vital for travel have dried up.

— The Rio Negro the largest left tributary of the Amazon Forest has fallen to a record low level.

— The Amazon Rain Forest is spread across Brazil and Peru, and also parts of Guyana, Colombia, Ecuador, Bolivia, Suriname, French Guiana, and Venezuela.

— The Amazon River Basin is the world's largest drainage system.

#### LIVING PLANET REPORT

— Recently, the **World Wildlife Fund** released the biennial Living Planet report.

— According to the report, global wildlife populations have declined by 73 per cent in the last 50 years, owing to habitat loss, degradation, impacts of climate change, and invasive species.

— In India, the decline of three vulture species - white-rumped vulture, Indian vulture, and slender-billed vulture, has been alarming.

#### HURRICANE MILTON

— Hurricane Milton, which made landfall near the city of Siesta Key in Florida on Wednesday night, triggered intense rainfall, flooding, tornadoes, storm surge, and strong winds in the area.

— Milton exploded from a Category 1 storm (they bring winds of 119 to 153 kmph) to a fierce Category 5 storm (they have winds of 252 kmph or higher) over the course of 12 hours between October 6 and October 7 morning.

— By afternoon, it had sustained winds of a whopping 285 kmph, becoming one of the strongest hurricanes ever recorded in the Atlantic.

#### WORLD MENTAL HEALTH DAY

— The World Mental Health Day is observed every year on **October 10**.



- It was established on October 10, 1992, by the World Federation for Mental Health.
- The official theme is '*It is Time to Prioritize Mental Health in the Workplace*'.

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#### INDIAN AIR FORCE DAY 2024

- Indian Air Force Day is celebrated every year on October 8 to recognise the servicemen and pilots who have given their lives for the country and commemorate the establishment of the Indian Air Force (IAF).
- The theme for this year is '**Bharatiya Vayusena: Saksham, Sashakt aur Aatmnirbhar**' (Potent, Powerful, and Self-Reliant).
- The event was organised at the Air Force Station, Tambaram in Chennai, Tamil Nadu.

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#### CARBON BORDER ADJUSTMENT MECHANISM (CBAM)

- Recently, union Commerce Minister, Piyush Goyal has slammed the European Union for “unfair rules” such as Carbon Border Adjustment Mechanism (CBAM).
- The BASIC group, comprising India, China, Brazil, and South Africa, has opposed the carbon border taxes policy at the COP27 in Sharm El Sheikh.
- The CBAM is a plan from the European Union (EU) to tax carbon-intensive products, such as iron and steel, cement, fertiliser, aluminium, and electricity generation, from 2026.

**DreamIAS**



## BUSINESS & ECONOMICS

### CAN INDIA ESCAPE MIDDLE-INCOME TRAP?

The World Development Report 2024 — authored by the World Bank — calls attention to the phenomenon of the “middle-income” trap, or the slowing down of growth rates as incomes increase. The World Bank estimates a stagnation of income per capita when economies reach a level of per capita incomes 11% of that of the U.S., hindering their journey to high-income status. Over the last 34 years, only 34 middle-income economies — defined as economies with per capita incomes between \$1,136 and \$13,845 — have transitioned to higher income levels.

The WDR details the policies and strategies necessary to break out of the trap based on the development experiences of those countries that did manage the transition. It highlights the importance of the “3i” approach: investment, infusion, and innovation. Economies must invest, ensure the infusion of new global technologies, and develop an environment conducive to domestic innovation. This is no easy task and requires nimble and responsive state policy. In the modern economy, there are plenty of headwinds that India must overcome to successfully navigate the middle-income trap.

#### Role of the state

Most countries that broke the trap were part of the European Union which facilitated growth and mobility of capital and labour for its members. Such institutions that aid free factor mobility are not available for most countries, for whom capital inflows are liberalised — largely flowing into their economies — with restrictions on the movement of labour. An important non-European country that managed to escape the trap is South Korea.

The South Korean state was heavily interventionist, often directing the private sector’s activities and ensuring their participation in an export-driven growth model. Successful companies were rewarded with access to new technologies and other supportive measures, while firms that did not perform were allowed to fail. This was no pure free market, but one where a powerful state intervened to bring about developmental goals, disciplining local elites and ensuring they followed the dictates of the state’s economic plan.

Another economy that broke the middle-income trap was Chile. But it too, saw state intervention in ensuring the success of natural resource exporting sectors. The salmon industry, for instance, succeeded in Chile due to the targeted intervention of the state on multiple fronts to ensure that the industry flourished.

The South Korean government’s approach carries significant lessons for India today. The state must be seen as being neutral amongst private players and ensuring those who do not make the mark are allowed to fail. The benefits firms receive from the state must be based on their performance instead of closeness to power. The presence of powerful business houses can promote growth provided they invest, ensure the adoption and infusion of new technologies, and innovate. South Korean business houses, or chaebols, are among the leaders in innovation today.

#### The pitfalls

South Korea’s success was built on manufacturing exports; such a strategy is not possible in today’s economic scenario. World export growth has slowed, with demand from large economies slowing down following the multiple shocks of the last few years. Several countries have seen a



slow turn to protectionism. The employment losses in developed economies caused by free trade have made it more difficult for countries such as India to access foreign markets.

Moreover, several countries have been hit by what economist Dani Rodrik terms 'premature deindustrialisation'. Modern economies face a reduction in the income share of manufacturing at much lower levels of GDP compared to previous economies. Manufacturing is no longer an engine of growth for developing economies, and it remains to be seen whether the service sector is strong enough to break the trap.

### Challenges facing India

The power of billionaires in the Indian economy has increased, and they are seen as being close to the state, with the state unable — or unwilling — to ensure high rates of investment from domestic capital. The manufacturing sector has stagnated, and there has been a reversal of the process of structural transformation, with employment increasing in agriculture and in low-productive forms following the pandemic.

The growth of the aggregate economy is not being reflected on the ground. While the government estimates a real GDP growth of around 7% in recent years, wages have not kept up. According to the PLFS, nominal wages for regular wage workers at the all-India level between April and June 2023-24 has only grown at around 5%, and that of casual workers at roughly 7%. With an inflation rate of roughly 5% during this time, this implies that wage earners have seen little to no real wage growth. An economy cannot break a middle-income trap if workers are unable to partake in the growth process, as reduced consumption demand will become a drag on the economy.

Most importantly, the question of democracy looms large. South Korea's export strategy was overseen by a military government that ruled till the 1980s. The government frequently quelled labour unions to aid the accumulation process of capital. Chile deposed the democratically elected government of Salvador Allende by a military coup, installing General Augusto Pinochet as the head of state. It is vital not to take the wrong lessons from these countries, and think that democracy is an acceptable price to pay for higher growth. The challenge for policy is to promote state intervention to ensure growth while maintaining the sanctity of the democratic ethos.

### INDIA, ASEAN NATIONS TO LOOK AT LINKING PAYMENT SYSTEMS

India will share its knowledge and experience in using digital public infrastructure (DPI) such as Aadhaar and Unified Payments Interface (UPI) with the ASEAN nations and explore collaboration to address diverse challenges in education, healthcare, agriculture and climate change.

In the joint statement issued on Thursday after the 21st India-ASEAN summit, which was attended by Prime Minister Narendra Modi, the two sides declared that they would explore collaboration of cross-border linkages between payment systems in ASEAN and India through digital solutions.

The two sides issued a joint statement on strengthening the ASEAN-India Comprehensive Strategic Partnership for Peace, Stability and Prosperity in the region.

It reaffirmed the importance of maintaining and promoting peace, stability, maritime safety and security, freedom of navigation and overflight in the region, and other lawful uses of the seas, including unimpeded lawful maritime commerce and to promote peaceful resolution of disputes.



### Strategic partnerships

The India-ASEAN summit is taking place at a time when the region is witnessing tensions between the Philippines and China over maritime rights in the South China Sea and the crisis in Myanmar, where ethnic groups are battling the military regime.

India and ASEAN nations agreed to explore partnerships between national agencies for fintech innovations and support digital solutions, including digital financial solutions. The two sides said they intend to expand cyber security cooperation to support the digital economy.

The two sides agreed to support collaboration in the development of necessary knowledge, skills, infrastructure, risk management frameworks and policies to effectively and responsibly leverage AI technologies and applications to harness the potential of AI advancements.

The 10 member countries are Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia.

Mr. Modi held a meeting with the newly appointed Japanese Prime Minister Shigeru Ishiba during which they discussed ways to enhance cooperation in different areas, including infrastructure, connectivity and defence.

### RBI'S SHIFT TO NEUTRAL AND OPEN DOORS FOR A TRIM IN RATES

In the first meeting of the newly reconstituted monetary policy committee — three new external members were appointed recently — members voted 5-1 to maintain status quo on interest rates. This decision is in line with that taken at the last committee meeting in August, although then two external members had voted in favour of a cut. The departure this time was on the stance of policy. All committee members have voted in favour of changing the stance from “withdrawal of accommodation” to “neutral”. This has opened up space for the MPC to begin easing policy rates in subsequent meetings. The change in stance comes after the European Central Bank, Bank of England, and more recently, US Federal Reserve, have pivoted, beginning their rate cut cycles.

The decision to change the policy stance could be attributed to “greater confidence in navigating the last mile of disinflation”. This in turn possibly comes from greater confidence over the trajectory of food prices. Food inflation has been a source of concern for the committee, even as it has declined from 8.6 per cent in February to 5.66 per cent in August. The central bank now expects prices to ease further, notwithstanding the likely uptick in the September data. Agricultural production is expected to be healthy on the back of a good monsoon season. Further, as per the RBI, there are growing prospects of a good rabi season. There are also sizable buffer stocks of foodgrain. And though the RBI Governor has voiced concerns over “unexpected weather events and worsening of geopolitical conflicts” which could have a bearing on inflation — for instance, an escalation in the conflict in the Middle East could adversely impact crude oil prices — the central bank has retained its forecast for the year at 4.5 per cent. It has now projected inflation to trend lower to 4.3 per cent in the first quarter of the next financial year. Considering expectations that core inflation will likely remain “broadly contained”, there now appears to be comfort in the “progress towards realising a durable disinflation towards the target.”

On the growth front, the central bank sounds optimistic, emphasising that the drivers of growth — consumption and investment — are “gaining momentum”. On private consumption, it says that rural demand is “trending upwards”, while urban demand is holding steady. However, in contrast, the economic review by the finance ministry for August had noted that there are “incipient signs



of strain” in sectors such as automobiles and fast-moving consumer goods sales in urban areas. On investments, the RBI says that after the contraction seen in the first quarter, government capital spending is “rebounding”, while private investment “continues to gain steam”. Greater clarity will emerge when GDP data for the second quarter is released. The central bank has projected the economy to grow at 7.2 per cent this year. This is higher than assessments by others. For instance, while ICRA has pegged the economy to grow at 7 per cent, as per Crisil, growth is expected to moderate to 6.8 per cent.

### Do You Know-

- Monetary policy essentially deals with the supply and cost (interest rates) of money in an economy. The RBI’s MPC meets every two months to assess the state of monetary activities, and may tweak the repo rate — the interest rate at which the RBI lends to commercial banks — in a manner that reduces price fluctuations in the economy while keeping the inflation rate (the rate at which the general price level in the economy grows) at a reasonable level. According to RBI, there are several direct and indirect instruments that are used for implementing monetary policy:

—**Repo Rate:** The interest rate at which the Reserve Bank provides liquidity under the liquidity adjustment facility (LAF) to all LAF participants against the collateral of government and other approved securities.

—**Standing Deposit Facility (SDF) Rate:** The rate at which the Reserve Bank accepts uncollateralised deposits, on an overnight basis, from all LAF participants. The SDF is also a financial stability tool in addition to its role in liquidity management. The SDF rate is placed at 25 basis points below the policy repo rate. With introduction of SDF in April 2022, the SDF rate replaced the fixed reverse repo rate as the floor of the LAF corridor.

—**Marginal Standing Facility (MSF) Rate:** The penal rate at which banks can borrow, on an overnight basis, from the Reserve Bank by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a predefined limit (2 per cent). This provides a safety valve against unanticipated liquidity shocks to the banking system. The MSF rate is placed at 25 basis points above the policy repo rate.

—**Liquidity Adjustment Facility (LAF):** The LAF refers to the Reserve Bank’s operations through which it injects/absorbs liquidity into/from the banking system. It consists of overnight as well as term repo/reverse repos (fixed as well as variable rates), SDF and MSF. Apart from LAF, instruments of liquidity management include outright open market operations (OMOs), forex swaps and market stabilisation scheme (MSS).

—**Reverse Repo Rate:** The interest rate at which the Reserve Bank absorbs liquidity from banks against the collateral of eligible government securities under the LAF. Following the introduction of SDF, the fixed rate reverse repo operations will be at the discretion of the RBI for purposes specified from time to time.

—**Bank Rate:** The rate at which the Reserve Bank is ready to buy or rediscount bills of exchange or other commercial papers. The Bank Rate acts as the penal rate charged on banks for shortfalls in meeting their reserve requirements (cash reserve ratio and statutory liquidity ratio). The Bank Rate is published under Section 49 of the RBI Act, 1934. This rate has been aligned with the MSF rate and, changes automatically as and when the MSF rate changes alongside policy repo rate changes.





—**Cash Reserve Ratio (CRR):** The average daily balance that a bank is required to maintain with the Reserve Bank as a per cent of its net demand and time liabilities (NDTL) as on the last Friday of the second preceding fortnight that the Reserve Bank may notify from time to time in the Official Gazette.

—**Statutory Liquidity Ratio (SLR):** Every bank shall maintain in India assets, the value of which shall not be less than such percentage of the total of its demand and time liabilities in India as on the last Friday of the second preceding fortnight, as the Reserve Bank may, by notification in the Official Gazette, specify from time to time and such assets shall be maintained as may be specified in such notification (typically in unencumbered government securities, cash and gold).

—**Open Market Operations (OMOs):** These include outright purchase/sale of government securities by the Reserve Bank for injection/absorption of durable liquidity in the banking system.

## ON THE NEED FOR A DIFFERENT FRAMEWORK FOR PASSIVE MFS

### The story so far:

The Securities and Exchange Board of India (SEBI) on September 30, introduced the liberalised Mutual Funds Lite (MF Lite) framework for passively managed schemes. The framework intends to promote the entry of new players into the MF ecosystem, present diversified investment opportunities for retail investors through less risky schemes and enhance market liquidity.

### Why a separate framework?

Passively managed mutual fund schemes are generally considered less risky compared to their actively managed peers. They usually track a benchmark index, say BSE Sensex or Nifty50, and try to mimic their performance. In other words, these funds try and deliver returns in tandem with the benchmark they are following. Since the underlying constituents of the benchmark indices are publicly available, passively managed schemes can be easily tracked and therefore, the associated risks are lower in comparison to their active peers.

SEBI observed that passive funds' investment strategy imbibes on mimicking instruments already bearing established rules. Asset management companies (AMCs) of the fund, thus have "negligible discretion" about asset allocation and the investment objective. Thus, the regulator held that the current framework, intended primarily for active mutual fund operators, may not be relevant for passively managed schemes. Thus, opting to introduce the "relaxed framework". The light touch regulations would include relaxed requirements relating to eligibility criteria for sponsors (the ones who set up and register the mutual fund) including net worth, track record and profitability etc.

### How does it help new players' entry?

This would be encouraged by two measures — governance structures (and responsibilities) and requirements for net worth holdings. Net worth is the difference between the assets and liabilities of the fund. The framework deems a minimum net worth of ₹35 crore to be appropriate for AMCs operating a passive fund. Emphasising on the need for liquid money, the regulator observed that the fund may require to deploy the entire amount of the net worth in liquid assets on a perpetual basis. Thus, a lower minimum requirement could provide the "desired head start for a cost effective and competitive passive MF industry". According to stockbroking firm AngelOne, the framework would likely attract both existing and new market players.



Further, with respect to governance, SEBI explored that in management of passive funds, the oversight role of trustees (tasked with protecting the investors' interest) also gets considerably reduced. Thus, a case for relaxation. However, it stipulated that the role of trustees in averting conflict of interest and overseeing related party transactions, undue influence of sponsors, misconduct including market abuse and misuse of information including front running would still be relevant along with AMCs. Important to note here however, that certain oversight measures relating to daily operations would now be entirely with the board of the AMC, the paper held. For example, ensuring fairness in fees and expenses charged and more importantly, maintaining the tracking error and difference within the regulatory limit.

#### **What about risks and disclosures?**

The success of a passively managed scheme is subject to two factors, namely, TER (refers to the costs associated with running and managing a scheme) and tracking error. Thus, the latest framework moves away from metrics such as strategy and investment avenues, among other things. These would not form part of the scheme information document (SID) that contains all the relevant information for a prospective retail investor. SEBI however sought that the prospective investor be informed about the name of the underlying benchmark, among other things, in the SID. SEBI's consultation paper had also concentrated focus on costs for compliance considering the lowered risks.

It provided that the responsibilities of the risk management committee(s), being limited in the paradigm, could be instead additionally carried out by the audit committee of the AMC.

### **A LEARNING CURVE**

On October 3, without much fanfare, the Centre launched an online portal that will serve as the platform for implementing one of the major announcements in the Budget for India's unemployed, and to a significant extent, unemployable youth. The portal, which operationalises the PM Internship Scheme — part of a five-scheme package designed to spur job creation and impart skills to 4.1 crore youth over five years — will match companies willing to offer year-long on-the-job training stints with young people striving to find a job. In principle, the mainly Centre-funded scheme makes sense for a country with a large, young workforce which is also grappling with distressing levels of youth unemployment. Apart from bridging the gap between the education provided to students and the real-world practical skills desired by employers, well-known firms could offer some form of certification at the end of the internship, providing comfort to prospective employers reviewing candidates for jobs. This could address a key question that employers often grapple with: "They can get the job, but can they get the job done?"

Under a pilot project, the first batch of 1.25 lakh interns will begin stints with voluntarily participating companies on December 2. While the government has consulted industry bodies before and after announcing the scheme, it is rightly cautious before scaling it up to meet the target of creating one crore internships by March 2029. The lessons learned from the pilot project will inform the final scheme design. Some insights will be apparent in the initial process of matching applicants to companies, but the full scope of outcomes can only be assessed after December 2025, when the interns re-enter the job market. Along the way, dropout rates and grievances will need to be monitored closely. A few features pose challenges, such as the plan to place interns within or near their district, and if that is not feasible, within their State. It is unclear how this will play out in less industrialised and less services-oriented States such as Bihar, which are likely to attract higher numbers of applicants. Just five States account for over half of India's manufacturing



output, and youth unemployment is higher in States with lower business presence. Apart from shop floor skills, the scheme also needs to incorporate digital and soft skills that are vital for the modern workplace. The pilot project's trajectory requires a diligent and candid evaluation without a self-congratulatory approach, ensuring that intended outcomes are eventually met.

#### MORE INDIANS TRAVELLING ABROAD BUT ARRIVALS YET TO HIT PRE-COVID LEVELS

The post-pandemic surge in international travel is a nearly global phenomenon and the story is not too different when it comes to Indians travelling overseas, with outbound Indian travellers' numbers having exceeded the pre-Covid levels. The picture, however, is not as exciting when it comes to foreign travellers visiting India. In what continues to be a cause of concern for the country's tourism industry, foreign tourist arrivals (FTAs) are yet to catch up with the pre-pandemic levels.

#### For Your Information-

- According to Ministry of Tourism, Tourism sector is one of the fastest growing economic sectors with a significant impact on employment and accelerates regional development with a multiplying effect on the activity of related sectors.
- Ministry of Tourism launched its flagship scheme of 'Swadesh Darshan' in 2014-15 to compliment the efforts of respective State Governments/ UT Administrations for building tourism facilities across the Country and has sanctioned ₹5294.11 Crore for undertaking 76 projects, out of which 73 projects are reported physically complete.
- Ministry of Tourism has revamped its Swadesh Darshan scheme in the form of Swadesh Darshan 2.0 with the mission to create a robust framework for integrated development of tourism destinations. In consultation with the State Government / UT Administrations 57 destinations across 32 States/UTs have been identified, till date, for development under Swadesh Darshan 2.0 scheme.
- Ministry of Tourism launched its scheme PRASHAD- Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive for development of tourism infrastructure in the country including historical places and heritage cities. Under the PRASHAD scheme, the Ministry has sanctioned 46 projects at the total sanctioned cost of ₹1621.13 Cr. with a cumulative release of ₹1023.45 Cr. till 31.03.2024. Further, 29 new sites have also been identified for development under the PRASHAD Scheme covering 28 States/UTs.

#### Do You Know-

- According to Ministry of Tourism, Domestic tourism together with inbound tourism has emerged as a key driver of economic growth. In year 2023, India recorded Foreign Tourist Arrivals (FTAs) of 9.24 million (Jan-Dec) (Provisional) with a growth of 43.5% over same period of the previous year which account for Foreign Exchange Earnings (FEEs) of ₹2,31,927 crores (Provisional estimates) with a growth of 65.74%. Besides as per the data furnished by State/UT Governments and other information available with the Ministry of Tourism, there were 1731.01 million Domestic Tourist Visits (DTV) all over the country during the year 2022.
- Facilitative visa regime is a pre requisite for increasing inbound tourism. The Ministry of Tourism takes the initiative with Ministry of Home Affairs and Ministry of External Affairs for achieving the same. As on December, 2023, e-visa facility has been extended to the nationals of



167 Countries under 7 sub-categories i.e. 'e-Tourist Visa', 'e-Business Visa', 'e-Medical Visa', 'e-Medical Attendant Visa', 'e-Conference Visa', 'e-Ayush Visa' and 'e-Ayush Attendant Visa'. The e-Visa is valid for entry through 30 designated Airports and 5 designated seaports.

## THE TATA IMPRINT ON INDIA'S BIGGEST LEAP OF FAITH IN THE TECH SECTOR — SEMICONDUCTORS

The year 2022 was ending. It'd been nearly a year since India has announced its ambitious \$10 billion plan to kickstart semiconductor production in the country. Just one problem: there was nothing to back the ambition with on the ground.

The criticism had started getting vocal, with some wondering whether India even had the wherewithal to become home to chip making, which is considered the most cutting edge process in the technology world today, and is controlled by a handful of companies globally. Months later, a high-profile deal between mines to minerals conglomerate Vedanta and contract manufacturer Foxconn, best known for making iPhones, has fallen through.

Then, earlier this year, came the big announcement. In February 2024, the Union Cabinet cleared a \$11 billion fabrication plant to be set up in Gujarat by the Tata Group with help from technology by Taiwan's Powerchip, and a chip assembly and packaging plant also being set up by the Tatas in Assam, along with another project.

"Today, the state government of Assam in partnership with the Tata group will make Assam a major player in sophisticated semiconductors. This new development will put Assam on the global map," Ratan Tata, chairman emeritus of Tata Sons who passed away on Wednesday, said in a post on X at the time. His imprint was there on the way the deal shaped up.

These projects, alongside the others – assembly plants announced by Micron Technology, CG Power and Kaynes Semicon – hold the key to establishing India as a viable ground for making chips. But the real breakthrough, and the crown jewel in many ways, is the chip fabrication plant that the Tatas are setting up as it signifies a big step up in India's production capabilities.

### Cutting edge tech, strategic imperative

Most modern-day semiconductors are integrated circuits, also referred to as 'chips' — essentially a set of minute electronic circuits comprising transistors and diodes, as well as capacitors and resistors, and the myriad interconnections between them, layered on a wafer sheet of silicon. Fabs are the highly specialised semiconductor manufacturing facilities that print the miniaturised integrated circuits from the chip design into the silicon wafers.

The fabrication process is intricate and requires clean rooms designed to maintain sterile conditions to prevent contamination by air particles. There could be between 500 and 1,500 steps in the overall manufacturing process of semiconductor wafers, requiring multiple inputs that include silicon wafers, commodity chemicals, speciality chemicals, and other infrastructural prerequisites such as clean water supply and uninterrupted power supply.

But, more than the complexity of the manufacturing process itself, having a domestic fabrication plant is a big boost for India's economic and strategic imperatives given that these chips are used in practically all downstream industries — from rockets to power steering in a car and toasters in the kitchen.



The development is also significant given its timing: the world faces geopolitical tensions, the relationship between the US and China – two of the most influential countries in the technology value chain – is at an all-time low, and India hopes to assume an ever growing role in the space, with help primarily from government-funded schemes to boost the local industry.

### **Closed ecosystem**

The global semiconductor chip industry is dominated by some countries and a handful of companies — Taiwan and South Korea make up about 80% of the global foundry base for chips; and only one company, the Netherlands-based ASML, produces EUV (extreme ultraviolet lithography) devices, without which it is not possible to make an advanced chip.

Cambridge, UK-based chip designer Arm, where Nvidia is a stakeholder, is the world's biggest supplier of chip design elements used in products from smartphones to games consoles.

It's a nearly closed manufacturing ecosystem with very high entry barriers, as China's SMIC, a national semiconductor champion that is now reportedly struggling to procure advanced chip-making equipment after a US-led blockade, is finding out. In this market, Nvidia, which comprehensively dominates the chips used for high-end graphics-based applications, has come to dominate multiple end-use sectors including gaming, crypto mining, and now AI.

## **ON PROTESTS AGAINST VIZAG STEEL PLANT SALE**

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

Ever since Finance Minister Nirmala Sitharaman announced the 100% strategic sale of the Rashtriya Ispat Nigam Limited (RINL), the corporate entity of the Visakhapatnam Steel Plant (VSP), in January 2021, employees of the plant affiliated to various unions such as AITUC, CITU and INTUC, have protested against the move and stalled all plans of takeover by any private company. The VSP is the only shore-based steel making public sector unit (PSU) in the country.

### **What is the status of the plant now?**

So far neither the designated members of the Legal Committee or the Assessment Committee have been able to enter the plant in order for the government to issue an Expression of Interest as protestors keep stalling them. Thus, the sale plans have been delayed, and the Union Government has stopped extending support to the plant.

Moreover, in the last three years, the plant has ended up making huge losses and its daily production has come down drastically, since only one blast furnace is now operational among the three furnaces. The management has cut all benefits for employees and salaries are delayed by over 20 to 30 days every month. The plant is so cash strapped that it is unable to draw even imported coking coal for its coke oven from the warehouses at the Gangavaram and Visakhapatnam ports. The plant at present has about 12,600 permanent employees and 14,000 casual workers.

### **Why is the VSP called a legacy plant?**

The VSP has an emotive connection with the people of Andhra Pradesh. The struggle for the setting up of the plant in Visakhapatnam dates back to 1963 when Chidambaram Subramaniam, senior leader in the ruling Congress party and Minister, had announced the setting up of a shore-based steel plant in Visakhapatnam. Subsequent to the proposal, on July 1, 1966, the State Assembly,



then led by Chief Minister Kasu Brahmananda Reddy, unanimously passed a resolution favouring the plant in Visakhapatnam.

But thereafter there was no progress on the project till Amrutha Rao a leader from Guntur took up a fast unto death at the gate of the Visakhapatnam District Collector's office, from October 15, 1966. Thereafter, things started to heat up, as students of various colleges in Andhra Pradesh took up the mantle of the protest. The protests then turned into State-wide strikes and led to the killing of 32 people in the month of November, across the State. The slogan Visakha Ukku Andhrula Hakku (Visakha Steel: the right of the people of Andhra) resounded across the nation and shook the then Congress government at the Centre. Therefore, on April 10, 1967, Indira Gandhi announced in Parliament that a steel plant would be set up in Visakhapatnam. About 20,000 acres of land from 68 villages were acquired for the plant and on March 20, 1990, the first blast furnace was dedicated to the nation.

#### **Why did the Centre decide to sell?**

The VSP has a huge land bank of about 20,000 acres that has a market value of about ₹1 lakh crore. Employees say that private entities are looking at it for its real estate value. The plant also has the latest technology and its capacity can be expanded up to 20 million tonnes. It manufactures high-grade quality steel and has good market presence. Additionally, it has two major ports in its backyard, within a 20 km radius.

However, the plant as of yet has not been allotted any captive iron ore or coal mines. As per the Mines and Minerals Act, every steel plant must be allotted iron mines for its sustainability. Since VSP doesn't have one, an additional ₹4,000 crore is spent on buying iron ore at higher prices. This clubbed with the payment of interest on accumulated loans of about ₹18,500 crore, has been pulling the plant down. The Union Government has not allotted a mine, despite the VSP making several requests, says former Chairman of VSP Y. Sivasagar Rao.

#### **What next?**

The protestors have two main demands. One is that the VSP should be given a captive mine. CPI(M) State Secretariat member and veteran leader Ch. Narasinga Rao says that the Union government instead of selling off the plant should allot captive mines and write off the loans, as VSP has paid over ₹58,000 crore to the Centre in form of taxes so far.

The other demand is that the plant can be merged into the SAIL (Steel Authority of India Limited). SAIL is planning a 20 MT expansion, for which it needs an investment of about ₹6,000 crore. If they take over VSP and start all its furnaces, take production to 100% and supply iron ore from its mines, it will get a 7.3 MT steel producing plant on a platter. This is a win-win situation for all including SAIL, VSP as well as the government, points out VSP employees and union members.

The strategic sale of the VSP has been a political issue and was used as plank in the 2024 elections. All parties including NDA partners such as TDP, JSP and now opposition parties YSRCP had promised to bail out the plant and see that the Centre does not go ahead with its sale. In a meeting with the FM, Steel Minister and the CM that was convened on October 8 in Delhi, it is learnt that the Centre is thinking of a revival package or a merger with SAIL. But this discussion has been going on since long and only time will tell what is in store for the RINL-VSP.



## WHY IS THE TEXTILE INDUSTRY STRUGGLING TO PERFORM BETTER?

### The story so far:

Union Minister for Textiles Giriraj Singh recently said that the Indian textile and apparel sector is aiming for a total business of \$350 billion annually by 2030, which is to generate 3.5 crore jobs. However, the industry went through a tumultuous phase during the last two financial years, casting a shadow on the possibility for 10% CAGR.

### What is the status now?

The size of the Indian textile and apparel industry was estimated to be \$153 billion in 2021, with almost \$110 billion contributed by domestic business. In FY22, India was the third largest textile exporter globally, enjoying a 5.4% share. India is also said to have the second largest manufacturing capacity, with a robust capability across the value chain. The sector's contribution to GDP is close to 2.3% (FY21) and 10.6% of total manufacturing Gross Value Added (GVA) in FY23. About 105 million people are employed by the textile and garment units, directly and indirectly. For an industry that has 80% of its capacity spread across MSMEs and is sensitive to international developments as it is strongly linked to global markets, FY2021-2022 saw tremendous growth with \$43.4 billion exports.

However, slowdown in demand that started in 2022-2023 only worsened in FY24 with a slump in exports and domestic demand. This impacted manufacturing clusters severely. For instance, Tamil Nadu, which has the largest spinning capacity in the country, saw the closure of nearly 500 textile mills in the last two years. In Tiruppur, which is a knitwear production destination, many units saw a 40% drop in business in FY23.

### Why did exports slump?

Geopolitical developments and a slump in demand in buying countries hit the exporting units. This was exacerbated by high raw material prices of both, cotton and Man Made Fibres (MMF), and the growing import of fabrics and garments.

The imposition of a 10% import duty on cotton has made Indian cotton more expensive compared to international prices. In the case of MMF, introduction of quality control orders has disturbed raw material availability and price stability. The industry is repeatedly demanding removal of the import duty on cotton at least during the off-season months of April to October. "This is an industry in which the stakeholders compete in the international market with countries that heavily support their domestic production capabilities. So, India needs schemes that run for at least five years and boost investments. Raw material should be available for the domestic industry at internationally competitive prices," says a spokesperson of a leading industry association.

### What are the other challenges?

Apart from policy issues, the industry is also staring at disruptions in its traditional business systems. Direct retailing to customers through e-commerce is a trend that is catching on among garment and home textile manufacturers, with more startups entering this space. A report by Wazir Advisors notes that "(Foreign) brands are fast-tracking the adoption of ESG sustainability across the supply chain." They are defining their sustainability targets and want to source from vendors who will meet these targets. Further, there is a rise in comfort wear, loungewear, and athleisure as the emphasis on comfortable clothing has increased among consumers. "Even in the



domestic market, much has changed in the way business is done. Customers in rural and semi-urban areas prefer to shop in multi-brand outlets or hyper markets. They do not want to step into outlets of less known brands,” said Palanisamy, a basic garment producer in Tiruppur.

#### **What next?**

The industry is looking at a \$100 billion investment across various segments of the value chain by 2030 to augment production capacities and meet the \$350 billion target. Labour constitutes roughly 10% of the production cost in the textile sector. The average daily wage of a trained textile worker is reported to be ₹550 a day. Unskilled workers earn about ₹450 a day. The industry has no option but to look at technology and skilling of its workforce to improve productivity and reduce wastages, say industry sources.

### **WHAT IS THE NATIONAL AGRICULTURE CODE, CURRENTLY BEING FORMULATED BY BUREAU OF INDIAN STANDARDS**

The Bureau of Indian Standards (BIS) has begun the process of formulating a National Agriculture Code (NAC), on the lines of the existing National Building Code and National Electrical Code. What is the NAC, and why is it needed?

#### **What is the National Agriculture Code?**

The BIS is the national body which sets standards for different products across various economic sectors. In agriculture, it has already set standards for machinery (tractors, harvesters, etc.) and various inputs (fertilisers, pesticides, etc.)

However, there are still many areas not covered by the BIS standards. For example, there is no standard for agriculture practices like preparation of fields, micro irrigation and water use. Thus, for a long time, policymakers have felt a need for a comprehensive standards framework, like the one now being formulated by the BIS.

The NAC will cover the entire agriculture cycle, and will also contain a guidance note for future standardisation. The code will have two parts. The first will contain general principles for all crops, and the second will deal with crop-specific standards for the likes of paddy, wheat, oilseeds, and pulses. The NAC will serve as a guide for farmers, agriculture universities, and officials involved in the field.

### **THE GROWTH DRIVERS**

India’s annual agriculture growth averaged 3.7 per cent during the 10 years that ended 2023-24 under the Narendra Modi government. This was better than the 3.5 per cent during the 10 years of the United Progressive Alliance dispensation, which, in turn, was higher than the 2.9 per cent average of the preceding two decades.

— This growth pick-up, more so in the last decade as per a recent paper by NITI Aayog member Ramesh Chand and Jaspal Singh, belies the general perception of a sector steeped in crisis.

— Much of the seeming farm sector buoyancy of the recent period has come from the livestock and fisheries subsectors. These registered an average year-on-year output growth of 5.8 per cent and 9.1 per cent respectively during 2014-15 to 2022-23.





- However, the crops subsector, which one normally associates with agriculture, grew by just 2.3 per cent, lower than even the 3.4 per cent during the 10 years ended 2013-14 under the UPA.
- Moreover, even within crops, there is a divergence between horticulture and non-horticulture. Horticulture crops production rose at an average annual rate of 3.9 per cent during 2014-15 to 2022-23. The same for non-horticulture or field crops was a meagre 1.6 per cent.
- In sum, the so-called agriculture growth drivers have basically been farming of animals, fish, vegetables and fruit. The “crisis” really is in regular field crops.
- The benefits of minimum support price (MSP) and other government intervention measures are directed mostly to field crops, especially rice and wheat. In contrast, the “support” that milk, poultry meat, eggs, fish and horticulture crops receive is largely from the market. Their growth is demand-led, with Indians increasingly consuming foods rich in proteins, vitamins and minerals.
- Not surprisingly, the states that have posted the highest agricultural growth in recent times — whether Andhra Pradesh and Madhya Pradesh or Maharashtra and Gujarat — are the ones shown to have diversified most into livestock, aqua and horticulture farming.
- The laggards — the likes of Punjab and Haryana — have more or less been cereals- and field crops-focused. The policy lesson here is that farmers are better off when they produce what the market wants and they should be enabled to do so.
- The way forward is to dispense with MSP and crop-specific support. These should be replaced with per-acre transfers assuring farmers of a minimum income that induces them to be more risk-taking and market-oriented. Farmers need access to credit, insurance and technology.

#### EXPLAINED: WHY TOMATO PRICES HAVE HIT RS 100/ KG

The National Cooperative Consumers’ Federation of India under the Union Ministry of Consumer Affairs, Food and Public Distribution began selling tomatoes at a subsidised price of Rs 65 per kg in Delhi as retail prices touched Rs 120-130 at some places on Monday.

Customers around the country are paying at least Rs 80-90/ kg for tomato. Consumer price data compiled by the ministry show average prices on October 7 had increased significantly from a month ago, with the south zone average price having almost doubled over this period. (See Table)

#### **Why are prices of tomato rising, and for how long will this situation last?**

##### **Why prices are up**

The main reasons for the sudden price spike is lower than expected sowing, and destruction of market-ready crop in some parts of the tomato zone due to heavy rain in the last week of September, farmers said.

As of September 20, total sowing of 1.98 lakh hectares (lh) of kharif tomato was reported, far below the target of 2.89 lh. On this date last year, 2.20 lh of kharif tomato had been sown.

Unlike onion, which is grown thrice a year, there is only a kharif and a rabi tomato. Kharif tomato is grown mainly in Maharashtra, Andhra Pradesh, and Telangana; the rabi crop is grown in parts of Maharashtra and parts of Karnataka.



Rabi tomato is transplanted in February-March and harvested after about 160 days. The kharif crop is transplanted after June-July, and transplantation can continue till September in parts of Maharashtra.

Abhijit Gholap, a tomato grower from Junnar taluka of Pune district said the extreme heat of last year nudged many farmers to move from tomato to crops like maize this year. "The rabi tomato crop could not withstand sustained temperatures of more than 40 degrees Celsius," he said.

Area under maize in the country has gone up from 84.56 lh last year to 88.50 lh this year. Resilience of the crop in extreme weather and increased demand from grain-based ethanol manufacturers are reasons for the popularity of maize.

Many farmers had complained of bacterial and viral disease attacks on their tomato crop last kharif. Tomato is cash intensive — and farmers such as Gholap say it needs a capital input of at least Rs 1-2 lakh per acre. With bacterial and viral diseases increasing the input cost, tomato is often not remunerative. "This is another reason why farmers have moved away," he said.

#### **When will prices fall?**

The modal (average) price of tomato at the wholesale market of Pimpalgaon Baswant in Nashik is currently around Rs 52-55/kg. Prices are expected to stay at this level or even rise further in the coming days, Gholap and other farmers said. Fresh harvests in Nashik and Telangana after Dussehra will supply the market for some time, but prices are likely to rise again as another supply squeeze follows.

Since the next crop will hit the market only around March, no significant reduction in retail prices of tomato is likely in the near future.



# DreamIAS



## LIFE & SCIENCE

### HOW HAS TELEGRAM CHANGED ITS STANCE ON CONTENT MODERATION POLICY?

#### The story so far:

In the first week of September, Telegram quietly edited out language from its FAQ page that stated private chats were protected and that they “do not process any requests related to them.” The answer to a section titled, “There’s illegal content on Telegram. How do I take it down?” has now been altered to include directions on how to report illegal content and messages. It also turned off a ‘People Nearby’ feature that helped users find and message other users in the vicinity, and replaced it with a “Businesses Nearby” feature instead, allowing “legitimate, verified businesses” to display products and accept payments.

#### What happened?

On September 24, Telegram CEO Pavel Durov announced definitive changes to Telegram’s privacy policy, saying they will now provide authorities with user data including phone numbers and IP addresses, in response to valid legal requests.

The move, Mr. Durov said, intends to “deter criminals from abusing” the platform’s search function that was being abused to “sell illegal goods,” he added. In the past, Telegram had agreed to supply information on terror suspects as per policy, but now it covers criminal activities in general. The company will disclose if it provided user information to authorities, in its quarterly transparency reports.

Additionally, Mr. Durov said that platform moderators will be using AI to identify and remove “problematic content” from Telegram’s search feature.

#### How do other end-to-end messaging apps moderate content?

In 2021, post the January 6 riots at the U.S. Capitol, employees of the Signal app internally raised concerns that the app wasn’t doing all they could to stave off abuse, with reports showing a surge of users on Telegram and Signal.

Signal is owned by a non-profit and doesn’t sell ads or user data, or even collect demographic or personal details around users — other than phone numbers. Given that all groups and direct messages on the platform are encrypted, the company has taken a similar approach to Telegram in content moderation by saying they don’t want to find out how the app is being used, and that knowing would be the antithesis to its encrypted nature.

But Telegram offers more features than Signal that make the app a go-to place for anti-social elements. For example, Telegram enables mass communication, allowing groups to have up to 2,00,000 members, making the platform a hotbed for those exchanging child sex abuse media, terror-related content, and misinformation. By comparison, rival end-to-end encryption messaging apps like Signal and Meta-owned WhatsApp both allow up to 1,000 people in a group.

Signal doesn’t advertise these groups within the app, but Telegram has a search feature which makes it easier to find a publicly visible forum by looking up a specific hashtag or term. This makes it child’s play to find groups posting hateful content. The deluge of users to these apps and others like Parler put them under fire from several activists, but Telegram was closer to the threshold of



amplifying these groups even more. Despite being marketed as a messaging app, these features make Telegram behave more like a social media platform. So, while it isn't that Signal followed any specific content moderation policies, it is more that Telegram's features raised a greater number of red flags.

Meanwhile, WhatsApp's claim of end-to-end encryption has often been questioned. The messaging app is known to hand over metadata to law enforcement agencies, while Meta has a long history of being hungry for user data. Regardless of the user's privacy settings, WhatsApp collects user metadata. The app has at least 1,000 content moderators who are able to view some messages if the recipient reports them. WhatsApp disclosed in its terms of service that once an account is reported, it "receives the most recent messages" of the group or user in question as well as "information on your recent interactions with the reported user." While the clause doesn't mention it, this could include the user's IP address, mobile phone, phone number, profile photos, and linked Facebook and Instagram accounts.

#### **What are the obligations imposed on intermediaries operating in India?**

Intermediaries such as social media or messaging platforms operating in India are expected to comply with national regulations and respond promptly to complaints regarding unlawful content.

However, there is a provision that may give tech or social media platform executives a safe harbour of sorts, in the face of legal action.

Section 79 in The Information Technology Act, 2000, states that "no person providing any service as a network service provider shall be liable under this Act, rules or regulations made thereunder for any third party information or data made available by him if he proves that the offence or contravention was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence or contravention."

In simpler language, a person who is providing a social media or messaging platform shall not be liable under the Act if they prove that they were not aware of offending third-party content being made available on their platform, or if they did their best to stop such offences from taking place.

This means that an individual such as Telegram CEO Pavel Durov could potentially defend himself in India by saying that he is not responsible for unlawful content posted by others on the network that he provides as a service. However, Mr. Durov would be obliged to quickly remove such content once it comes to his notice, and Telegram must have preventive measures in place.

The IT Act also gives the government power to notify the intermediary that unlawful content is live. Intermediaries must quickly respond by disabling access to the content. This can be useful when one is, for example, trying to get explicit deepfakes or highly personal leaked media removed from digital platforms, as tech companies are mandated to act quickly. At the same time, there are concerns about censorship and governments unduly pressuring tech companies to remove content critical of it. In compliance with India's IT regulations, Telegram has a designated grievance officer, in order to deal with "public content which is not in accordance with the applicable IT regulations," per its website.

Other intermediaries such as Meta and Google also have grievance officers whom Indian users can contact.



## HOW DOES U.K.'S OPENSAFELY ENSURE TRANSPARENCY?

### The story so far:

In a significant advancement for health data research, Ben Goldacre and his team have developed the OpenSAFELY platform, enabling access to the health records of approximately 58 million people in the U.K. without compromising individual privacy.

### What data does the NHS hold?

The National Health Service (NHS) provides free healthcare to every person in the U.K. for every malady. The country is proud of its health system, and in fact, part of the opening ceremony of the London 2012 Olympics was a salute to the NHS. That the NHS is in a crisis at present is a separate story.

Every British citizen has a single health record from birth to death. Every bit of care provided by the NHS is entered into that record. The NHS health records go back more than 70 years. Since 1996, 96% of doctors' offices have maintained electronic records.

## GLOBAL DIGITAL COMPACT: ADVANCING DIGITAL INNOVATION IN A SUSTAINABLE FASHION

In the recently concluded 'Summit of the Future' organised by the United Nations, member countries adopted the 'Global Digital Compact' (GDC). This ambitious instrument is perhaps the first of its kind in the international arena focusing on the potential of digital technologies, with the specific intention to harness and regulate them for the common good.

### What is the GDC?

The GDC is not a binding law but a diplomatic instrument with a set of shared goals for governments, institutions, firms, and other stakeholders to bear in mind. Once there is greater adherence, the terms of the compact may become soft laws in each country.

Earlier, the UN helped pilot and legitimise two other compacts: the 'Global Compact' ("a voluntary initiative based on CEO commitments to implement universal sustainability principles and to take steps to support UN goals") and the 'Global Compact for Safe, Orderly, and Regular Migration' (covering all dimensions of international migration in a holistic and comprehensive manner).

The GDC rests on the idea that digital technologies are dramatically changing our world. While they offer potential benefits for societies and for our planet — by enabling Sustainable Development Goals (SDGs) — they also pose serious challenges and concerns.

### Realising the GDC

The GDC is a collaborative project with the objective of ensuring human oversight of technologies in ways that advance sustainable development. Building on the norms of international law, the Universal Declaration of Human rights, and the UN 2030 Agenda, among others, the GDC proposes global cooperation in the governance of data and digital technologies

To meet the Compact's goals, UN member countries have committed to establish two panels — an 'Independent International Scientific Panel on AI [Artificial Intelligence]' and a panel for 'Global Dialogue on AI Governance'.



These goals include closing the digital divide, including everyone in the digital economy, improving access to data, and advancing responsible and equitable data governance. In the same vein, the Compact's principles are based on inclusive participation, access to data and digital technologies, sustainability, and trustworthy technologies that function within a free and competitive market.

To address the digital divide, the GDC proposes "digital public goods" that will include open-source software, open data, and open AI models, plus adherence to privacy and best practices.

## THE DIGITAL GENIE IS OUT OF THE BOTTLE. HOW CAN WE PROTECT KIDS ONLINE?

Now that the digital genie is out of the bottle, can restrictions on smartphone and/or social media usage for children put it back in, at least until they attain the emotional maturity to navigate the online world? This is the question at the heart of the worldwide debate on how much access children should have to digital devices, even as the clamour grows to protect them from the worst of the internet. In the UK, a parent-led movement called Smartphone Free Childhood is striving to keep devices out of the hands of children till the age of 14, while in Australia, the Anthony Albanese-government is working on legislation that will ban social media usage for children under a certain age. Even Big Tech, under pressure from governments and parents, has been forced to act: Last month, Meta introduced new "teen accounts" for Instagram, which would enable parents to have greater control over their children's activities on the platform.

From a certain "tech-positive" perspective, it might seem that restricting children's usage of technology violates their rights — to equality of opportunity, information, privacy, among others. In a world run by handheld devices, to try and firewall the young in this way could very well be a losing game. It is also true that there isn't conclusive evidence yet of a connection between smartphones, social media, and shortening attention spans, poor mental health indicators and a growing problem of loneliness among the young, all of which can be equally linked to factors such as poor nutrition, poverty and lack of social safety nets. Yet, the difficulty of safeguarding children from the harms of the digital world should not be used as an excuse to evade the responsibility to do so. Children are uniquely vulnerable to the threats posed by smartphones and social media because of their greater neuroplasticity, which makes it easier for them to adapt to these new technologies without necessarily having the emotional and mental tools to navigate them.

How, then, to ensure that children can continue to reap the benefits of the information and resources that the internet offers, while staying safe and healthy? Digital bans are easier on paper than in practice, as any parent of a teenager under the influence of FOMO (fear of missing out) would know. And in countries like India, where there is a deep digital divide, such actions only end up cutting off the already vulnerable, such as girls and children from marginalised communities, from the benefits of the tech revolution. The key is a wider conversation that is not bogged down by the seeming difficulty of the project, and shared responsibility — parents, schools and governments must work together to ensure safer and more fulfilled childhoods.

## GOLD: WHAT MAKES IT SO DESIRABLE?

### WHAT IS IT?

Gold is a precious metal famed for its use in jewellery and as a form of investment. Its atomic number is 79, and its Latin name is 'aurum', thus its symbol on the periodic table, Au.



Some 10% of all the gold produced around the world is used every year in industry thanks to the metal's many desirable properties. For example, gold doesn't dissolve in strong nitric acid whereas most metals do; this is why the term "acid test" is used to refer to a test of someone's character. Among the noble metals, only platinum is less reactive. Gold does dissolve in a solution of nitric acid and hydrochloric acid that alchemists called aqua regia, or "royal water." It also dissolves in some alkaline solutions and in mercury, is malleable, ductile, corrosion-resistant, and a good conductor of electricity. It is commonly used in industry to form connectors in computers.

South Africa has produced most of the world's gold since the late 19th century, but today the largest producer is China (no. 6 on this list is the small country of Ghana). The cost of extracting and refining gold depends on where it is found, although gold nuggets are typically found in mountainous areas that also have quartz veins.

**NOBEL PRIZE**

Category	Winners	Awarded For
<b>Nobel Prize for Medicine</b>	Victor Ambros and Gary Ruvkun	the discovery of microRNA and its role in post-transcriptional gene regulation.
<b>Nobel Prize in Chemistry</b>	David Baker, Demis Hassabis, and John M Jumper	To David Baker "for computational protein design" and jointly to Demis Hassabis and John M. Jumper "for protein structure prediction."
<b>Nobel Prize in Physics</b>	John J Hopfield and Geoffrey E Hinton	Foundational discoveries and inventions that enable machine learning with artificial neural networks.
<b>Nobel Prize for Peace</b>	Japanese organisation Nihon Hidankyo	Its efforts to achieve a world free of nuclear weapons and to demonstrate through witness testimony that nuclear weapons must never be used again.
<b>Nobel Prize for Literature</b>	South Korean author Han Kang	Her intense poetic prose that confronts historical traumas and exposes the fragility of human life
<b>Sveriges Riksbank Prize in Economic Sciences</b>	Daron Acemoglu, Simon Johnson, and James A Robinson	Studies of how institutions are formed and affect prosperity". <b>The Nobel citation</b> states the three economists "have helped us understand differences in prosperity between nations".

Each of the Nobel Prizes to be awarded from October 7 will include a medal of electrum, an alloy of gold and silver, plated with 24 carat gold.



## NOBEL PRIZE IN PHYSICS TO AI PIONEERS: HOW THEY MADE MACHINES LEARN

Artificial Intelligence, or AI tools are used by users of computers and phones around the world to seek information, create photos and videos, or interpret large amounts of data in ways that were not possible just two years ago. AI has the potential to bring about fundamental changes in the way people live and work.

This year's Nobel Prize in Physics recognises two scientists whose work laid the foundations of the AI revolution that is currently unfolding. John Hopfield, a 91-year-old American, and Geoffrey Hinton, a 76-year-old British-born Canadian, were on Tuesday awarded the Nobel Prize for their "foundational discoveries and inventions that enable machine learning with artificial neural networks".

The two scientists, working separately, did most of their ground-breaking research in the 1980s, but the impact of their work is beginning to be felt only now.

### Mimicking the brain

The big success of Hopfield and Hinton has been in developing computer algorithms that mimic the functioning of the human brain in performing common tasks. Computers were invented to carry out repetitive calculation-based tasks that were too time-consuming for humans. But very soon, scientists began wondering whether machines could also be made to do things that humans seemed to be far better at — remembering, recognising, creating, learning, and making intelligent guesses.

AI has become common parlance now, but the origin of the term dates back to the mid-1950s, when scientists began speaking of computers as "intelligent" machines. As computers became more and more powerful over the years, they accomplished increasingly complex tasks with great efficiency, and seemingly gained in intelligence. However, these were still calculation-based tasks — and all that was essentially happening was that the computer was able to calculate faster and do many more tasks simultaneously than earlier.

Efforts to get a computer to imitate the functioning of the human brain did not make much headway until Hopfield's revolutionary work in the 1980s. A theoretical physicist with interests in molecular biology and neuroscience, Hopfield built an artificial neural network, resembling the network of nerve cells in the human brain, that allowed computer systems to 'remember' and 'learn'.

"Earlier, in 1949, the Canadian psychologist Donald Hebb had discovered that the process of learning in human beings involved permanent and irreversible changes in the synapses, or connections, between nerve cells where the communication related to the learning was occurring. Hopfield built an artificial neural network that could accomplish something similar, and this was a big breakthrough."

Hopfield's network processed information using the entire network structure, and not its individual constituents. This was unlike traditional computing in which information is stored or processed in the smallest bits. So, when a Hopfield network is given new information, like an image or a song, it captures the entire pattern in one go, remembering the connections or relationships between the constituting parts, like pixels in the case of images.





It allows the network to recall, identify, or regenerate that image or song when an incomplete, or similar-looking, image is passed as input. Hopfield's work was a leap towards enabling pattern recognition in computers, something that allows face recognition or image improvement tools that are common now.

### Deep learning

Hinton took forward the work of Hopfield and developed artificial networks that could perform much more complex tasks. So, while Hopfield networks could recognise simple patterns of shape or sound, Hinton's advanced models could understand voices and pictures. These neural networks could be strengthened, and their accuracy at pattern recognition enhanced, through repeated inputs of data, called training. Hinton developed a method called backpropagation that enabled the artificial neural networks to learn from previous mistakes and improve itself.

The process of continuous learning and improvement by training on large datasets led to the development of deep neural networks that contained multiple layers of networks. Hinton demonstrated that deep networks resulted in the learning of more complex features and patterns in large datasets. Deep learning is at the heart of modern speech and image recognition, translation, voice assistance and self-driving cars.

The power of Hinton's deep networks were most spectacularly demonstrated at the 2012 ImageNet Visual Recognition Challenge, a competition organised to test new technologies in image recognition. A pattern recognition algorithm using deep neural networks developed by Hinton and his students, called AlexNet, showed dramatic improvements in recognising images.

In 2018, Hinton was awarded the Turing Prize, the most prestigious award in computer science. In fact, Hinton's entire work has been in computer science, unlike Hopfield, who has made contributions to physics, neuroscience, and biology. Srivastava, the former professor at Hyderabad University, said the Physics Nobel was relevant mainly because Hopfield's 1982 work borrowed from some earlier breakthroughs in physics.

"Hopfield's network was inspired by a physical system called 'spin glass', alloys with some very special properties. The workings of spin glass and its mathematics was mapped on artificial neural networks," Srivastava said.

This is not the first time that the Nobel Committee had picked a computer science breakthrough for the Nobel Prize in Physics. In 2007, the Physics Nobel was awarded for work that related to data storage devices like hard drives.

## WHY IS MICRORNA DISCOVERY A BIG LEAP?

### The story so far:

The Nobel Committee announced on October 7 that the Nobel Prize for Medicine or Physiology would be shared by Victor Ambros and Gary Ruvkun "for the discovery of microRNA and its role in post-transcriptional gene regulation," thereby unlocking a secret on how different types of cells develop.

### What is microRNA?

The human body is probably the most complex puzzle that humans are still trying to make sense of. Every time there is a better understanding and a piece slides into place with a resounding click,

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



then it is an occasion for celebration. For a Nobel Prize too perhaps. This year's awardees of the Nobel Prize for Medicine — Ambros and Ruvkun — did slide in a couple of pieces into the right slots in the massive puzzle that suddenly opened our eyes to understanding how different cell types develop.

Consider this: Every cell in the body contains the same chromosome, so every cell contains exactly the same set of genes and presumably, the same instructions. But different cell types have different, unique characteristics. It confounded the imagination until Ambros and Ruvkun came along. Their discovery offered a plausible explanation for the conundrum. The piece of the puzzle was called microRNA, a new class of tiny RNA molecules that play a crucial role in gene regulation. As the Nobel announcement statement said, their groundbreaking discovery revealed a completely new principle of gene regulation essential for multicellular organisms, including humans.

It is now known that the human genome codes for over one thousand microRNAs. Genetic information flows from DNA to messenger RNA (mRNA), via a process called transcription, and then on to the cell for production of protein. There, mRNAs are translated so that proteins are made according to the genetic instructions stored in DNA.

The key is in the precise regulation of gene activity so that only the correct set of genes is active in each specific cell type. Additionally, gene activity must be continually fine-tuned to adapt cellular functions to changing conditions in our bodies and environment. If gene regulation goes awry, it can lead to serious diseases. Therefore, understanding the regulation of gene activity has been an important goal for many decades.

#### **What is the work that led to the Nobel prize?**

Ambros and Ruvkun, both American biologists, were together in their post-doctoral period at the H. Robert Horvitz lab in the 1980s, and their interest in cell development probably had its spark there. "It was the moment," Ruvkun said later, "when recombinant DNA was just starting to take off and it was obvious that it was a revolution and I wanted to be part of that." As they say, great achievements have humble beginnings, and this duo started appropriately enough with a humble 1 mm long roundworm. This creature was not an odd choice though: it possessed many specialised types of cells, such as nerve and muscle cells, making it a convenient model to study a complex genetic regulation process across species, one that was conserved throughout evolution.

After that, both scientists branched off on their own, though they remained focused on the same theme, obsessively, as great scientists are wont to, but exchanging data with each other, a task assigned great value in the modern scientific world.

The study of mutant strains that disrupt cellular processes offers great insights into gene function, and Ambros and Ruvkun took this path. They studied two mutant strains of worms, lin-4, and lin-14, that displayed defects in the timing of activation of genetic programmes during development.

After his post-doctoral research, Ambros analysed the lin-4 mutant in his laboratory. He managed to clone the gene which revealed that the lin-4 gene produced an unusually short RNA molecule that lacked a code for protein production. This suggested that the small RNA from lin-4 was responsible for inhibiting lin-14.

Concurrently, Ruvkun investigated the regulation of the lin-14 gene at Massachusetts General Hospital and Harvard Medical School. Ruvkun showed that the inhibition occurred at a later stage



in the process of gene expression, through the shutdown of protein production. Experiments also revealed a segment in lin-14 mRNA necessary for its inhibition by lin-4. There were therefore complementary sequences in lin-4 and lin-14 mRNA, and the former binds to such sequences in the latter, blocking protein production in lin-14.

The two laureates compared their findings, which resulted in a breakthrough discovery. A new principle of gene regulation, mediated by a previously unknown type of RNA, microRNA, had been discovered. The results were published in 1993 in two articles in the journal Cell. Incidentally, Ambros' wife Rosalind Lee was his colleague and the first author of the Cell paper cited by the Nobel Committee. As Iorio and Croce wrote in their paper Causes and consequences of microRNA dysregulation, in the Cancer Journal, "microRNAs represent indeed an entire novel level of gene regulation that forced scientists to revise and somehow reorganise their view of the molecular biology."

While these results were met with initial silence from the scientific community, perception changed and euphoria took over, after Ruvkun's research group published their discovery of another microRNA encoded by the let-7 gene, seven years later. This gene was highly conserved and present throughout the animal kingdom, unlike lin-4. Over the following years, different microRNAs were identified. As a result of this work, researchers are today aware of the presence of more than 1,000 genes for different microRNAs and that gene regulation for microRNA is present in all multicellular organisms.

#### **What are the applications for the future?**

As Iorio and Croce list, since the first discovery, there have been remarkable advances in the understanding of microRNA biology. These include the identification of hundreds of microRNA genes; the dissection of microRNA biogenesis pathways; the identification of numerous microRNA targets and the establishment of principles of target regulation; and more importantly, there have been vigorous studies of their biological functions in physiological and pathological conditions.

Researchers found that a single microRNA can regulate the expression of many different genes, and conversely, a single gene can be regulated by multiple microRNAs, thereby coordinating and fine-tuning entire networks of genes. Extensive research has also yielded knowledge that cells and tissues do not develop normally without microRNAs. Abnormal regulation by microRNA can contribute to cancer, and mutations in genes coding for microRNAs have been found in humans, causing conditions such as congenital hearing loss, eye and skeletal disorders. Mutations in one of the proteins required for microRNA production result in the DICER1 syndrome, a rare but severe syndrome linked to cancer in various organs and tissues.

### **TRIO WINS CHEMISTRY NOBEL FOR WORK ON PROTEIN DESIGN AND PREDICTION OF STRUCTURES**

The 2024 Nobel Prize for Chemistry was shared by David Baker "for computational protein design" along with Demis Hassabis and John Jumper "for protein structure prediction," the Royal Swedish Academy of Sciences announced on Wednesday.

Heiner Linke, chair of the Nobel Committee for Chemistry, said the award honoured research that connected the sequence of amino acids that make up a protein and the protein's structure.



Mr. Baker led a team that in 2003 designed a new protein using bespoke software methods. They and others have since refined these methods to be able to point the way to ‘designer’ proteins intended for specific applications.

Johan Åqvist, a former chair of the chemistry Nobel Committee, called the variety of proteins developed by Mr. Baker et al. to be “absolutely mind-blowing” and that “it seems that you can almost construct any type of protein with this technology”.

Mr. Hassabis and Mr. Jumper received the other half of the prize for their hand in developing an artificial intelligence model called AlphaFold 2 that could predict the structures of millions of proteins. Human scientists had done that for only around 1.7 lakh proteins until then, although the structures and patterns therein were used to train AlphaFold.

### Unusual pattern

The Nobel Prize for Mr. Hassabis and Mr. Jumper comes relatively quickly after the corresponding work, around four to six years. There is usually a gap of a few decades between the work and the prize because the former does not immediately prove to be of “greatest benefit to humankind” — a criterion for winning.

For example, John Goodenough shared the 2019 chemistry prize for his work on lithium-ion batteries in 1970s. John Nash, Jr. won part of the Nobel Memorial Prize in Economic Sciences in 1994 for work he had done in the 1950s.

The chemistry prize this year also continues a relatively new tradition in this category of the prize going to non-chemists — although 1981 chemistry laureate Roald Hoffmann has interpreted this to be a mark of chemistry’s “far and influential reach”, especially in biochemistry and molecular biology.

Mr. Baker works at the University of Washington in Seattle and Mr. Hassabis and Mr. Jumper work at Google DeepMind in London.

## EXPRESS VIEW ON PEACE PRIZE: A NOBEL LESSON IN A TIME OF WAR

The Nobel Peace Prize, 2024, has been awarded to an organisation that has, since its founding in 1956, worked for what Milan Kundera called the “struggle of memory against forgetting”. Nihon Hidankyo preserves testimonies and memories of the survivors (called “Hibakusha”) of the only two nuclear weapon attacks in human history at Hiroshima and Nagasaki. In addition, the Japan-based group has been a consistent and vocal advocate for nuclear disarmament and a ban on atomic weapons. There is, of course, a context to the Prize. And in the current moment — with at least two devastating wars underway, the suffering of people on screens 24/7 — there are crucial questions to be asked about the moral power of “witnessing” and “remembering” in ending mass violence.

In a barely disguised reference to Russia, Jorgen Watne Frydnes, chair of the Norwegian Nobel Committee, said, “In a world ridden (with) conflicts, where nuclear weapons are definitely part of it, we wanted to highlight the importance of strengthening the nuclear taboo.” The devastation at Nagasaki and Hiroshima and of the Holocaust were the twin horrors that proved humanity’s ability to perpetrate the worst suffering on itself. They also became the basis for a semblance of morality between and within nation-states, exemplified in some senses by UN charters and powerful slogans like “nuclear taboo” and “never forget”. In essence, the existential crisis brought



on by the technologies of war and from dehumanising people and communities was sought to be avoided by ensuring that the depravities were seen, remembered, the stories of those who suffered heard. But is this enough?

Even as the Prize honours the memories of the Hibakusha, there is a new set of people suffering what is bound to be generational trauma. Thousands are being killed, many of them children. Unlike the Holocaust, or even the nuclear explosions, the wars and killings of today are visible globally, the victims showing the world their suffering in real-time. The logic of security and borders, of power and strategic interest — all of it underpinned by an amoral “realpolitik” — appears to trump the power of witnessing and remembering. The principal actors in both Russia-Ukraine and Israel-Palestine seem unable to talk to each other — vilification, after all, is easier than conversation. And organisations meant to provide the framework for peace and negotiation have failed to reflect a changing global order. The work of groups like Nihon Hidankyo is important in itself. But its import must also be imbibed by those who have their hands on the button, who command the engines of war.

## BRAINS AND BRAWN

Donkeys are intelligent animals which work closely with human beings. They are social animals and form close bonds with people, supporting them for transport needs.

One of the most beautiful breed of donkeys is found in the Halar region of Gujarat. Considered endangered, the surviving population of the Halari donkey numbers fewer than 500. The average Halari donkey is white in colour, and is larger and more resilient than other donkey breeds. It is an important domestic animal in the semi-arid landscape of Jamnagar and Dwarka districts in Gujarat's Saurashtra region.

Local people narrate stories about these animals being used for the building of dams, forts, hilltop temples, rest houses, and dharamshalas. The donkeys, they say, have impressive ability to carry loads of stone and sand.

Today, one will have to shell out over ₹1 lakh to buy a Halari donkey. There is also demand from other parts of the country to set up Halari donkey dairies.

Halari donkey milk is known for its sweetness. Milk powder made from it can fetch upwards of ₹7,000 a kg in the international market, and is used for cosmetic purposes.

The Sahjeevan Trust has worked to conserve this breed in collaboration with the Animal Husbandry Department of the Gujarat government. They work along with the National Bureau of Animal Genetic Resources for the conservation of this endangered animal.

Under this project, they have identified pure-bred Halari male and female donkeys for breeding and conservation. Their efforts resulted in an increase in the number of Halari donkeys, says Ramesh Bhatti, programme director, of the Sahjeevan Trust.

But experts say that these efforts are not sufficient to really make a difference, and that it would need the depth of the resources of the State government. They call for establishing breeding farms for the Halari donkeys in their native tract of the Halar region.



## PUPPY DOG EYES

### Did 'puppy dog eyes' expression evolve exclusively in dogs due to domestication?

New research reveals that coyotes, like domestic dogs, can produce the famous "puppy dog eyes" expression. The study challenges the hypothesis that this facial feature evolved exclusively in dogs due to domestication. The researchers examined the levator anguli oculi medialis (LAOM), the muscle responsible for raising the inner eyebrow to create 'puppy dog eyes', in coyotes. They discovered that coyotes also possess a well-developed LAOM.

The researchers compared the facial muscles of coyotes, dogs, and gray wolves. While dogs and coyotes possess a well-developed LAOM, the muscle is either modified or absent in gray wolves. This challenges the hypothesis that human-driven selection was responsible for the development of the inner brow raiser in dogs. Instead, the LAOM might have likely been present in a common ancestor of dogs, coyotes, and gray wolves but was later lost or reduced in wolves.

## WILDLIFE POPULATION DECLINED BY 73% IN 50 YEARS: WWF REPORT

Monitored global wildlife populations have declined by 73 per cent in the last 50 years, owing to habitat loss, degradation, impacts of climate change and invasive species, the World Wildlife Fund's (WWF) biennial living planet report said.

### For Your Information-

- In India, the decline of three vulture species – white-rumped vulture, Indian vulture, and slender-billed vulture, has been alarming, WWF said.
- The report's conclusions were based on tracking 35,000 population trends and 5,495 species of amphibians, mammals, birds, fish and reptiles. To be sure, the decline is not in terms of the number of populations lost but the average changes in monitored animal populations around the world. Among the different ecosystems, the freshwater populations saw the highest decline with their populations falling by 85 per cent, followed by terrestrial populations, which saw a 69 per cent decline and a 56 per cent decline in marine populations, according to the report. Habitat loss, over exploitation, climate change, pollution, invasive species, diseases were the dominant drivers of the decline of wildlife. Habitat loss was driven by unsustainable agriculture, fragmentation, logging, mining, to name a few causes.
- "When a population falls below a certain level, that species may not be able to perform its usual role within the ecosystem – whether that's seed dispersal, pollination, grazing, nutrient cycling or many other processes that keep the ecosystem functioning," the report says. The report noted that the decline in the natural world has larger implications as they trigger cumulative impacts, which can eventually lead to tipping points.

## CLIMATE CHANGE SCORCHES WORLD'S BIGGEST RIVER, BLOCKING AMAZON'S VITAL WATER HIGHWAY

THE WORLD'S largest river is parched. The Amazon River, battered by back-to-back droughts fuelled by climate change, is drying up, with some stretches the mighty waterway dwindling to shallow pools only a few feet deep.



The Amazon rainforest is reeling from an intense drought. Numerous rivers vital for travel have dried up. As a result, there is no water, food, or medicine in villages of Indigenous communities living in the area. The Rio Negro, one of the world's largest rivers by discharge levels, has fallen to a record low level of 13.59 metres near the city of Manaus

- The latest calamity is another addition to the long list of causes that are accelerating the destruction of the Amazon, called the planet's lungs. It covers nearly seven million square kilometres, or about the area of Australia, and stores more than 150 billion metric tonnes of carbon.
- The river basin contains the largest rainforest in the world, making it a global hotspot of biodiversity and a key part of the global hydrological and carbon cycle. The river levels are reported to be at lowest levels in 120 years, threatening the estimated 30 million people living in the Amazon basin across several nations including Brazil, Peru, Colombia, Venezuela, Ecuador and Bolivia, by disrupting transportation, isolating communities and killing wildlife.

#### Do You Know-

- Droughts aren't unheard of in the Amazon. Most recently, the rainforest witnessed a dry spell in 2021, which was the worst in at least 90 years. The latest drought, however, is probably even more severe as two simultaneous natural events have hindered cloud formation, further reducing the already low rainfall levels in the region.
- One of them is the onset of El Nino, which refers to an abnormal warming of surface waters in the equatorial Pacific Ocean. The weather pattern is known to increase the likelihood of breaking temperature records and triggers more extreme heat in many parts of the world and in the ocean. The other weather event is the unusually high water temperatures in the northern tropical Atlantic Ocean. Due to warmer ocean waters, heated air rises into the atmosphere, which then reaches the Amazon rainforest. The warm air inhibits the formation of clouds, causing rainfall to drop sharply.
- Over the years, several studies have indicated that with rising global temperatures, the Amazon will experience longer and more frequent droughts. A 2022 study, published in the journal Proceedings of the National Academy of Sciences (PNAS), said if humans continue burning fossil fuels at the current rate, the rainforest would experience major drought nine out of every 10 years by the year 2060.

#### Trivia-

- According to Britannica, the Amazon River is the largest river in South America and, in terms of both basin area and flow volume, the world's largest drainage system. Measuring at least 4,000 miles (6,400 km) from the headwaters of the Ucayali-Apurímac river system in southern Peru, the river is marginally shorter than the Nile River. Its mouth lies in the Atlantic Ocean on Brazil's north-eastern coast, and its westernmost source is high in the Andes Mountains, only 100 miles (160 km) from the Pacific Ocean.
- A river is a vast, uninterrupted body of water. Rivers are present on every continent and on virtually every type of land. Some are perpetually flowing. Some flow seasonally or during periods of high precipitation.
- The source or headwaters of a watercourse are its origin. The Gangotri Glacier, which is the source of the Ganges River in Asia, is one possible source. The source of the water may be the

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



thawing of snow, such as the snows of the Andes, which supply the Amazon River. A river system is comprised of a river and its tributaries.

- A drainage basin or watershed is another term used to describe a river system. The watershed of a river encompasses the river, all of its tributaries, and any groundwater resources in the vicinity.
- River's end is its mouth. At this location, the river empties into a larger river, a lake, or the ocean. The ocean is the destination of numerous of the major rivers.

## ON WAY TO CLIMATE RESILIENCE

With the severity of climate impacts being evident worldwide, the urgency for adaptation strategies has gained momentum. The first global stocktake at COP28 highlighted the fragmented and unequally distributed adaptation process globally and that “significant adaptation gaps still exist across sectors and regions”.

The 2015 Paris Agreement, Article 7 established the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2.. To better understand, conceptualize and ultimately achieve this goal, the countries that were signatories to the Paris Agreement (collectively, the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement, or the CMA) launched the Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation at COP 26 in Glasgow in 2021, to be carried out by the Subsidiary Body for Scientific and Technological Advice (SBSTA) and Subsidiary Body for Implementation (SBI).

### For Your Information-

- The GGA is a comprehensive framework aimed at enhancing adaptive capacity, strengthening resilience and reducing vulnerability with a view to ensure an adequate response guiding countries in their efforts. This is crucial for developing nations like India who are at the frontline of climate impacts. The UAE Framework for Global Climate Resilience is also expected to guide and strengthen efforts. This includes: a) impact, vulnerability and risk assessment; b) a country driven planning process; c) implementation of adaptation plans, policies and strategies by 2030; d) establishing and operationalising a system for monitoring, evaluation and learning.
- The framework also outlines specific targets for 2030, such as reducing climate-induced water scarcity, attaining climate-resilient food production, enhancing health services to mitigate climate-related impacts.
- The first global stocktake called for increased ambition and support, particularly in adaptation finance. The 2023 Adaptation Gap Report reveals a growing finance gap, currently estimated at \$366 billion per year. This is a significant barrier to implementing effective adaptation measures in developing countries.
- The recent negotiations in Bonn in June 2024 provided a flavour of the intense divergence between developed and developing countries especially on the Means of Implementation (MoI), the principle of common but differentiated responsibilities and the role of the adaptation





committee. Developing countries emphasised the critical need for public finance, technology transfer, and capacity building to support their adaptation efforts.

**Trivia-**

- The COP 28 UN Climate Change Conference in Dubai, the United Arab Emirates, was the biggest of its kind. Some 85,000 participants, including more than 150 Heads of State and Government, were among the representatives of national delegations, civil society, business, Indigenous Peoples, youth, philanthropy, and international organizations in attendance at the Conference from 30 November to 13 December 2023.
- COP 28 was particularly momentous as it marked the conclusion of the first 'global stocktake' of the world's efforts to address climate change under the Paris Agreement. Having shown that progress was too slow across all areas of climate action – from reducing greenhouse gas emissions, to strengthening resilience to a changing climate, to getting the financial and technological support to vulnerable nations – countries responded with a decision on how to accelerate action across all areas by 2030. This includes a call on governments to speed up the transition away from fossil fuels to renewables such as wind and solar power in their next round of climate commitments.

**AS GREEN PATCH SPREADS IN ANTARCTICA, HERE'S WHAT IS WORRYING SCIENTISTS**

Plant cover across the Antarctic Peninsula, a long, mountainous extension of Antarctica that points north towards South America, has increased more than 10 times over the past few decades due to rising temperatures, a new study says.

"It is the beginning of dramatic transformation," Olly Bartlett, a remote-sensing specialist at the University of Hertfordshire and one of the authors of the study, 'Sustained greening of the Antarctic Peninsula observed from satellites', told Nature.

**For Your Information-**

- Researchers used satellite imagery and data to conclude that the extent of vegetation in the Antarctic Peninsula has increased 14 times in just 35 years. Vegetation — mostly mosses and lichen — covered less than 1 sq km of the roughly 5,00,000-sq-km peninsula in 1986, but had spread to almost 12 sq km by 2021, according to the study. The rate of greening has increased by more than 30% between 2016 and 2021.
- Although the actual area covered by plant life is tiny, the percentage increase in cover is astonishing, according to the researchers. Study co-author Thomas Roland, an environmental scientist at the University of Exeter, told CNN, "Our findings confirm that the influence of anthropogenic climate change has no limit in its reach... Even on the Antarctic Peninsula — this most extreme, remote and isolated 'wilderness' region — the landscape is changing, and these effects are visible from space."
- Rising temperatures in Antarctica have also resulted in a rapid decrease in the extent of sea ice — the 2024 extent was the second smallest of the satellite record, only slightly more than the record low set in 2023, the US National Oceanic and Atmospheric Administration (NOAA) said on Tuesday. Warmer open seas may be leading to wetter conditions that favour plant growth, according to the study.



#### Do You Know-

- Mosses can colonise bare rock and create the foundation of soils that could in milder conditions make the continent more favourable for the growth of other invasive species that could threaten native flora and fauna.

Study co-author Bartlett told The Guardian, “Soil in Antarctica is mostly poor or nonexistent, but this increase in plant life will add organic matter, and facilitate soil formation. This raises the risk of non-native and invasive species arriving, possibly carried by eco-tourists, scientists or other visitors to the continent.”

- Increase in plant life could also reduce the Antarctic Peninsula’s ability to reflect sunlight (solar energy) back to Space — a darker surface absorbs more solar radiation. This could further increase ground temperatures, with local and global repercussions. Antarctica has already lost 280% more ice mass in the 2000s and 2010s than it lost in the 1980s and 1990s, according to a 2019 study published in the journal PNAS. Rising temperatures will exacerbate the loss of ice, and raise global sea levels.

- As unprecedented levels of greenhouse gases enter the atmosphere mainly through the burning of fossil fuels, Antarctica will continue to get warmer, and the vegetation is only likely to increase, according to the researchers.

### MILTON WAS AN UNUSUAL HURRICANE, BUT NOT UNEXPECTED. HERE’S WHY

Hurricane Milton, which made landfall near the city of Siesta Key in Florida on Wednesday night, triggered intense rainfall, flooding, tornadoes, storm surge, and strong winds in the area.

— Milton occurred during the peak of the Atlantic hurricane season (mid-August to mid-October). Yet, scientists have said the storm is unusual in many ways — from how quickly the storm intensified to the path it followed — although not surprising.

— Milton exploded from a Category 1 storm (they bring winds of 119 to 153 kmph) to a fierce Category 5 storm (they have winds of 252 kmph or higher) over the course of 12 hours between October 6 and October 7 morning.

— A storm is said to undergo rapid intensification if its maximum sustained winds spike by around 56 kmph, according to a report by The New Yorker. Extreme rapid intensification takes place when wind speeds increase by 93 kmph. Milton’s maximum sustained winds spiked by more than 145 kmph in a day, the report said.

— It was also rare that Milton formed in the Gulf of Mexico, which is connected to the Atlantic Ocean by the Straits of Florida, then began to move eastward, and made landfall on the Western coast of Florida.

— The most crucial factor behind Milton’s intensification were the remarkably high sea-surface temperatures in the western Gulf of Mexico.

— Heat stored in oceans is a key ingredient in the rapid or extreme rapid intensification of hurricanes. “Put simply, hotter water evaporates more readily, and rising columns of warm, moist air from that evaporation fuel rapid intensification,” according to a Vox report.



— Scientists say that the Gulf of Mexico’s unprecedented temperatures are primarily due to climate change. As the world continues to emit greenhouse gases, more heat is getting trapped in the atmosphere, a significant amount of which is absorbed by oceans.

— Global mean sea surface temperature has gone up by close to 0.9 degree Celsius since 1850, and around 0.6 degree Celsius over the last four decades.

— Another reason for Milton’s severe intensity was the high humidity of the atmosphere. The atmosphere can hold 7% more moisture for every degree-Celsius increase in temperature.

— In recent years, rapid intensification of storms has become more common... Although more research is required to establish the impact of climate change on hurricanes, scientists believe that the spike in rapid intensification is a consequence of rising global temperatures.

**Do You Know:**

— Climate change is impacting the frequency of heavy downpours during storms and sudden outbursts through its influence on complex atmospheric and weather patterns.

— Globally, at a 1.5C temperature rise, which the world is increasingly close to hitting, heavy precipitation that would have been a once in a 10-year rainfall event will occur 1.5 times every decade and be over 10% wetter, according to the UN’s International Panel on Climate Change (IPCC).

— Last year, Europe was around 7% rainier than normal, with most of the continent experiencing wetter-than-average conditions. Heavy or record-breaking precipitation triggered floods in Italy, Norway, Sweden and Slovenia.

**HOW HIGH-PERFORMANCE BUILDINGS ARE THE NEXT STEP TOWARDS A SUSTAINABLE FUTURE**

The conversation around sustainability in the buildings sector has often centred on climate change, resource use, and energy efficiency. Buildings are significant contributors to global emissions, especially in fast-growing cities, so improving their energy and carbon efficiency is vital. Failing to act could result in higher energy consumption, greater dependence on fossil fuels, and missed climate targets, all of which will further strain urban infrastructure.

Globally, buildings account for nearly 40% of total final energy consumption over their lifespan, primarily for operational needs such as running HVAC systems and lighting.

This significant energy use leads to approximately 28% of energy-related carbon emissions arising from both on-site energy consumption and indirect emissions from power plants and other off-site sources. In India, buildings account for more than 30% of the national energy use and 20% of its carbon emissions, according to the Bureau of Energy Efficiency.

As urbanisation accelerates, India risks surpassing global benchmarks for energy efficiency and carbon emissions in buildings, including standards set by the International Energy Agency, building certification programmes, and the European Union’s Energy Performance of Buildings Directive.



With India's urban population expected to reach 600 million by 2030, this challenge is becoming even more urgent. As cities grow, the demand for new construction also increases, and without action the sector's carbon footprint will increase drastically.

Adopting energy-efficient and low-carbon building practices is thus key to meet climate goals and to promote sustainable urban growth.

### **What are high-performance buildings?**

Terms like “green buildings” and “high-performance buildings” (HPBs) are often used interchangeably in the field of sustainable construction. Both concepts aim to reduce environmental impact and energy consumption and improve occupant comfort, but differ significantly in their methods and outcomes.

Green buildings are often seen as a foundational step toward sustainable development, with certification programmes playing a crucial role in their creation. These programmes assess the design intent and the final outcomes across various categories, using established benchmarks to ensure the builder is meeting essential sustainability goals. Their key areas of concern are energy efficiency, water conservation, and materials sourcing.

HPBs elevate these ideas by striving for peak efficiency in every aspect of their form and function. From energy and water use to occupant health and comfort, HPBs are designed with specific, measurable goals to achieve results beyond what the local government requires. They use advanced technologies and smart design strategies to continuously track their performance metrics, ideally in real-time. Specifically, HPBs leverage site-specific design approaches, such as natural lighting, ventilation, and terrain water management using sustainable materials, insulation, and low U-value windows to maximise thermal efficiency and reduce energy demand.

Advanced technologies include energy-efficient HVAC systems, greywater recycling, rainwater harvesting, smart lighting controls, and advanced metering. A ‘building management system’ (BMS) allows operators to monitor an HPB's performance, including sharing real-time analytics to optimise resource use.

Some HPBs already exist in India. One notable example is Unnati in Greater Noida, which features a façade designed according to the Sun's path in the local sky to improve thermal comfort and reduce glare. This is complemented by high-performance glass with a low solar heat gain coefficient, which improves energy efficiency and indoor environmental quality.

Similarly, Indira Paryavaran Bhawan in New Delhi utilises an advanced HVAC system featuring a unit where chilled water circulates through beams in the ceiling, taking advantage of natural convection and reducing energy consumption.

These building designs have paved the way for net-zero buildings (structures that generate as much energy and water as they consume) and grid-interactive buildings, which actively participate in energy demand management. Both push the boundaries of sustainability.

### **Benefits of HPBs**

HPBs offer environmental benefits and address long-term operational challenges that building owners and occupants often face. Rather than focusing solely on saving energy, HPBs create a holistic environment where technology, design, and sustainability intersect to enhance building performance.



For example, their use of smart systems to dynamically manage resource use ensures building systems last longer and don't need frequent upgrades. The Infosys campus in Bengaluru has a facility that monitors the entire building's performance using a BMS and makes the requisite changes as and when to maintain peak performance. These buildings often achieve higher returns on investment due to higher property value and lower maintenance costs. Similar examples include the Atal Akshay Urja Bhavan in New Delhi and the Infosys campus in Hyderabad.

HPBs that take advantage of automation and artificial intelligence in addition to existing features can even create intelligent ecosystems. For example, computers in buildings can adjust lighting, temperature, and ventilation based on occupancy patterns or weather conditions to create a more personalised, energy-efficient milieu.

From a market perspective, HPBs are becoming a symbol of forward-thinking development. Beyond their immediate benefits, they signal a shift toward buildings that prioritise the well-being of occupants with superior air filtration systems, maximal natural light, and optimal thermal comfort.

#### **How can HPBs help India's cities?**

Life in India is guided by resource scarcity, fluctuating energy markets, and rising temperatures. HPBs offer resilience through adaptive, self-sufficient structures. They promote social well-being by nurturing healthier indoor environments, including air quality.

For example, TCS Banyan Park in Mumbai incorporates extensive green spaces and water features and its daytime lighting strategy includes well-placed windows and skylights to reduce artificial lighting. Such projects consume fewer resources while elevating the quality of the workplace.

For India, where rapid urbanisation can and does strain public infrastructure, HPBs offer a proactive solution that positions the built environment as a driver of the country's transition to a low-carbon, more sustainable economy. In sum, in a rapidly changing real-estate landscape, where adaptability is key, HPBs stand out as future-proof investments capable of weathering evolving environmental and economic pressures while delivering value.

### **WHY FURTHER INCREASING AVERAGE LIFE EXPECTANCY FOR HUMANS WILL BE DIFFICULT**

During the 20th century, life expectancy soared dramatically primarily due to innovations in public health and medicine — between 1920 and 2020, the average human life span doubled. But there are limitations in going beyond these advancements.

After decades of rising life expectancy among humans — owing to medical and technological advancements — the increases seem to be slowing down, according to a new study. If the average life expectancy has to extend dramatically (say from 80 to 100), radical new medicines which can slow ageing are required, instead of improved treatments for common killers such as heart attacks and cancer, the study said.

The analysis, 'Implausibility of radical life extension in humans in the twenty-first century', was published in the journal *Nature Aging* on Monday.

S Jay Olshansky, a professor at the University of Illinois Chicago and lead author of the study, told *The New York Times*, "We're basically suggesting that as long as we live now is about as long as we're going to live".



### How was the study carried out?

Olshansky and his team analysed data on life expectancy at birth collected between 1990 and 2019 from some of the regions where people usually live the longest. These include Australia, France, Italy, Hong Kong, Japan, South Korea, Spain, Sweden, and Switzerland. Researchers also delved into national statistics from the United States, although the country's life expectancy is comparatively lower, according to a report by The NYT.

### What were the findings of the study?

During the 20th century, life expectancy soared dramatically primarily due to innovations in public health and medicine — between 1920 and 2020, the average human life span doubled.

The period of radical life extension prompted some scientists to extrapolate the trend and claim that “most people born after 2000 would survive to 100 years old,” according to a report by The Guardian.

According to the new study, however, this is unlikely to happen. It found that on average, life expectancy in the longest-living regions rose only 6.5 years between 1990 and 2019. Olshansky and his team said girls born in recent years in the regions have only a 5.3% chance of reaching 100 years old, while boys have a 1.8% chance, according to The Guardian's report.

This means that although modern medicine has helped many people live till their 70s, 80s, and even 90s, the average life expectancy is difficult to push further.

Olshansky told The NYT that even if deaths from common diseases or accidents were eliminated, people would die of aging itself. “We still have declining functions of internal organs and organ systems that make it virtually impossible for these bodies to live a whole lot longer than they do now,” he said.

The only way average life expectancy can touch 100 is if scientists can somehow slow down aging. Notably, several drugs are currently being tested on animals such as monkeys and mice for increasing life span. For instance, a study published in September found that metformin, an inexpensive diabetes drug, slows ageing in male monkeys.

## ANTI-CANCER DRUGS TO SPORT QR CODES TO CHECK FAKES

With reports of anti-cancer drugs being replaced by counterfeit products, the government may soon make it mandatory to attach quick response (QR) codes to every vial and strip of medication marketed in India. This is to ensure a rigorous track-and -trace mechanism.

This was proposed at a recent meeting of the Drugs Technical Advisory Board (DTAB) meeting, show its minutes. The Board was apprised that unscrupulous criminals, in collusion with hospital pharmacies, were found refilling empty vials of expensive anti-cancer medicines with counterfeit drugs.

The DTAB is a committee that advises the Indian government on technical matters related to the Drugs and Cosmetics Act. The Board is part of the Central Drugs Standard Control Organisation (CDSCO) in the Health Ministry.

“These fake drugs were then mixed with genuine stocks and sold to unsuspecting cancer patients, putting their life at risk,” the Board meeting's minutes noted.



A course of chemotherapy in India typically costs between ₹1 lakh and ₹4 lakh, depending on the drugs used. Radiation therapy can cost around ₹1 lakh to ₹3 lakh. A combination of cancer treatments is sometimes required to obtain better results.

#### **Preventing counterfeits**

Based on this input, the Union government is now working to bring in a mandatory quick response and rigorous track and trace mechanism to prevent counterfeits and validate the authenticity of anti-cancer medicines.

At the DTAB meeting, it was proposed that Schedule H2 of the Drugs Rules, 1945 be amended to include all anti-cancer medicines.

This would make it mandatory to print or affix bar codes or quick response codes in the labels of these medicines.

### **WHAT IS MARBURG VIRUS, WHICH HAS ROCKED RWANDA**

The deadly Marburg virus could overwhelm Rwanda's fragile healthcare system. Since the east African country reported the first Marburg case late last month, at least 46 individuals have been infected and 12 Marburg deaths reported.

About 80% of infections are among medical workers. For a nation with only 1,500 doctors to cater to a population of over 13 million, the outbreak threatens to significantly strain the healthcare system.

#### **What is Marburg virus?**

Marburg is among the deadliest pathogens known to humans, with Marburg virus disease (MVD) case fatality rates ranging from 24% to 88% in past outbreaks, depending on virus strain and case management. The first outbreak occurred in Marburg, Germany, in 1967. Since then, subsequent outbreaks have been mostly reported across Africa.

Marburg belongs to the filovirus family, like Ebola. Both pathogens are clinically similar, and although rare, can cause outbreaks with high fatality rates.

#### **How does MVD spread?**

Initially, human MVD infections were caused by prolonged exposure to mines or caves inhabited by colonies of Rousettus bats, most notably the Egyptian fruit bat. However, according to the World Health Organization (WHO), Marburg also spreads through human-to-human transition both directly (through contact with blood and other bodily fluids of infected people) and indirectly (through surfaces and materials like bedding, clothing, etc. contaminated with these fluids).

Medical workers treating confirmed or suspected MVD cases have been frequently infected in outbreaks, especially when infection control and precautions are lax.

#### **What are the symptoms of MVD?**

The interval between infection and onset of symptoms varies from 2 to 21 days. Initial symptoms, according to the WHO, include high fever, severe headache, muscle ache, severe watery diarrhoea, abdominal pain and cramping, and vomiting.



Many patients develop haemorrhagic symptoms (bleeding), often in many places including the digestive system (faeces and vomit often come with fresh blood), the nose, gums, and vagina. Haemorrhage leads to most MVD fatalities, with death in fatal cases occurring 8 to 9 days after the onset of symptoms, usually of severe blood loss and shock.

#### **How can MVD be prevented, treated?**

Currently, there are no approved vaccines or specific treatments for MVD. However, according to WHO, supportive care — rehydration with oral or intravenous fluids — and treatment of specific symptoms, improves survival.

Some treatments are currently in the works. Rwanda Health Minister Sabin Nsanzimana has said the country is seeking experimental vaccines and treatments, and hopes to address the outbreak with candidate drugs and shots — those in preclinical or clinical trial phases. The US-based Sabin Vaccine Institute has provided Rwanda with 700 doses of its experimental Marburg vaccine, which will be administered to healthcare professionals at the frontlines.

### **AUSTRALIA, NEW ZEALAND BRACE FOR LOOMING BIRD FLU THREAT**

Australia and New Zealand are bracing for the arrival of a destructive bird flu strain by tightening biosecurity at farms, testing shore birds for disease, vaccinating vulnerable species, and war-gaming response plans.

Oceania is the last region of the world free of the H5N1 clade 2.3.4.4b avian influenza that has killed hundreds of millions of birds and tens of thousands of mammals since appearing in Asia, Europe, and Africa in 2020, littering beaches with corpses and upending the agricultural industry.

While the region is somewhat protected by its geography, the virus is close, having reached Indonesia in 2022 and Antarctica last year.

Scientists and officials say there is a higher risk, particularly in Australia, of it arriving with smaller migratory shore birds during the Southern Hemisphere springtime months from September to November.

“It is clearly a threat to our country’s ecosystems,” said Fiona Fraser, Threatened Species Commissioner at Australia’s environment ministry.

“Many of our species are found nowhere else in the world,” she said. “Vulnerable species may face long-term population setbacks and heightened risk of extinction.”

Officials fear mass deaths from the avian flu and even the near-extinctions of species, including endangered sea lions, black swans, and many types of seabirds, and the loss of millions of farmed poultry.

Over 100 million chickens and turkeys have died or been culled in the U.S. alone from this H5N1 strain, causing economic losses of up to \$3 billion by the end of last year, according to the Council on Foreign Relations, a think tank.

The virus killed around 50,000 seals and sea lions and more than half a million wild birds as it moved through South America in 2022.





It has also infected cattle in the U.S. and, in rare cases, people. Health officials say the risk to humans is low.

New Zealand is also unlikely to avoid the virus long-term, said Mary van Andel, chief veterinary officer for the country's Ministry of Primary Industries.

**Both countries have intensified preparation.**

Australia created a task force across government departments and stress-tested its preparedness in August and September with a series of exercises simulating an H5N1 outbreak in wildlife.

New Zealand has trialled a vaccine on five endangered native birds and said it could be rolled out to more species.

"We're super paranoid about those five species, because the risk to them of losing the breeding population is that we could lose the species," said Kate McInnes, science advisor at New Zealand's Department of Conservation.

Australia is also developing options for vaccinating threatened wild birds held in captivity, officials said. The two vaccination schemes are the only ones for non-farm animals in the world.

Farms are boosting biosecurity measures, including limiting contact between poultry and wild birds, monitoring employees' movement, sterilising water and equipment, and installing automated systems that detect wild birds and scare them away, industry officials from both countries said.

**ULTRA-PROCESSED, FAST FOOD LEADING CAUSE OF DIABETES IN INDIA: STUDY**

A diet rich in "advanced glycation end products (AGEs)", which includes ultra-processed and fast food, is among the leading cause of India being the world's diabetic capital, notes a first-of-its-kind clinical trial finding published in the International Journal of Food Sciences and Nutrition recently.

AGEs are harmful compounds that are formed when sugars react with fats or proteins during high-temperature cooking, such as frying and roasting. They are directly linked to inflammation, a key factor behind diabetes.

The study was funded by the Department of Biotechnology, Ministry of Science and Technology.

The study found that low-AGE diets exhibited improvement in the insulin-sensitivity and reduction in the inflammatory levels compared to high-AGE diets. "The study revealed that low AGE diets could be a potential strategy to reduce diabetes risk," it said.

Prevalence of diabetes, pre-diabetes, and obesity is on the rise globally, and in Asian Indians, there are currently 101 million individuals with diabetes. Earlier studies in the West have demonstrated an increased risk of chronic diseases due to the consumption of processed foods that are high in fat, sugar, salt, and AGEs.

The current study shows that the consumption of AGE-rich foods leads to inflammation in the body. "This is because glycation — a non-enzymatic chemical process in which a sugar molecule binds to a protein or lipid molecule — can result in harmful reactions in the body," notes the study.

It recommends that by following a low-AGE diet (fruits, vegetables, whole grains, and low-fat milk), overweight and obese individuals can reduce oxidative stress in their bodies, which refers to the imbalance of free radicals and antioxidants that results in inflammation and cell damage.

As part of the clinical trial, adults who are either overweight or obese but non-diabetic were divided into two groups. While one group was given a low-AGE diet for 12 weeks, the other was put on a high-AGE diet. At the end of 12 weeks, the researchers found that insulin sensitivity was significantly increased in the low-AGE diet group, compared with the high-AGE diet group. The low-AGE diet group also showed lowered risk of future type 2 diabetes.

Dr. V. Mohan, chairman, Madras Diabetes Research Foundation, which carried out the study, said, "By adopting healthier diets such as green leafy non starchy vegetables, fruits, boiled foods rather than fried ones and cutting down on bakery foods and sugary foods, one can have diets which are low in dietary AGEs and thus lower the risk of type 2 diabetes."

Dr. Mookambika Ramya Bai, the first author of the study, said, "It means going back to the healthier diets that our forefathers ate."



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