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INTERNATIONAL

WHAT HAS CAUSED THE RECENT THAW IN U.S.-VENEZUELA TIES?

The story so far:

Maria Corina Machado has won a huge victory in the October 22 Venezuelan opposition primary. The Biden administration, just days earlier, had agreed to ease years-long brutal sanctions against the country's oil, gas and mining industries, in exchange for President Nicolas Maduro conducting free and fair elections in Venezuela in 2024.

Why now?

Part of the explanation for the re-engagement between Washington and Caracas lies in the challenges presented by the shifts in geopolitical realities consequent to the ongoing war between Russia and Ukraine. Within weeks of the February 2022 invasion, the Biden administration dispatched top officials to negotiate with Caracas, the country with the world's largest oil reserves, so as to smooth the effects of the energy crisis issuing from the conflict. Another dimension to the re-engagement were the apprehensions over the potential regional security implications of Moscow's backing of its Latin American allies in the event of a deepening conflict between the two superpowers. Caracas has more or less weathered the consequences of the U.S. and EU sanctions on its energy sector, thanks to crucial support from Cuba, China, Russia and Iran.

For President Maduro, the revival of ties with Washington could mean the beginning of the end to his government's disastrous international isolation that followed the Trump administration's severance of diplomatic relations with the country. From its position as Latin America's fourth largest economy when Mr. Maduro took office in 2013, Venezuela has slumped within years to becoming one of the region's poorest. The sanctions relief will enable Venezuela's state-owned oil firm to resume oil production and potentially restore the country's access to the U.S. financial markets.

What is the road ahead?

The Venezuelan opposition has received strong poll ratings since the victory in the 2022 regional polls in the Barinas state, the homeland of former President and Mr. Maduro's mentor Hugo Chavez. But it is highly fragmented, as evidenced by the eight candidates who ran in the recent primary, even as it continues to encounter formidable resistance from the Maduro government.

President Maduro has himself remained unfazed by international outrage against his autocratic ways. The crippling socio-economic crisis at home has forced a mass exodus of over seven million people across the region, with the International Criminal Court (ICC) investigating Venezuela for crimes against humanity in the wake of the humanitarian crisis that followed. One UN report documented a high number of extrajudicial killings by the Maduro regime.

Moreover, it is by no means certain that Ms. Machado, from the Vente Venezuela party, would be allowed to take on President Maduro in next year's contest, despite the overwhelming backing she received in the primary. The former legislator was disqualified in June from holding public office for 15 years on allegations of corruption and support for American sanctions. Ms. Machado is counting on hopes that her massive victory in the recent opposition primary will hold sway over the electorate and force the government to reverse the decision. But her hardline stance, such as the demand for President Maduro to be tried for war crimes, support for economic sanctions on



the government and advocacy for foreign military intervention against the Maduro regime may harm rather than help her cause.

It would therefore be premature at this stage to presume that President Maduro, who has been in office since 2013, would want to risk a competitive contest next year. The Biden administration has accordingly signalled that the quantum of sanctions relief would depend on the distance the government can cover towards democratic progress. Arresting Venezuela's downward spiral ought to remain uppermost on the opposition's priorities.

UNDERSTANDING THE U.S.-ISRAEL RELATIONS

The story so far:

Within days of the October 7 attack by Hamas inside Israel, killing at least 1,400 people, President Joe Biden travelled to Israel to declare solidarity with the Jewish state. Mr. Biden described Hamas as "unadulterated evil" and stated that America "stands with Israel". Since the October 7 attack, Israel has been bombing Gaza relentlessly and is currently carrying out a ground invasion in which at least 8,700 Palestinians have already been killed. The U.S. has been careful not to criticise Israel even in the face of the latter's disproportionate attack on the tiny enclave of 2.3 million people. The U.S. has also vetoed a UN Security Council resolution that called for a humanitarian pause to Israel's attacks and voted against a resolution at the UN General Assembly calling for a humanitarian truce, which was passed with a landslide. This is not surprising given the history of the U.S.-Israel relations. Barring minor personality clashes between leaders, the U.S. has stood solidly behind Israel, irrespective of the latter's actions, at least since 1967.

What are origins of U.S.-Israel ties?

The U.S. had supported the idea of a Jewish homeland even before the state of Israel was declared within historical Palestine in 1948. On March 3, 1919, two years after the Balfour Declaration, in which the British government declared its support for the creation of a "Jewish homeland in Palestine", President Woodrow Wilson said, "The allied nations with the fullest concurrence of our government and people are agreed that in Palestine shall be laid the foundations of a Jewish Commonwealth." In 1922 and 1944, the U.S. Congress passed resolutions endorsing the Balfour Declaration. The U.S. was the first country that recognised Israel in 1948. The recognition came in 11 minutes after the proclamation. "I had faith in Israel before it was established, I have faith in it now," President Harry Truman said on May 26, 1952.

Though the U.S. offered the state of Israel support right from the latter's birth, the initial two decades of their relationship had not been very smooth. The Eisenhower administration was unhappy when Israel, along with France and Britain, launched the Suez war. Washington threatened to cut aid to Israel if it did not withdraw from the territories it had captured. The Soviet Union also threatened to fire missiles unless Israel withdrew, and finally Israel had to pull back from the areas it seized. Similarly, in the 1960s, the Kenney administration had voiced concerns about Israel's secret nuclear programme.

However the 1967 war, in which Israel defeated Jordan, Syria and Egypt, all in six days, and captured swathes of territories, brought in a paradigm shift in the way Washington looked at the Jewish state. The U.S. at that time was bogged down in Vietnam. Israel defeated the Arab countries without any major help from the U.S., and the war was wrapped up quickly. Also, two of the Arab



countries Israel defeated — Egypt and Syria — were Soviet allies. From then on, the U.S. started seeing Israel as a stable ally who can check the expansion of Soviet influence in West Asia.

What is the current status of the U.S.-Israel ties?

Today, Israel is an exceptional ally of Washington. The U.S. offers practically unconditional financial, military and political support for Israel, which has been occupying Palestinian territories since 1967. Israel is an undeclared nuclear power but has never faced any global scrutiny or pushback, thanks to the protection offered by the U.S. Israel is also the largest recipient of America's aid — it has received \$158 billion in aid from the U.S. since the end of the Second World War. Currently, Israel gets \$3.8 billion in military aid every year from the U.S., which accounts for about 16% of Israel's total military budget.

The U.S. is also Israel's largest trading partner, with annual two-way trade hovering around \$50 billion. Both Israel and the U.S. also have a deep defence partnership, which involves joint research and development and weapons production. For example, the Iron Dome, Israel's famed missile defence shield, uses parts built in the U.S. and the system is financed in part by the U.S. With U.S. help, Israel has built a highly advanced defence manufacturing base, which has made the country the world's 10th largest military exporter. Since 1972, the U.S. has used its veto power over 50 times to strike down resolutions critical of Israel in the UN Security Council.

From the 1973 Yom Kippur war onwards, the U.S. has also offered solid military support to Israel in its conflicts. In 1973, after Israel was taken aback by the surprise attack by Egypt and Syria, U.S. supplies proved vital for Israel to push back the enemy troops from the occupied Golan Heights and Sinai Peninsula. In 1982, the U.S. sent Multinational Forces to Lebanon after Israel's invasion of the country. After the first intifada, the U.S. supported the Oslo process and the two-state solution, but without compromising its relationship with Israel. Now, the running theme in Washington is that it supports "Israel's right to defend". The previous U.S. administration, of Donald Trump, recognised Jerusalem as Israel's capital and moved America's embassy to the disputed city. The Trump administration also recognised Israel's annexation of Golan Heights, a Syrian territory it captured in 1967 and held under its occupation ever since.

Were there ever tensions between Israel and the U.S.?

While there were personality clashes between American Presidents and Israeli Prime Ministers, such clashes never led to a breakdown in what President John F. Kennedy called "the special relationship". In the 1970s, President Jimmy Carter heaped pressure on Israel to make peace with Egypt and give concessions to the Palestinians. Israel would finally agree to sign the Framework for Peace Agreement as part of the Camp David Accords, which would set the stage for the Oslo process. During the second intifada, President George W. Bush pressed Israel to show restraint in the occupied West Bank, and in return Prime Minister Ariel Sharon accused him of appeasing the Arabs. Israel 'will not be Czechoslovakia', Sharon said, indirectly drawing parallels between British Prime Minister Neville Chamberlain's surrender before Hitler in the 1938 Munich agreement and Mr. Bush. Sharon later apologised for the comparison. In 2002, Mr. Bush asked Israel to pull back from the West Bank and end a military operation "without delay", but the Israelis never obliged. Sharon had Bush "wrapped around his little finger", Brent Scowcroft, the former national security adviser, said in October 2004.

President Barack Obama and Israeli Prime Minister Benjamin Netanyahu had also clashed over the Iran nuclear deal. Mr. Netanyahu had visited the Republican-controlled U.S. Congress and attacked Mr. Obama over his Iran policy. But the same Mr. Obama vetoed all resolutions at the UN



Security Council critical of Israel except one during his eight-year term. Mr. Obama, during his last months in office, also cleared a \$38 billion aid package for Israel. The Biden administration had earlier criticised the Netanyahu government's plan to overhaul the country's judiciary. But after the October 7 attack by Hamas, the U.S. has thrown its full weight behind the Netanyahu government's war on Gaza.

Why does the U.S. always back Israel?

One explanation is that Israel's strategic value in a volatile yet critical region makes it appealing for Washington. During the Cold War, the U.S. saw Israel as a powerful bulwark against possible Soviet expansion in the Arab world. After the Cold War, when the U.S. started becoming more and more involved in West Asia, it continued to see Israel as a force of stability, along with Saudi Arabia and Egypt. Strategic value explains a close partnership or alliance, like America's relationships with Japan, South Korea or Germany. A host of other factors, including America's public opinion, electoral politics and the powerful Israel lobby in the U.S., play a role in shaping the country's Israel policy.

Historically, Israel has enjoyed near unanimous support in the U.S. Congress, and a vast majority of Americans have favourable views about Israel. American Jews and evangelical Christians are two powerful, politically active groups in the U.S. They are important constituencies for both parties and they are both pro-Israel. Then there's a powerful Israel lobby in the U.S., which according to John Mearsheimer and Stephen Walt, heavily influences U.S. policy towards Israel. The lobby helps amplify pro-Israel voices, backs pro-Israel politicians and works toward playing down or neutralising voices critical of Israel, they argue in their 2006 essay "The Israel lobby", in London Review of Books.

The American Israel Public Affairs Committee (AIPAC), a powerful pro-Israel lobbying group, hosts top leaders from both countries, including Presidents, Senators and Prime Ministers, for its annual gatherings. Pro-Israel groups also support both parties in the U.S. financially. For example, during the 2020 campaign, pro-Israel groups contributed over \$30 billion (63% of which went to the Democrats and the rest Republicans), according to OpenSecrets.org. Besides, there are strong ties between the military industrial complexes of both countries. Therefore, all these factors together — Israel's strategic value, America's domestic politics, the presence of the pro-Israel lobby and military-industrial interplay, make sure that there's an institutional consensus in the U.S. about its relationship with Israel, irrespective of which party or President is in power in Washington D.C.

LOST VOICE

India has explained its decision to abstain at last week's vote at the UN General Assembly (UNGA) for a ceasefire in the Israel-Palestine conflict as its way of protesting the omission of any "explicit condemnation" of the heinous October 7 terror attack by Hamas militants on Israel. India's principled stand on terrorism, which the Deputy Permanent Representative to the UN articulated, cannot be questioned. However, the death toll is rising and the need for global solidarity to stop the violence is imperative, a task that New Delhi, with its traditionally balanced position on the issue, and its recent G-20 role in bridging global divides, would have been well suited to play. Every other country in the neighbourhood, in the extended BRICS grouping and much of the developing world, was part of the 120 countries that voted for the UNGA resolution on Friday. Regardless of its reasoning, New Delhi had other options which it overlooked or ignored. The resolution at the emergency special session entitled "Protection of civilians and upholding legal



and humanitarian obligations” does include a paragraph “condemning all acts of violence aimed at Palestinian and Israeli civilians, including all acts of terrorism and indiscriminate attacks”. India could have played a prominent diplomatic role with countries proposing the resolution to ensure clearer mention of the October 7 attacks, including during Prime Minister Narendra Modi’s recent conversation with Jordan’s King Abdullah bin Al Hussein about the conflict. India’s leadership of such an amendment may have fared better than the Canadian proposal that failed to secure two-thirds of the UNGA membership present. Alternatively, India could have voted for the motion, while recording in its Explanation of Vote (EoV) that it regretted the omissions of the specific references to the October 7 attacks, which is what France did. In its EoV, India did not itself name Hamas for the terror attacks, nor has it so far designated Hamas as a terror group, leaving some doubt about the explicit mentions that New Delhi had wanted. On the other hand, if India wanted to convey a strong line on fighting terrorism, it could have voted against the resolution, along with the U.S., the U.K. and Israel.

India’s abstention indicates a shift in the Modi government’s stand, seeking a ‘safe’ position, rather than taking a stand on the violence in Israel and Palestine. This is a departure from India’s UNGA vote in 2018 that called for Israel to cease “excessive force” in retaliatory strikes on Gaza at the time, and is more in line with its decision to abstain on votes at the UN in 2021 on resolutions critical of Russia’s war in Ukraine. The government lost an opportunity to make India’s voice heard in the growing geopolitical conflict. Abstaining on a matter of global importance without making efforts to forge a consensus is out of sync with a desire to be the voice of the Global South, or for a seat at the global high table.

SCAPEGOATING

The Pakistan government’s order to all undocumented migrants to leave the country by October 31 has thrown the lives of hundreds of thousands of Afghan refugees in jeopardy. The interim government in Islamabad says its decision is not targeted at any particular nationality. But given the numbers of Afghan refugees in Pakistan, it is evident who is being targeted. Over the decades, millions of Afghans have taken refuge in Pakistan, mostly fleeing violence in their civil war-stricken country. According to the United Nations, about 1.3 million Afghans have been registered as refugees, while another 8,80,000 have legal status to stay. But Pakistan’s Interior Ministry says some 1.7 million people are staying “illegally”, a vast majority of them Afghans. At least 6,00,000 Afghans are believed to have fled to Pakistan after the Taliban recaptured power in Kabul in 2021. Many others had moved during the Soviet military intervention in the 1980s. Pakistan’s order states that they should either leave on their own or face detention and deportation. Pakistan has already set up deportation centres to round up “illegal” migrants and deport them. Thousands are now stranded on the Afghan-Pakistan border, while others are in fear of arrest and violence in Pakistan, leading to the UN’s warning of a “humanitarian tragedy”.

Pakistan’s argument is that the presence of illegal migrants has led to rising crime and terror attacks and is straining its struggling economy. “There have been 24 suicide bomb attacks since January this year and 14 of them were carried out by Afghan nationals,” interim Interior Minister Sarfraz Bugti said on October 3, when he announced the deportation plan. Pakistan, which is to have its national elections in January, is also reeling under hyperinflation, a balance of payment crisis and high rupee depreciation. But the solution to these woes is not the forceful deportation of 1.7 million people. The responsibility for most of the problems Pakistan now faces lies with its rulers. When its military and civilian leadership continued to play power games, trying to outwit each other and maximise powers in their hands, its economy was neglected. The security crisis it



is facing today is a result of its own dual policy on terror — fighting some outfits while supporting others. When the Taliban, which were backed by Pakistan’s military-intelligence establishment, recaptured power in August 2021, it was largely seen then as a victory for Pakistan’s generals. But the security crisis Pakistan is facing now suggests that the sense of victory did not last long. Skirmishes along the porous Af-Pak border are also common these days. What Pakistan is doing is scapegoating tens of thousands of poor Afghan refugees for the failures of its own policies.



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NATION

ANTONY BLINKEN, LLOYD AUSTIN TO VISIT NEW DELHI NEXT WEEK FOR '2+2' DIALOGUE

U.S. Secretary of State Antony Blinken and U.S. Defence Secretary Lloyd Austin will travel to New Delhi next week for the '2+2' meeting with External Affairs Minister S. Jaishankar and Defence Minister Rajnath Singh, according to the U.S. State Department.

The group of Ministers will discuss "both bilateral and global concerns and developments in the Indo-Pacific", the State Department said.

Mr. Blinken's visit to New Delhi is part of a larger November 2-10 trip to Tel Aviv, Amman, Tokyo and Seoul. The New Delhi visit is expected to take place on November 9-10. Mr. Blinken and Mr. Austin will meet with Prime Minister Narendra Modi after the ministerial meetings, the U.S. Department of Defence said in a statement.

The meetings come a few months before India is expected to host the Quad Summit in New Delhi, with the leaders of the U.S., Japan and Australia. The speculative date for this meeting is January 27 with U.S. President Joe Biden being invited to attend the Republic Day on January 26.

THE STANCE OF THE MALDIVES PRESIDENT-ELECT ON INDIA

The story so far:

Since his impressive win in the Maldivian presidential election in September 2023, President-elect Mohamed Muizzu has emphasised his desire to send Indian troops out of the country, while pledging to safeguard the Maldives's independence and sovereignty. In an indication of his priorities after assuming office, he told one outlet that he would return Indian troops on "day one". His stance stems from the main opposition bloc's 'India Out' campaign, mounted against outgoing President Ibrahim Mohamed Solih, for his foreign policy of 'India first'.

Is there Indian military presence?

According to the Maldives National Defence Force (MNDF), 75 Indian military personnel stay in the Maldives to maintain and operate the Dornier aircraft and two helicopters gifted to the Maldives by the Government of India. The helicopters have been present in the Maldives for over a decade, predating the term of the outgoing President Mr. Solih, who rose to presidency in 2018, beating President Abdulla Yameen (Mr. Muizzu was fielded by the opposition coalition led by President Yameen). The Dornier aircraft was presented to the Maldives in 2020, following a request from Male. The choppers and the aircraft are used for a range of functions such as medical evacuation, search and rescue operations, training, surveillance, and patrol.

Why is Mr. Muizzu opposed to them?

For Mr. Muizzu, his former boss President Yameen, and the political camp they represent, relations with India remain a sensitive matter. The Yameen administration's pro-China tilt is no secret, and during his term from 2013 to 2018, Maldives-India relations were particularly strained, more so after Mr. Yameen's insistence that India take back the helicopters it gifted.

While Mr. Muizzu maintains that he is "pro-Maldives" first, and that he will not allow Indian, Chinese, or any other country's military presence in the Indian Ocean archipelago, he has on many



occasions sought to highlight the benefits of Chinese assistance to the Maldives, without commenting on Male's debt obligations, including to China.

Mr. Muizzu's frequent pledges to remove any Indian military presence in the Maldives appear to have two obvious reasons in the current context. One, most of the international media, which framed the Maldives elections as a referendum on India and China — much to the frustration of many Maldivian political observers — tend to quiz the incoming President on his stance on the geopolitical rivalry, more than on any other domestic issue. Two, in repeating his position on the removal of Indian boots from Maldivian soil, Mr. Muizzu is able to demonstrate consistency with his own pre-poll pledge to supporters. It is only after he assumes office in November, that his government's concrete foreign policy moves will be known.

While Mr. Muizzu will be under pressure to deliver on his pledge, handling the Indian military question is not the only task awaiting him. The Maldives is facing a major economic challenge, as it prepares to pay about \$570 million annually in 2024 and 2025 to service external debt. In 2026, Mr. Muizzu's government will have to service a record \$1.07 billion in external debt, according to the World Bank. Mitigating the looming debt crisis may prove rather challenging without the cooperation of India and China, the Maldives's main lenders and development partners.

What are India's interests?

In the past four years, India has emerged as the Maldives's main security and economic partner, committing \$1.4 billion towards the socio-economic development needs of Maldivians. The Indian establishment sees its own security interests closely tied to the Indian Ocean island nation, amid its concerns of a growing Chinese presence in the region.

Maldives is a member of the 'Colombo Security Conclave', that began as a trilateral initiative with India and Sri Lanka, and later included Mauritius, for maritime cooperation in the region. "Our national security is deeply intertwined with our collective security aspirations in this region," National Security Adviser Ajit K. Doval said in March 2022, addressing the fifth NSA-level talks of the Conclave held in the Maldives.

IN TRIPURA-BANGLADESH RAILWAY LINK, NEW OPPORTUNITIES AND OLD CONNECT

Prime Minister Narendra Modi and his Bangladesh counterpart Sheikh Hasina Wednesday virtually inaugurated a rail link connecting Northeast India with Bangladesh. The Agartala-Akhaura project will cut down the travel time between Agartala and Kolkata too, from 31 hours to 10 hours. The project is expected to boost tourism, trade, and people-to-people exchanges between the two countries.

What is the project?

In the 12.24-km Agartala-Akhaura railway line, 5.46 kilometres lie on the Indian side in Tripura, and 6.78 km in the Akhaura upa-zilla in Brahmanbaria district of Bangladesh. The train will start from Agartala and move to Nischintapur, on the Indian-Bangladesh border, where the immigration checks will be held. The first station on the Bangladesh side will be Gangasagar.

The trial run of a goods train was held on the route on Monday. Liafat Ali Majumder, a senior engineer of Bangladesh Railways, said the trial was successful, but passenger trains are likely to be started later based on the status of discussions between the governments of both countries.



After the trial run for passenger services is completed, full-fledged train services between Agartala-Akhaura and Agartala-Chittagong (Chattogram) are expected to commence. The state has repeatedly expressed the hope that the project will eventually cover Dhaka and Kolkata.

Who is funding the project?

The project, which had its MoU signed in 2013, started with Rs 972.52 crore in 2016, including Rs 580 crore sanctioned for work on the Indian side and Rs 392.52 crore for the Bangladesh side. However, the budget was later revised twice due to cost escalation and other ancillary expenses. The final project cost is estimated at Rs 1255.10 crore, with Rs 862.58 crore allocated for works on the Indian side alone. The entire project cost is being funded by India. The Ministry for Development of North East Region (DoNER) funded the work on the Indian side, and the Ministry of External Affairs (MEA) funded the expense for the Bangladesh side as 'Aid to Bangladesh'.

The Indian Railway Construction International Limited (IRCON), a Public Sector Undertaking (PSU) under the Indian Railways, did the work on the Indian side, and Texmaco, a private Indian firm, implemented the work on the Bangladesh side. Land of 86.85 acres was acquired for the project on the Indian side and handed over to IRCON. Supposed to be completed in 2020, the project was delayed over land acquisition issues and the Covid-19 pandemic.

Why is the project important to Tripura?

For land-locked Tripura, any connectivity project is of great practical significance. Tripura Chief Minister Dr. Manik Saha, who participated in the inaugural event virtually from Agartala, said the project was crucial for connectivity in the NE region and would make Tripura the gateway for tourism. "This day will go down in golden letters in the history of Indo-Bangla relationship. Tripura is going to be the gateway for tourism and transport between India and Bangladesh. Due to the Agartala-Akhaura railway project, the distance between Agartala and Kolkata will be effectively reduced from 1600 km to 500 km," he said.

However, connectivity with Bangladesh also holds emotional significance. Tripura shares an 856-km international border with Bangladesh, the second highest after West Bengal. The North Eastern state is surrounded by the country on all three sides except Assam on the fourth. During the 1971 Indo-Pakistan war and the creation of Bangladesh, Tripura, a state which then had only 14 lakh people, sheltered nearly 15 lakh East Pakistani refugees. It ran at least 8 major muktijoddha (liberation warrior) training camps. With the new connectivity project, people on both sides can now hope for closer and smoother ties.

What other trains run between India and Bangladesh?

The latest train service is part of an ongoing effort to boost connectivity between India and Bangladesh over the past few years. Three trains, the Bandhan Express, the Maitree Express and the Mitali Express, run between West Bengal and Bangladesh.

The Bandhan Express reboots an old rail link between Kolkata and Khulna, the third-largest city of Bangladesh. Until the 1965 war between India and Pakistan, this route was served by the Barisal Express. The governments of PM Modi and Sheikh Hasina restarted the service in 2017. The Bandhan uses the Petrapole-Benapole border crossing.

The Maitree Express between Kolkata and Dhaka Cantonment started in April 2008. The Mitali Express, announced by PM Modi during his visit to Dhaka in March 2021, connects Siliguri in North Bengal with the Bangladesh capital.



BHUTAN KING ARRIVES ON WEEK-LONG VISIT TODAY, 1ST STOP ASSAM

Bhutanese King Jigme Khesar Namgyel Wangchuck is coming to India on a week-long official visit, accompanied by senior officials of his government, on Friday. During the visit, which will conclude on November 10, he will meet Prime Minister Narendra Modi, External Affairs Minister S Jaishankar and other senior officials, as per a statement issued by the Ministry of External Affairs on Thursday.

Wangchuck will also visit Assam and Maharashtra during his visit, the MEA said, adding that the visit would provide an opportunity to both the sides “to review the entire gamut of bilateral cooperation and to advance the bilateral partnership across diverse sectors”.

Significantly, the trip comes weeks after China and Bhutan held the 25th round of boundary talks in Beijing and signed an agreement on the “responsibilities and functions of the joint technical team on the delimitation and demarcation of the Bhutan-China boundary”.

The Bhutanese King had also visited India earlier this year. The MEA said India and Bhutan enjoy unique ties of friendship and cooperation, characterised by understanding and mutual trust.

Wangchuck will make his first stop in Assam on Friday, the first trip by any monarch of the neighbouring country to the northeastern state. He will arrive in New Delhi on Sunday for the next leg of his India trip. The queen will not accompany the monarch this time.

During his visit to Assam, Wangchuck will attend various programmes in the state and also visit Kaziranga National Park, a UNESCO World Heritage Site famous for its one-horned rhinos.

Assam Chief Minister Himanta Biswa Sarma on Thursday said India and Bhutan share a unique relationship which has strengthened with the passage of time. Ahead of the Bhutan King’s visit, the Assam government on Wednesday approved the reservation of five seats for Bhutanese nationals in medical colleges in the state.

Assam shares a 265.8-km-long international border with Bhutan.

ON MARATHA AGITATION, EXPANDING ECONOMIC PIE IS KEY — NOT RESERVATION

The resurgence of the Maratha community’s agitation for reservation – and the disturbing violent turn it has taken — frames fundamental social, political and legal challenges for the ruling coalition and Maharashtra’s polity as a whole. The attacks on the homes of legislators and the vandalising of public property by the protesters only shrink the space for dialogue. It turns a vexed political issue into one that is about law and order. The hunger strike by the Maratha Kranti Morcha (MKM) leader Manoj Jarange Patil puts a clock on a resolution: However, the MKM leadership too must realise that such brinksmanship is not conducive to a durable solution. The “banning” of party leaders from certain areas and meetings does not bode well. Beyond the current moment, the Maratha agitation raises a question that has haunted many states: Are quotas the only way to address demands for development?

The Maharashtra government has gone down the reservation road before, only to come up against a legal wall. The 2018 Maharashtra State Reservation for Socially and Educationally Backward Classes (SEBC) Act, which provided the Maratha community reservation in public education and employment was struck down by a five-judge constitutional bench of the Supreme Court in 2021. First, the Court refused to breach the 50 per cent ceiling for reservation prescribed in Indra



Sawhney. It also found that data collected by the Justice Gaikewad Commission to prove the “educational and economic backwardness” of the Maratha community, in fact, “proves that the Marathas are not socially and educationally backward”. The SEBC Act was a response to a long movement, which gained momentum in 2016. It provided for a separate quota for the community since their inclusion among OBCs would upturn the social applecart. The issues raised by the Court — and the delicate contours of the politics of reservation — remain as salient today.

Across states — Jats in Haryana and Patidars in Gujarat, for example — “dominant” communities are demanding reservation. While they do have significant political influence and, often wield economic power in a rural land-based economy, that has not always translated to income and educational capital. Take the Marathas. According to the Indian Human Development Survey, the poorest 40 per cent of the community got less than 13 per cent of the total income of the Marathas as of 2011-12. In the same period, only 8.1 per cent of people from the community had an undergraduate degree. Even today, there are large numbers of individuals within dominant communities who are unable to fulfil their aspirations. Reservation, however, is meant to address a lack of representation and backwardness at the community level. The way forward lies in looking beyond quotas: The economic and education pie must become larger for all Indians. Skill development in partnership with industry is a sure-fire way to raise incomes. There is also room for development and policy interventions by the state that can help the community without relying on quotas alone. But, for that to happen, the current politics of brinkmanship must give way to a good-faith dialogue.

WHAT ARE ELECTORAL BONDS, HOW HAS GOVT DEFENDED THEM, WHAT SUPREME COURT HAS TO DECIDE

A five-judge bench of the Supreme Court led by Chief Justice of India DY Chandrachud is expected to hear a batch of petitions challenging the constitutional validity of the Centre’s electoral bonds scheme on Tuesday.

Notified on January 2, 2018, the scheme introduced instruments through which anyone in the country could donate money to political parties anonymously. This is not the first time the scheme has ended up before the top court since its inception in 2017.

What are electoral bonds?

First announced during the Union Budget session in 2017, “electoral bonds” are interest-free “bearer instruments”, which means that they are payable to the bearer on demand, similar to a promissory note.

Essentially, electoral bonds allow Indian citizens or a body incorporated in India to purchase bonds, enabling anonymous donations to political parties.

Usually sold in denominations ranging from Rs1,000 to Rs1 crore, these bonds can be bought from authorised SBI branches through accounts complying with KYC norms. Following this, the political parties can choose to encash the bonds within 15 days of receiving them and fund their electoral expenses.

However, they aren’t available for purchase throughout the year and can only be purchased between 10-day windows falling in the months of January, April, July, and October.



Importantly, electoral bonds can only be used to donate to political parties registered under Section 29A of the Representation of the Peoples Act, 1951, securing at least 1% of the votes polled in the last election to the House of the People or a Legislative Assembly. Section 29A of the RPA deals with the registration of associations and bodies as political parties with the Election Commission.

Why were electoral bonds introduced?

The Centre's rationale behind introducing the electoral bonds scheme was to "cleanse the system of political funding in the country" and bring about "transparency in electoral funding in India".

In the Union Budget speech on February 1, 2017, then-Finance Minister Arun Jaitley said, "Even 70 years after Independence, the country has not been able to evolve a transparent method of funding political parties which is vital to the system of free and fair elections...Political parties continue to receive most of their funds through anonymous donations shown in cash."

To tackle these problems, Jaitley proposed electoral bonds while suggesting that the amount of money that a party could accept in cash from anonymous sources be reduced from Rs 20,000 to Rs 2,000.

Consequently, the Finance Act(s) of 2016 and 2017 amended four separate legislations to make way for the electoral bonds scheme, including the Foreign Contribution Regulation Act, 2010; the RPA, 1951; the Income Tax Act, 1961; and the Companies Act, 2013.

In 2017, the first batch of petitions was filed by two NGOs, Common Cause and the Association for Democratic Reforms (ADR), to strike down amendments made through the Finance Acts of 2016 and 2017, passed as money bills, which "opened doors to unlimited political donations, even from foreign companies," thereby legitimising electoral corruption on a huge scale. The pleas also argued that the bonds ensured complete non-transparency in political funding.

Arguing that the scheme shouldn't have been introduced "illegally," bypassing the Rajya Sabha's approval, the petitioners sought a stay on the scheme.

What has the court ruled previously?

On April 12, 2019, a three-judge SC bench, in an interim order, directed political parties receiving donations through electoral bonds to submit the details of the bonds to the ECI.

Subsequently, while dismissing a prayer to stay the sale of fresh bonds in March 2021, a three-judge SC Bench headed by then CJI SA Bobde disputed the petitioner's contention regarding the "complete anonymity" of bond purchasers. "It is not as though the operations under the scheme are behind iron curtains incapable of being pierced", the court said, dismissing petitions seeking to stay the sale of fresh electoral bonds ahead of Assembly elections in West Bengal, Tamil Nadu, Kerala, Assam, and Puducherry.

Additionally, the SC said that bonds had been issued in the past, between 2018 and 2020, "without any impediment," and it had already ordered "certain safeguards" by way of its April 2019 interim order.

The "safeguards" the court was referring to here were "requiring all the political parties who have received donations through Electoral Bonds to submit to the Election Commission of India in sealed cover" along with particulars of the donors for each bond, including the amount of each



bond and credit details received against each bond, like bank account details and the date of crediting the amount.

Although the court said there is no justification to stay the current sale, the larger constitutional challenge to the electoral bonds scheme filed in 2017 is still pending, the court observed.

In April 2022, then CJI NV Ramana assured the petitioners that the SC would take up the matter for hearing when advocate Prashant Bhushan mentioned the matter while seeking an urgent hearing, contending that a Kolkata-based news company paid Rs 40 crore to avoid a raid. "It's distorting democracy," Bhushan had contended.

What remains to be decided now?

On October 16, while presiding over a three-judge bench, CJI Chandrachud referred the case to a five-judge bench comprising him and Justices Sanjeev Khanna, BR Gavai, JB Pardiwala, and Manoj Misra.

Although the petitioners had nudged the court to refer it to a Constitution Bench even earlier, the SC hadn't shown its inclination to do the same. In fact, on October 10, the CJI-led bench listed the case for final hearing on October 31, without referring it to a larger bench. In the present case, the top court will be dealing with four petitions, filed by ADR, CPI(M), Congress leader Jaya Thakur, and a PIL by one Spandan Biswal.

Besides challenging the constitutionality of the electoral bonds scheme, the petitioners have asked the court to declare all political parties as public offices to bring them under the ambit of the Right to Information Act and compel political parties to disclose their income and expenditure.

What has the ECI's stance been?

In its submission to the Standing Committee on Personnel, Public Grievances, Law, and Justice in May 2017, the ECI objected to the amendments in the RPA exempting political parties from disclosing donations received through electoral bonds while describing the move as a "retrograde step". In a letter written to the Law Ministry the same month, the Commission even asked the government to "reconsider" and "modify" the above amendment.

On March 25, 2019, as part of the ongoing challenge to electoral bonds in the SC, the ECI filed an affidavit flagging the issue of laws being changed to allow political parties to receive contributions from foreign companies, allowing "unchecked foreign funding of political parties" which could lead to "Indian policies being influenced by foreign companies".

What has the Centre's stance been?

On Sunday, Attorney General R Venkataramani told the Supreme Court, by way of written submissions, that the citizens' right to know is subject to reasonable restrictions. Stating that "there can be no general right to know anything" without "reasonable restrictions", the AG responded to the petitioner's prayer for a "declaration that citizens have a right to know as an aspect/facet of the right to freedom of expression," based on which they have the right to access the details of contributions to political parties.

Defending the Centre's scheme, the AG said that it "extends the benefit of confidentiality to the contributor" and promotes the contribution of clean money. Adding that the scheme adheres to tax obligations, he said that it doesn't fall foul of any existing rights.



NCERT TO INTRODUCE ELECTORAL LITERACY CONTENT IN TEXTBOOKS

In a bid to address voter apathy among young Indians, the National Council of Educational Research and Training (NCERT) will introduce and update textbooks to include content on electoral literacy and will advise the State Education Boards and other Boards to follow suit.

Beginning with Classes 6 to 12 in all schools, this integration will also extend to the curricular framework for all colleges and universities and it will be tailored to suit different disciplines and credited accordingly.

Long-term vision

The measures are part of a memorandum of understanding signed on Thursday between the Election Commission of India (EC) and the Education Ministry.

It is aimed at extending the EC's flagship Systematic Voters' Education and Electoral Participation (SVEEP) in schools and colleges.

The MoU aims to address issues such as voter apathy among urban and young Indians.

A senior official in the EC said almost 297 million of the 910 million electors did not vote in the Lok Sabha election in 2019, causing concern.

"Therefore, this MoU is signed with the long-term vision of instilling electoral literacy in the young people through the educational institutions. This initiative is expected to help in the Election Commission's endeavour to address the urban and youth apathy, leading to better electoral participation in the next general elections," the official said.

The document also focuses on the orientation and training of teachers in effectively imparting electoral literacy in classrooms, establishing electoral literacy clubs (ELCs) in schools and colleges and encouraging various activities to promote voter awareness among students.

It also seeks to evolve a robust mechanism to fulfil the aspirational goal of the EC to hand over the voter ID cards to every student immediately on attaining the age of 18.

Democracy room

Inclusion of electoral literacy section in the curriculum for adult literacy and basic education, and designating one of the rooms in every senior secondary school as "democracy room" for the regular display of voter education materials and the conduct of Continuous Electoral and Democracy Education (CEDE) activities throughout the year are some of the other salient points in the document.

WELCOME ASSERTION

It is a welcome sign of judicial assertion that the Supreme Court of India has fixed a deadline for the Maharashtra Assembly Speaker to adjudicate on petitions seeking the disqualification of members who had broken away from the leadership of the Shiv Sena and the Nationalist Congress Party (NCP). Long experience shows that Speakers tend to treat disqualification issues with great alacrity or supine indifference, depending on their political affiliations. Despite being reminded from time to time of their duty to remain neutral and demonstrate a sense of urgency in dealing with questions arising out of the Tenth Schedule of the Constitution, the anti-defection law,

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



presiding officers appear to place political loyalties above their constitutional duty. It is quite fitting, therefore, that the apex court has asked Speaker Rahul Narwekar to decide the disqualification petitions against Chief Minister Eknath Shinde's camp by December 31 and those concerning the NCP's breakaway group headed by Deputy Chief Minister Ajit Pawar by January 31, 2024. The directions are a natural follow-up to the outcome of a Constitution Bench decision on May 11, 2023, in which the Speaker was asked to decide the disqualification issue "within a reasonable period". The verdict came in a case that arose out of a split in the Shiv Sena, leading to a change of regime, with Uddhav Thackeray being succeeded by Mr. Shinde as Chief Minister.

None can dispute that the Speaker has had enough time to decide the matter, even though a few procedural aspects and the clubbing of petitions may account for some delay. In an earlier order in September, the Court had observed that it expected the Speaker to show deference to its directions, especially when he is acting as a tribunal under the Tenth Schedule. Even without judicial orders, the issue of whether a member has incurred disqualification is not a matter which can be dealt with in a leisurely or partisan manner. Recent political history is rife with instances of ruling parties casually recruiting members of the Opposition in several States without any fear of disqualification, as they know that friendly Speakers will not disqualify them. At the end of its judgment in the Karnataka disqualification case, the Court observed that "there is a growing trend of Speakers acting against the constitutional duty of being neutral". In Manipur, the Court went so far as to remove a Minister from office after the Speaker failed to decide, even long after the expiry of a judicial deadline, whether the Minister had incurred disqualification for defection. So long as the Speaker is vested with the authority to adjudicate disqualification issues, it will be difficult to free matters of defection from the thicket of politics.

VIRTUES OF PLANNING

In early 2024, Prime Minister Narendra Modi is expected to unveil a road map to transform the country into a developed nation with a \$30 trillion economy by the time it completes 100 years of Independence. The Vision India@2047 plan, as it is officially named, has been in the works for nearly two years with officials across ministries brainstorming on how to take the country from its current level of development to where it aspires to be. The NITI Aayog, in the process of giving this vision document a final shape, will soon run its central ideas and goals past top minds across sectors, including World Bank President Ajay Banga, Apple chief Tim Cook, as well as Indian industrialists and thought leaders, to finetune them and factor in any blind spots. Coming ahead of the Lok Sabha election, the plan may well be viewed as the government's policy playbook promise for prospective voters. But irrespective of electoral outcomes, future governments would do well to keep an earnest outlook towards the broad agenda. India's rise from 1991, when it accounted for 1.1% of the global economic output, to the 3.5% share it now commands as the world's fifth largest economy, has been driven by governments of varying political hues largely sticking to the reform and liberalisation agenda. Blips in the pace and vigour of reforms have also been visible across governments, including the present coalition-independent regime, especially on the trickier changes needed in factor markets such as land and labour.

The final plan should have some ideas to help navigate such challenging reforms and ensure policy certainty for global investors keen to bet on India's growth story. Minimising the government's role to that of an enabler rather than a micro-manager, is another detail that would be critical, especially as some recent decisions have marked a hark back to habits of the past, be it production-linked incentives, import licensing or overtly zealous taxation. A stated focus area of the vision document that splices its action points and outcome goals into two periods — 2030, and the 17



year-period from then till 2047 — is to ensure that India does not slip into a middle income trap a few years from now. That requires hastening the long-pursued structural shift in the economy from farms to factories, and arresting a widening trend of income inequality. While the Five-Year Plans have been abandoned, the 2047 plan must be revisited at suitable intervals to recalibrate goals based on evolving global trends and Black Swan events. Aiming for a high 9% growth rate between 2030 and 2047 is laudable but factoring in alternative scenarios and changing course when warranted, is also advisable.

ACTION AND AUTHORITY

That two States have approached the Supreme Court of India against the conduct of their Governors once again flags the problem of political appointees in Raj Bhavan using their authority to delay the implementation of decisions by elected regimes, if not undermine them. Tamil Nadu and Kerala have questioned the delay in the granting assent to Bills passed by the legislature. Tamil Nadu is also aggrieved that proposals related to grant of remission to some convicts, sanction for prosecution of some former Ministers and appointments to the State Public Service Commissions have not been acted upon. Governors need not rubber stamp any decision, but one can question the practice of Governors, especially in States not governed by the ruling party at the Centre, blocking decisions and Bills. For instance, some Governors appear to be hostile to the very idea of amendments to university laws if they seek to leave out Chancellors, invariably the Governors themselves, from the process of appointing vice-chancellors, or establishing new universities in which Governors are not chancellors. The idea of having Governors as ex-officio vice-chancellor of most universities is only a practice and is actualised through their founding statutes. However, Governors seem to be labouring under the misconception that they have a right to be chancellors and tend to delay assent to any Bill that clips or removes their power. It is time to have a national prohibition on Governors being burdened with the role of chancellor of any university, as recommended by the Justice M.M. Punchhi Commission on Centre-State relations.

It is unfortunate that absence of a time-frame for giving assent is used by some Governors to stymie laws passed by the legislature. One would have thought the Supreme Court's observations, arising out of the Telangana government's petition, reminding constitutional authorities that the phrase "as soon as possible" appearing in Article 200 of the Constitution contains significant "constitutional content" would have driven into them a sense of immediacy in considering Bills. What the Court meant was that it would be constitutionally impermissible for Governors to indefinitely hold on to Bills without conveying a decision. The States, too, ought to be prudent in their decision-making without leaving scope for questions on the merit of their decisions. The absence of any laid-down process to seek applications and assess the relative merits of applicants before appointing the chairperson and the members of the Tamil Nadu Public Service Commission is a case in point. The larger point that none should forget is that Governors are explicitly restricted in their functioning by the 'aid and advice' clause in the Constitution and ought not to misuse the discretionary space available to them.

WHY WILL POLICE STATIONS INSTALL DNA SYSTEMS?

The story so far:

In April 2022, the Criminal Procedure (Identification) Act (CrPI) was passed by Parliament. The Act enables police and central investigating agencies to collect, store and analyse physical and biological samples including retina and iris scans of arrested persons. The rules that would govern



the Act were notified in September 2022. However, the Act is yet to be implemented fully as the National Crime Records Bureau (NCRB), the nodal agency, is still preparing the guidelines and Standard Operating Procedure (SOP) to implement the legislation. The NCRB operates under the Union Ministry of Home Affairs (MHA). Though the Act and rules do not distinctly mention collection of DNA samples and face-matching procedures, in subsequent meetings with State police officials, the NCRB has said that these measures will be rolled out in around 1,300 locations across the country.

Why was the legislation brought in?

The CrPI Act repealed the British-era Identification of Prisoners Act, 1920 whose scope was limited to collecting and recording finger impressions, footprint impressions and photographs of certain category of convicted persons and impressions of non-convicted persons on the orders of a Magistrate. The government said the new Act made provisions for the use of modern techniques to capture and record appropriate body measurements.

What is the role of the NCRB?

The central body has been entrusted with the task to “store, process, share, disseminate and destroy records of measurements.” Impressions taken at any police station will be stored in a common database maintained by the NCRB. The database could be accessed by authorised police and prison officials across the country.

The NCRB will prescribe the specifications of the equipments or devices to be used for taking measurements in digital and physical format, the method of handling and storing measurements by the State police in a format compatible with the NCRB database and also the information technology system to be used for taking the measurements. Police and prison officials have been authorised to take measurements and the Act expanded the scope to also allow any person skilled in taking the measurements or a registered medical practitioner or any person authorised to take such measurements. The records are to be stored for 75 years.

What is the status on the ground?

Police across States have been trained to record finger impressions through the National Automated Fingerprint Identification System (NAFIS).

However, several police officials said the iris scanners and devices that would enable capturing of DNA and facial-recognition systems are yet to be provided.

NAFIS, also under the NCRB, is a separate project that was launched in 2022. It assigns a unique ten-digit National Fingerprint Number (NFN) to all suspects arrested by the police. State police have their own fingerprint database. NAFIS integrates the data on a common platform, enabling the police to run a countrywide search to match fingerprint impressions lifted from a crime scene.

NAFIS workstations are operational in many States.

What are the challenges?

When the Bill was being debated in Parliament, Opposition members argued that it violated fundamental rights, including the right to privacy. With plans to include DNA samples and facial-recognition technology, questions arose about the protection of such data.



A police officer in Uttar Pradesh said that though the rules state that measurement of persons detained or arrested under prohibitory and preventive sections of law are not to be recorded, not many officers are aware of it. The rule states that unless a person is booked under prohibitory and preventive sections that are clubbed with other serious criminal charges, the measurements will not be stored in the system.

It takes the onus of destruction and disposal of records of an individual from the central database in case a person has been falsely implicated in a crime or has been acquitted by the court. For such a disposal/destruction, the request will have to be made to the nodal officer.

According to Software Freedom Law Center, India, an Internet advocacy group, “The onus for destruction of data in this 75-year time period has also been placed on the people whose data has been collected. This would impact people from sections of society who do not have access to the law and would therefore be unable to apply for deletion. The provision should be read in terms of the Right to be Forgotten and should not be at the mere discretion of the Nodal Officer.” The type of DNA samples that could be collected by the police have not been defined yet.

Another police officer said, “handling DNA sample requires proper training. The storage is also a concern. It is compulsory in offences registered under the Protection of Children from Sexual Offences (POCSO) Act. However, what is its scope in other crimes such as cheating and snatching is yet to be spelt out clearly.”

In meetings with the States, the NCRB has cautioned against the misuse of the database by ensuring identification and deployment of appropriate safeguards allowing only designated officials to access the data in real time.

Another government official in the Northeast said connectivity is a huge problem and police in smaller States have been unable to fulfil the requirement of secured Internet lease lines.

TIME AND CHANGE

A parliamentary committee appears to be quite close to finalising its report on the three Bills seeking to replace the existing criminal laws. The Parliamentary Standing Committee on Home Affairs has postponed the adoption of the draft report, following demands from Opposition members that they be given more time to study it. The report is said to have at least three dissenting notes, mainly pertaining to the text of the Bharatiya Nyaya Sanhita, which will replace the Indian Penal Code and the Bharatiya Nagarik Suraksha Sanhita, which will come in the place of the Code of Criminal Procedure. There appears to be unanimity on the third Bill, the Bharatiya Sakshya Bill, the one in lieu of the Indian Evidence Act. Having begun its deliberations only on August 24, and having held only 12 sittings, there may be questions about the adequacy of the scrutiny. The whole point of introducing these new criminal codes was to bring about a major overhaul of a body of law deemed to be too colonial in orientation. Any meaningful study of these Bills ought to have involved wide consultations among stakeholders across the country. Ideally, the panel should hold sittings across the country and listen to lawyers and activists on the details of the various sections, besides members of the subordinate judiciary who actually work the law and procedure laid down in the codes.

The demand for more time to examine the report has emerged because the draft report was said to have been circulated in English only days before it was scheduled to be adopted, and that the Hindi version was made available only on the eve of the sitting. The panel’s next meeting is



scheduled for November 6. It would be unwise to treat the current deferment as nothing more than a brief interlude to give more time to panel members to study the draft report. Rather, it should be seen as an opportunity to extend the time given to the committee by a few more months. The government seems to be keen on getting the Bills introduced in Parliament and passed during the winter session. There is no reason for such haste. It might be argued that considerable sections of the new laws are mere reproductions of the old Codes and that one study by the Standing Committee may be enough before they are introduced in the legislature. However, there are areas that may require deeper scrutiny: for instance, the scope for misuse, if any, in the new definitions, the desirability of introducing new offences such as 'hate speech' and whether there is further scope for procedural reform in the criminal justice system.

FARCE OF LAW

Searches at the premises of Rajasthan Congress president Govind Singh Dotasra, a sitting Member of the Legislative Assembly (MLA) and a party candidate from Lacchmangarh in Sikar in the Assembly polls in November, and that of independent MLA Om Prakash Hudla, who has been fielded this time by the Congress from Mahua, have turned the spotlight yet again on the Enforcement Directorate (ED), a central agency that stands accused of selective targeting of Opposition leaders. The ED's money-laundering investigation is based on the cases instituted by the Rajasthan police to probe the alleged leak of the general knowledge paper of the Senior Teacher Grade II Competitive Examination (2022), which was cancelled and rescheduled by the Rajasthan Public Service Commission. The ED has also summoned Rajasthan Chief Minister Ashok Gehlot's son Vaibhav Gehlot in an alleged foreign exchange violation case. In Rajasthan, incumbent governments usually get voted out, but Mr. Gehlot has effectively challenged that perception this time with a slew of new welfare schemes and the accompanying publicity blitzkrieg. Factionalism in the Congress has been contained, and Mr. Gehlot and party colleague Sachin Pilot are united. On the other hand, the Bharatiya Janata Party (BJP) is dealing with increasing friction within its ranks. The Congress has termed the ED's action in the election-bound State as a sign of the BJP's frustration.

The BJP's claim that all ED actions are purely to root out corruption could have been taken at face value only if they were even-handed and impartial. The pattern of action and inaction by the ED leaves no scope for any such inference. The ED's enthusiasm in pursuing political corruption fluctuates. It is also too much of a coincidence that the ED suspects corruption only in Opposition-ruled States and among leaders opposed to the BJP. Few would accept an argument, if at all the BJP or the ED is making one, that there is no corruption in States ruled by the party or by its leaders. The BJP has been the only beneficiary of large-scale defections of elected representatives in recent years. No one can argue that agencies should not do their job and enforce the law. But both governance and democracy are undermined when the rule of law is weaponised against political opponents, When action against political players is taken in the midst of an election, it could potentially tilt the scales. The current legal regime for fighting corruption — and also the one against terrorism for that matter — is fast degenerating into an arbitrary internment of those who are inconvenient for the ruling party. This needs to end.



MALWARE MALICE

In a thriving democracy, the Opposition and the press are vital components of a structure controlled by a ruling establishment that requires accountability for it to be effective. That over a dozen Opposition leaders and journalists received email alerts from Apple that their devices were targeted by “state-sponsored attackers” suggests that this could be a repeat of what these members of the first and fourth estate went through in the Pegasus episode recently. In early 2022, an article in The New York Times detailed how Pegasus, a spyware developed by the Israel-based NSO Group, was used as a tool to advance Israeli interests, as Tel Aviv offered it to other countries which used it against Opposition leaders, journalists and dissidents. In July 2021, a reporters’ consortium, the Pegasus Project, found that at least 40 journalists, cabinet Ministers and other officials in India were possibly subject to surveillance using Pegasus software. A Supreme Court of India panel, however, found no conclusive evidence of the spyware on the 29 phones that it had examined; but the apex court also noted, tellingly, that the Union government was not cooperating with the panel. Unlike the Indian government’s lackadaisical and dismissive approach towards the NSO group and its products — which The NYT reported as allegedly bought by the Indian government from Israel as part of a \$2 billion package including sophisticated weapons and intelligence gear in 2017 — other governments in the West implemented stringent steps following the disclosures on spyware use.

Apple’s iPhones are used by nearly 20% of smartphone users worldwide, and by nearly 7% of such users in India, largely for their diverse facilities and robust security provisions. Researchers had found that spyware software such as Pegasus had targeted iPhones and the operating system iOS as early as 2016, and Apple had come up with updates to fix Pegasus exploits, besides going on to sue NSO. The company clarified that the alerts sent now did not accuse a “specific state actor”; it also said that it would not be able to disclose how the targets were discovered, but reiterated that the alerts had to be taken seriously. Yet, with the specific targets being Opposition leaders and journalists, the question whether it is the ruling establishment that is subjecting them to surveillance is important. This can only be verified by an independent and empowered investigation, involving the apex court again, which should, this time around, compel the Union government to cooperate. More immediately, the government must come clean on its dealings with NSO and its use of software provided by such agencies and also emulate steps taken by other governments in proscribing such entities.

AS APPLE’S ‘STATE-SPONSORED ATTACKER’ ALERT IS INVESTIGATED, CLARITY REMAINS OUT OF REACH

As the Opposition parties raised allegations of government snooping after receiving alerts from the tech firm Apple that a “state-sponsored attacker” may be targeting the digital devices of a few of their leaders, government officials and ruling party politicians moved to advance a series of misleading and vague statements on the nature of the warning. The government says it will investigate Apple’s message, which was delivered on Monday night to top leaders in the Congress and other Opposition outfits, some journalists and civil society members.

Electronics and Information Technology Minister Ashwini Vaishnaw posted on X, formerly Twitter, that “information by Apple on this issue seems vague and non-specific in nature”. The company warned users in detail how the attackers could infiltrate the target phones, remotely access the contents in the devices, and get a real-time feed from their cameras and microphones.



The Minister, as well as other officials, seized on a so-called “background” note that Apple had included in its message to journalists, which said that the alerts had been sent in 150 countries. Background notes are usually sent by public relations workers to provide additional background information that they do not want to be directly quoted on. The firm as well as the Minister left out some key context: that this number was for all alerts sent since 2021, not the batch that Opposition leaders and others in India had received this week. No user in any other country has publicly reported receiving such an alert since the warnings were first delivered this week.

Apple spokespeople in India circulated a statement saying that they did not blame “any specific” government attacker, distancing itself from the interpretation that the alerts were accusing the Indian government of spying.

Meanwhile, Sanjeev Sanyal, an academic serving on the Prime Minister’s Economic Advisory Council, took a “just asking questions” approach on X to poke holes in the credibility of Apple’s standardised warnings, wondering aloud why the firm was referring users to Access Now, a non-profit that works on privacy and digital rights, instead of providing counsel itself, and pointed to, without elaborating, funding the body received from the billionaire George Soros’s Open Societies Foundations.

Firms such as Apple and Google often do not publish full details of all the weaknesses in their systems when they find bugs used by hackers, especially before these issues are fixed. Information on how a firm finds exploited vulnerabilities in their systems may tip off attackers and make their hacking efforts harder to detect. So-called zero day exploits — weaknesses discovered by attackers but not by tech firms themselves — are patched in software updates, and external cybersecurity researchers may publish findings on these after working with the company to fix the issue.

Security safeguards

Access Now has worked to push back on Apple on different occasions: on the issue of requiring ‘backdoor’ access to personal devices that law enforcement can access, the nonprofit backed the tech giant’s resistance in 2016. On Apple’s proposal to scan users’ personal photos to spot and report illegal child sex abuse material, the nonprofit pushed back.

Some time ago, “Apple started monitoring anomalies on devices” that allowed them to detect some zero-days even if they did not have direct information about how they operated, Wojciech Reguła, a security researcher based in Poland, told The Hindu.

If indeed Apple has detected spyware attempts it internally attributes to India, it is unclear how it will respond to an Indian government investigation. S. Krishnan, the IT Secretary, told reporters that the Indian Computer Emergency Team was working on the investigation, and that Apple has been sent a notice to comply. The government has not denied spying on political opponents, or floated any indications that a foreign state attacker could be involved. Apple has not yet revealed if the attacks it warned users about were successful intrusions detected after the fact, or thwarted attempts.



RETROGRADE STEP

Misinformation and its more malicious variant, disinformation, have been the bane of today's unfettered communication system, especially social media where the necessary filters are rarely applied over the spread of news and views, many of which are based on false information deliberately or ignorantly placed. The Tamil Nadu government's decision to constitute a fact-checking unit to deal with "misinformation and disinformation pertaining to the State government" emanating from "all media platforms", sounds, on the face of it, a reactive step. This decision follows a similar move by the Karnataka government. But for the governments to deem themselves or units constituted by them as the adjudicator of what is false is a retrograde move as an interested party deciding upon what is factual or not is problematic. Tamil Nadu's move must be seen along with the Centre's notification of the IT Rules earlier this year, which amended the Information Technology Rules, 2021, and allowed the Ministry of Electronics and IT to appoint a similar fact-checking unit. Several parties including the Editors Guild of India, the Association of Indian Magazines and the political satirist Kunal Kamra had challenged the IT rule enabling the unit. During the hearing, the Bombay High Court had raised the issue of the lack of necessary safeguards that will allow fair criticism of the government. It had also remarked that even if the motives for the introduction of such a rule was laudable — to tackle false news — it could be done away with, if its effects were unconstitutional, that is, if it infringed upon freedom of speech and expression guaranteed under Article 19(1)(a) of the Constitution.

The verdict is set to be delivered on December 1, but the remarks indicate where courts stand on the constitution of a government "fact-checking unit" to adjudicate on reports and information relating to its functioning. The Editors Guild of India had urged Karnataka to specify the scope and powers of the fact-checking unit, besides suggesting that the menace of misinformation and fake news was best left to independent bodies and that "[a] monitoring network should follow principles of natural justice including giving prior notice, right to appeal and judicial oversight". States have their information and publicity departments that can clarify on news related to them and there are independent fact-checkers who tackle misinformation on social media. It would have made express sense for such units to be set up with the involvement of journalists and other stakeholders, but that has also not been the case with the Tamil Nadu government's decision.

TERROR IN BAGS

Hours after a series of explosions tore through a convention of some 2,000 members of a minority millenarian church group, Jehova's Witnesses, at Kalamassery in central Kerala on Sunday morning, a man named Martin Dominic took to social media to claim responsibility for the act of terror, which killed three people besides injuring 50 others. Martin said he was an estranged member of the sect and that he chose to punish it for "propagating anti-national sentiments". Later, he surrendered before the police with what is believed to be an extensive trail of evidence, making it an open-and-shut case for the investigators. However, in view of the use of Improvised Explosive Devices (IEDs) planted in shopping bags to trigger the explosions, the State constituted a special investigation team to look into all possible angles, including if it was indeed a renegade's solitary mission. The National Investigation Agency and National Security Guard have begun their work.

But what is more worrisome is the wave of speculation and communal frenzy. In the few hours between the blasts and the surrender of Martin, a minority community was kept on tenterhooks by communally charged social media posts loaded with insinuations and vile assertions of Kerala



having become a den of jihadis. That the blasts happened amid expressions of solidarity with Palestine by various political and social organisations in Kerala was deviously alluded to with a view to drumming up communal tensions. Among those who castigated Kerala for 'harbouring terror' were a Union Minister and a spokesperson of the Bharatiya Janata Party (BJP). The Union Minister's remarks resulted in an exchange with the Chief Minister of Kerala. Choosing to stir the communal cauldron instead of allowing a fair probe smacks of political skulduggery and malice. To isolate an Indian State and paint it in a certain colour does not augur well, as the Chief Minister pointed out. Based on reliable evidence gathered, the police have now recorded the arrest of Martin and charged him under various sections including the anti-terror Unlawful Activities (Prevention) Act. The law should take its course. If there is truth in his claims, that an otherwise mild-mannered man with no known history of violence resorted to such a cold-blooded mass murder because he thought they were all 'anti-nationals', speaks to a deep-rooted social malaise. This does not seem to be the work of a mentally unhinged individual.

UNION MINISTER BOOKED FOR REMARKS ON BLASTS

The Ernakulam Central police on Tuesday filed an FIR under Section 153 (wantonly giving provocation with an intent to cause riot) and 153-A (promoting enmity between different groups on grounds of religion) of the IPC against Union Minister Rajeesh Chandrasekhar for his controversial social media posts in which he allegedly placed the blame on a particular community for the multiple blasts at a convention centre in Kalamassery.

The police also included Section 120 (o) (causing nuisance and violation of public order through any means of communication) of the Kerala Police Act against him. The FIR stated that Mr. Chandrasekhar had tried to disrupt the communal harmony in Kerala by targeting a particular community for the blasts.

Reacting to the FIR, Mr. Chandrasekhar alleged that it was registered for exposing the appeasement of Hamas by Congress leader Rahul Gandhi and Kerala Chief Minister Pinarayi Vijayan.

Hitting out at them, the Union Minister said on social media platform X, "Two of biggest appeasers in Indian politics who shamelessly appease poisonous radical violent organisations like SDPI, PFI and Hamas, whose politics have caused radicalisation over decades from J&K to Punjab to Kerala and caused many innocent lives and security forces lives to be lost — trying to threaten me with a case for exposing their appeasement of Hamas."

Mr. Chandrasekhar had posted on X on Sunday that Kerala was paying the price of "dirty shameless appeasement politics by a discredited Chief Minister (and HM) besieged by corruption charges." He said CM was sitting in Delhi and protesting against Israel when in Kerala open calls by terrorist Hamas for jihad are causing attacks and bomb blasts on innocent Christians.

Mr. Vijayan said Mr. Chandrasekhar was spewing venom at a time when the State stood together to face the situation following the bomb blasts.

KERALA BLAST: WHO ARE JEHOVAH'S WITNESSES

Jehovah's Witnesses are a Christian sect, but do not believe in the Holy Trinity (the doctrine that God exists in three equal persons of the Father, the Son (Jesus Christ) and the Holy Spirit). They worship Jehovah as "the one true and Almighty God, the Creator", who is "the God of Abraham,



Moses, and Jesus". They believe Jesus Christ to be the "King of God's Kingdom in heaven", but not as the Almighty God. They base their beliefs only on the text of the Bible, which they see as the word of God. They don't celebrate Christmas or Easter, because they believe such festivals to be inspired by Pagan traditions.

Jehovah's Witnesses are known for their evangelical work, for which they go door to door, to spread "The Truth". They believe the end of the world is near, and the "Kingdom of God" will "replace human governments and accomplish God's purpose for the earth." The denomination has millions of followers worldwide.

The origins of the sect lie in a Bible Student movement started in the 1870s by American pastor Charles Taze Russell. Today, the Governing Body of Jehovah's Witnesses is located in Warwick, New York. The main body to disseminate the doctrines of the sect is called the Watch Tower Bible and Tract Society of Pennsylvania, also headquartered in Warwick.

Jehovah's Witnesses generally keep away from other religious groups. The website jw.org, dedicated to the sect, says, "... we remain strictly neutral in political affairs and avoid affiliation with other religions... However, we respect the choices that others make in such matters."

Jehovah's Witnesses in India

According to jw.org, India has about 56,747 Ministers who teach the Bible. "Jehovah's Witnesses have been present in India since 1905. They established an office in 1926 in Bombay (now Mumbai), and obtained legal registration in 1978. The Witnesses benefit from the guarantees of India's constitution, which include the right to practice, profess, and propagate one's faith," the website says.

A landmark case involving the sect in India was *Bijoe Emmanuel & Ors vs State Of Kerala & Ors*. The Supreme Court, in its 1986 verdict, granted protection to three children belonging to the sect, who did not join in the singing of the National Anthem at their school. The court held that forcing them to sing the Anthem violated their fundamental right to religion under Article 25 of the Constitution.

The children, siblings Bijoe Emmanuel, Binu, and Bindu, who were students of Classes 10, 9, and 5 respectively, were expelled from NSS High School, run by the Hindu organisation Nair Service Society, on July 26, 1985. Their parents pleaded unsuccessfully before the Kerala High Court that Jehovah's Witnesses permitted worship of only Jehovah, and since the Anthem was a prayer, the children could stand up in respect, but could not sing.

The Supreme Court then ruled that "Article 25 ("Freedom of conscience and free profession, practice and propagation of religion")...[was] incorporated in recognition of the principle that the real test of a true democracy is the ability of even an insignificant minority to find its identity under the country's Constitution."

The Jehovah's Witnesses website mentions that their members in India have at times been accused of trying to convert people due to their evangelical work.

Another case involving the sect hit headlines in 2020, when a private hospital in Bengaluru claimed it had successfully performed a live liver transplant on a Jehovah's Witness from Nigeria, by not using blood or blood products (fresh frozen plasma, cryoprecipitate, platelets, etc.), in order to protect the patient's religious beliefs.



In the Bijoe Emmanuel ruling, Justice O Chinnappa Reddy had noted that “Jehovah’s Witnesses and their peculiar beliefs” were not really noticed in India.

The ruling quoted from the Encyclopaedia Britannica and judicial pronouncements in Australia to trace the beliefs and practices of the community. The court noted that according to the New Encyclopaedia Britannica’ (Macropaedia) Jehovah’s Witnesses believe that “the Watch Tower Bible and Tract Society, their legal agency and publishing arm, exemplifies the will of God and proclaims the truths of the Bible against the evil triumvirate of organised religion, the business world, and the state.”

“The Witnesses also stand apart from civil society, refusing to vote, run for public office, serve in any armed forces, salute the flag, stand for the National Anthem, or recite the pledge of allegiance. Their religious stands have brought clashes with various governments, resulting in law suits, mob violence, imprisonment, torture, and death. At one time more than 6,000 Witnesses were inmates of Nazi concentration camps, Communist and Fascist States usually forbid Watch Tower activities. In the United States, the society has taken 45 cases to the Supreme Court and has won significant victories for freedom of religion and speech. The Witnesses have been less successful in claiming exemptions as ministers from military service and in seeking to withhold blood transfusions from their children,” the ruling stated.

The Supreme Court also cited a ruling of the Australian High Court in *Adelaide Company of Jehovah’s Witnesses v The Commonwealth*, which was a challenge against 1941 Australian law that booked the sect for subversive activities.

One of the charges in that case was that they refused to take an oath of allegiance to the King or other constituted human authority.

The Court also referred to two American cases — *Minersville School District v. Gobitis* and *West Virginia State Board of Education v Barnette* — to note instances where Jehovah’s Witnesses had refused to salute the flag while reciting the pledge of allegiance. “It is evident that Jehovah’s Witnesses, wherever they are, do hold religious beliefs which may appear strange or even bizarre to us, but the sincerity of their beliefs is beyond question. Are they entitled to be protected by the Constitution?” the SC asked itself.

MOITRA, OTHER OPPOSITION MPS WALK OUT OF ETHICS COMMITTEE MEETING

A meeting of the Parliamentary Ethics Committee, called to hear Trinamool Congress MP Mahua Moitra’s defence against charges levelled against her by BJP MP Nishikant Dubey, ended on a chaotic note on Thursday. The Trinamool MP and other Opposition leaders stormed out of the meeting, accusing panel chairman and BJP MP Vinod Kumar Sonkar of asking “undignified” questions about her personal life.

According to sources, the Opposition MPs were enraged by Mr. Sonkar’s repeated questions about Ms. Moitra’s relationship with industrialist Darshan Hiranandani. When Mr. Sonkar refused to accept the Opposition members’ suggestion to adjourn and reconvene the meeting at a later date, they demanded a vote. With five Opposition MPs and five BJP MPs in attendance, the deciding vote to continue the meeting was cast by Mr. Sonkar.

At that point, Ms. Moitra and the Opposition MPs on the panel — Uttam Kumar Reddy and V. Vaithilingam of the Congress, the Bahujan Samaj Party’s Danish Ali, P.R. Natarajan of the Communist Party of India (Marxist), and Giridhari Yadav of the Janata Dal (United) — walked out.



The Opposition MPs will lodge a complaint with Lok Sabha Speaker Om Birla, sources said, objecting to Mr. Sonkar's conduct. The panel chair, however, blamed Ms. Moitra. "The committee's agenda was to probe Trinamool MP Mahua Moitra's alleged unethical conduct. Instead of cooperating, Ms. Moitra, in a fit of anger, used abusive language against the committee," Mr. Sonkar told journalists. "The Opposition MPs supported her and also levelled allegations against me. They walked out of the panel's meeting to escape answering questions on Darshan Hiranandani's allegations," he added.

The Opposition MPs pointed out that the online system of submitting questions and notices was started only in 2019, noting that there are no rules restricting the use of the system login to MPs only. "It is a regular practice that the login and password are often used by the MP's staff or family members who are assisting them. Sometimes the MP's password is [shared] with up to three persons, which means that, for 700 odd MPs, about 2,100 people are using this platform. How can we now hold one MP guilty in the name of national security?" one of the Opposition MPs asked during the meeting.

Ms. Moitra was called in at 11.30 a.m. She pleaded not guilty, and was allowed to tell her side of the story. She spoke at length about her former partner Jai Anant Dehadrai and repeated the details which she has presented in recent media interviews. Ms. Moitra conceded that she had shared her login details with Mr. Hiranandani, but denied that there had been any quid pro quo.

After lunch, the meeting reconvened to question Ms. Moitra. The deliberations took a turn for the worse at this point, according to sources. The Opposition members felt the chairman was asking "very personal questions" to Ms. Moitra, and are learnt to have told him repeatedly that the questions were "undignified and demeaning to the lady MP" and that he should refrain from doing so. They also said that his line of questioning was inappropriate and not relevant to the case.

Mr. Dubey, the BJP MP who filed the complaint against Ms. Moitra, accused her of trying to set a wrong narrative. He claimed that she has violated a host of rules, including publicly sharing the details of confidential Parliamentary panel proceedings. "She couldn't handle the fact that a Dalit was a chairperson of the Ethics committee," he said.

ETHICS, PARLIAMENTARY CONDUCT AND THE INDIAN MP

The Lok Sabha Ethics Committee's proceedings against the All India Trinamool Congress Member of Parliament (MP) from West Bengal, Mahua Moitra, have resulted in much public debate. A senior MP from the Bharatiya Janata Party, Nishikant Dubey, lodged a complaint with the Speaker alleging that Ms. Moitra had received money from a businessman for putting questions up in Parliament with a view to promoting the person's business interests. The Speaker in turn referred the complaint to the Ethics Committee for examination and a report.

Expulsion and instances

It must be clarified at this point that if an MP takes money for putting questions up in Parliament, they will be guilty of breach of privilege and contempt of the House. Such complaints are invariably referred to the Committee of Privileges for investigation. This committee, after a proper investigation, submits its findings in a report along with the recommendation for action against the MP in question. If a case involving illegal gratification for conducting parliamentary work is proven, the MP may even be expelled from the House. There have been such instances in the Lok Sabha where MPs were expelled from the House on this ground.



In the first case, in 1951, H.G. Mudgal, an MP of the Provisional Parliament, was found guilty of promoting the interests of a business association in return for financial benefits by putting questions up, and moving amendments to a Bill which affected the interests of that business association. A special committee of the House found that his conduct was derogatory to the dignity of the House and inconsistent with the standards which Parliament is entitled to expect of its members. But he resigned before he was expelled by the House (the action recommended was his expulsion). In 2005, a sting operation by a private channel showed 10 Members of the Lok Sabha accepting money for putting questions up in Parliament. Again, a special committee was appointed which found them guilty of conduct unbecoming of a member and recommended their expulsion which was accepted by the House. All the MPs were expelled. Thus, complaints of MPs accepting money for parliamentary work are referred to the privileges committee or special committees appointed by the House for that purpose. However, Ms. Moitra's case has been referred to the Ethics committee although the allegation is about illegal gratification for doing parliamentary work.

The Ethics Committee of the Lok Sabha is a relatively new committee which was set up in 2000, with a mandate to examine every complaint that related to the unethical conduct of MPs referred to it and to recommend action. It was also tasked with formulating a code of conduct for MPs.

What is unethical is undefined

An interesting aspect of this committee is that the term 'unethical conduct' has not been defined anywhere. It is left entirely to the committee to examine a particular act of conduct and decide whether it is unethical or not. A couple of cases decided in the past certainly point to the type of conduct which can be called unethical. In one instance, an MP took his close female companion along with him on a parliamentary tour, personating her as his wife. The committee found the MP guilty of unethical conduct and its recommendation was that he was to be suspended from 30 sittings of the House. He was also barred from taking any companion or his spouse on any official tour till the end of tenure of that Lok Sabha. Thus, the moral vagaries of MPs definitely come under scrutiny of the ethics committee.

But there are also other cases of misconduct which were either examined by the ethics committee or special committees. For example, an MP misused the car parking label issued by Parliament. The case was referred to the Ethics Committee which, after examination of the case, closed it as the MP owned up to his mistake and apologised. In another case, an MP took along a woman and a boy on a foreign tour using the passports of his wife and son. This was treated as a serious case as it involved the violation of the Passports Act. This case was referred to a special inquiry committee which held him guilty of grave misconduct as well as contempt of the committee and recommended his expulsion. It must be noted here that more serious cases involving serious misconduct are dealt with by either the Committee of Privileges or special committees, and not by the ethics committee.

In Ms. Moitra's case, if the complaint is about her having accepted illegal gratification, then the case becomes a case of breach of privilege and cannot be dealt with by the ethics committee. Since a public servant accepting a bribe is a criminal offence, it is normally investigated by the criminal investigative agencies of the government. Parliamentary committees do not deal with criminal investigation. They decide on the basis of evidence whether the conduct of the MP is a breach of privilege or contempt of the House and punish them accordingly. But the punishment by the House relates to his functioning in the House. Otherwise, he will be liable to be punished for the criminal



offence, as in the law. It may be remembered that the 10 MPs who were expelled from the Lok Sabha are still facing trial under the Prevention of Corruption Act.

A parliamentary probe is not the same as a judicial probe. A judicial body probes a matter as in the statutes and Rules, and is conducted by judicially trained persons. Parliamentary committees consist of Members of Parliament who are not experts. Since Parliament has the power to scrutinise the executive, which is accountable to it, it possesses investigative power also. It also has the power to punish those including its own members in order to protect its honour and dignity.

But the methods followed by Parliament in investigating a matter are different from those of the judiciary. Parliament does the investigative work through its committees which function under the Rules of the House. The usual methods are examination of the written documents placed before the committee by the complainant and the witnesses, oral examination of all the relevant witnesses, deposition of experts, if deemed necessary, sifting of the whole volume of evidence placed before the committee, and arriving at findings on the basis of the evidence. If the committee examines a complaint against a member of the House, he can appear before it through an advocate and also cross-examine the complainant and other witnesses on permission by the chair. Findings are arrived at after the analysis of all the evidence made available to the committee. In the ultimate analysis, the committee takes a view on the basis of common sense. The findings of the committee of Parliament can be said to be on the basis of preponderance of probabilities. The rules of evidence under the Evidence Act are not applicable to a probe by a parliamentary committee. The question of the relevance of the evidence of a person or a document is finally decided by the Speaker only, and not according to the Evidence Act.

Online submission of questions

The issue of MPs sharing their password and login details with another person has come into focus now. In reality, MPs do not have the time to sit down and write out questions. So, they are said to be sharing the password with personal assistants, which can be called a practical necessity. Moreover, the Lok Sabha does not seem to have framed any rules to regulate the online submission of questions. Further, an MP is free to engage any person to do his parliamentary work. He also does not have any obligation to disclose the sources from where he gets information to do his parliamentary work. Article 105 of the Constitution gives them the freedom to say “anything” in the House. This right should be deemed to be extended to the tapping of any source for information for putting questions up or framing Bills or resolutions to be placed in Parliament. Therefore, an investigation into the sources of information of an MP may not have legal sanction. Otherwise, Parliament has the power to discipline its members.

RAJNATH SINGH TALKS ABOUT ‘PRISONER’S DILEMMA’ IN INTERNATIONAL RELATIONS: WHAT IS THIS CONCEPT

Giving his keynote address at the Goa Maritime Conclave, Defence Minister Rajnath Singh referred to the concept of “Prisoner’s Dilemma” to underscore the need for countries to collaborate with each other instead of working at cross purposes. “The concept of the Prisoner’s Dilemma, when applied in the domain of international relations, can explain and analyse various situations where countries face strategic decision-making challenges. For example, when two or more countries engage in an arms race, they often do so out of mutual fear and mistrust,” said Singh.



“The challenge is to find solutions that promote cooperation, build trust, and mitigate the risks associated with the Prisoner’s Dilemma situations in international relations,” he added.

What is Prisoner’s Dilemma?

Prisoner’s Dilemma refers to one of the most popular “games” in Game Theory, which is itself a branch of science that helps understand how people/entities behave under different circumstances. By simulating a game, Game Theory also shows how to achieve the best outcome.

For instance, it may appear straight-forward that a person or a country must always do what appears to provide them with the best pay-off. However, real life is complex and filled with uncertainty. Moreover, the final outcome depends on the actions of other people/countries as well. To be sure, the final outcome could change if the other party/parties act in conflict.

For instance, as the Defence Minister alluded to, if in a bid to secure one’s borders, a country starts hoarding more and more arms than it may — far from achieving that goal— start an arms race with the other country. Prisoner’s Dilemma is a game that brings out this paradox clearly.

Suppose two people — A and B — are brought in for questioning about a crime. However, the evidence with the police is circumstantial and the best that they can hope to achieve is to put both A and B in jail for a year each. Unless, of course, they get more credible evidence. One way to do this is to get the prisoners to rat out each other.

So the police officer puts both A and B in separate rooms and provides both of them with a simple choice: If one prisoner says the other is involved in the crime, he can go scot-free while the other will be given a 15-year jail term.

Of course, if neither prisoner confesses, they both will only get one year’s jail time. What if both confess? In that case, their jail times will be 10 years each. Simply put, the prisoner’s dilemma is whether to confess or stay silent.

What should the prisoners do, then?

On the face of it, staying silent appears like the right course of action. If both prisoners stay silent, they get away with the best pay-off — that is, just serving one year in prison. But can either of them be sure that while they stay silent, the other will not rat them out? The fact is that if either of the prisoners stays silent, they run the risk of facing the maximum prison time (15 years).

However, if both confess, they condemn each other to 10 years of jail time. If one cannot be sure of the other prisoner’s behaviour, then — and this is the paradox — confessing is the way forward. The best outcome, of course, lies in co-operation. If both prisoners co-operate, they can achieve the best outcome and get away with just a year in prison. This dilemma (and its answers) has many real life applications both in international law as well as in business.

For instance, should two companies selling the same product — say ice creams — keep undercutting each other by reducing the price in order to corner the market share? Could repeated use of this strategy lead them to reduce prices to such a level that it becomes economically unviable to stay in business? Would it not be better for them to agree on a floor price so that they can both earn healthy enough profits?

Similarly, should countries set some ground rules in geopolitics to ensure they don’t enter an arms race that will eventually prove ruinous for their own economies and people?



TIME UP FOR TRACTOR STUNTS AS PUNJAB CM ANNOUNCES BAN AFTER MAN'S GORY DEATH

Tractor tug of war has become a popular but controversial event at rural fairs in Punjab, replacing traditional man-powered tug of war with the thrill of machines. However, the sport has come under scrutiny after the tragic death of 29-year-old Sukhmandeep Singh at a rural sports event, leading to a government ban. Opinions on this ban are divided: while some argue the sport is not a traditional rural game and poses a threat to both performers and spectators, others believe that with proper regulation and training, the risks could be managed. Tractor stunts have also become a spectacle for social media, with participants modifying tractors for extreme performances. After the incident, the Chief Minister of Punjab announced a ban on tractor stunts, citing the need to protect lives and prioritizing public interest.

PAY SINGUR AWARD FROM TMC FUNDS, SAYS OPPOSITION AS GOVT. MULLS APPEAL

The Trinamool Congress (TMC) government in West Bengal has been criticized by opposition parties after an arbitral award of ₹766 crore was granted to Tata Motors due to the scrapped car project in Singur. The opposition, including the BJP and the CPI(M), contends that the TMC should pay this sum from its own funds rather than the state treasury and have threatened protests. The issue dates back to a 2006 movement against land acquisition for Tata Motors, which helped Mamata Banerjee rise to power in 2011. The Supreme Court later deemed the land acquisition illegal and ordered it returned to the farmers. The CPI(M) laments the lost industrialization opportunity for West Bengal due to the project's relocation. The Finance Minister stated that the Industries and Commerce Department will decide on the matter, while a Trinamool MP suggested that the government might appeal the decision. The case remains significant as it affects the state's industrial image ahead of the Bengal Global Business Summit and the 2024 national elections.

STAFF SHORTAGE, FINANCIAL DEPENDENCY PLAGUE LOCAL GOVERNANCE

An annual survey of Indian cities shows that a majority of local governments are financially dependent on their State governments. They also have limited control over who to hire and how to distribute work. The report found that only Assam empowers its city governments to collect all key taxes. Except five States — Bihar, Jharkhand, Odisha, Meghalaya, and Rajasthan — all the others have to get approval from the State before borrowing money.

The report, Annual Survey of India's City-Systems (ASICS) 2023, was published by the Janaagraha Centre for Citizenship and Democracy, a non-profit institution.

Megacities (>4 million (mn) population), large cities (1-4 mn), medium cities (0.5 mn-1 mn), small cities (<0.5 mn).

The report highlights disparities in the governance of Indian cities, particularly between megacities and smaller cities. While megacities have more financial autonomy, their mayors are not directly elected nor do they serve a fixed five-year tenure. Conversely, mayors in smaller cities are often directly elected with a five-year tenure but have less financial control. Across the board, city governments have limited authority over staff appointments and promotions, with no city having full power over its staff, particularly senior management who are appointed by state governments. This lack of control impedes accountability and organizational strength.



Transparency is another issue, with limited access for citizens to civic information. Only a few states have implemented laws requiring the publication of key civic data, and very few cities publish crucial financial documents such as internal audits or quarterly financial statements. The report further reveals that while larger cities do publish budgets, smaller ones do not consistently do so, and none of the mega, large, and medium capital cities publish internal audit details.

Staffing is a significant problem, with a high percentage of municipal posts remaining unfilled, worsening from municipal corporations to town panchayats. Indian cities face a stark contrast in staffing levels compared to cities like New York, London, and Johannesburg, with Indian cities having a much lower ratio of city workers per lakh of population. Moreover, cities like New York have greater powers to impose taxes, approve budgets, and manage investments and borrowing independently, unlike Indian cities.

WILL QR CODES IMPROVE ACCESS TO FOOD LABELS?

The story so far:

The Food Safety and Standards Authority of India (FSSAI) has recommended the inclusion of a QR (quick response) code on food products for accessibility by visually impaired individuals stating that this will ensure access to safe food for all.

Why is the move important?

The move is vital as India is one of the largest markets of packaged foods in the world and is currently witnessing a growing burden of non-communicable diseases (NCDs) which have seen an abrupt rise globally since the last two decades, according to the World Health Organization. Besides other factors, this trend is attributed to aggressively marketed, cheaper, and more easily available pre-packaged foods which is finding a growing preference among consumers. Every consumer has the right to know exactly what he is paying for and if he is getting what he is promised and advertised, says Ashim Sanyal, CEO and secretary of Consumer VOICE, a non-government organisation working in the field of consumer awareness and education. "With this new initiative an informed choice will be offered to consumers," he adds, pointing out that the move should be backed by also identifying unhealthy foods. "The FSSAI should get the sequence right for labelling and QR code for visually impaired should be part of a mandate for front-of-pack labelling (FOPL) warning labels," he says.

What information will the QR codes provide?

The FSSAI has advised that these new QR codes should encompass comprehensive details about the product, including, but not limited to, ingredients, nutritional information, allergens, manufacturing date, best before/expiry/use by date, allergen warning, and contact information for customer enquiries. It adds that the inclusion of a QR code for the accessibility of information does not replace or negate the requirement to provide mandatory information on the product label, as prescribed by relevant regulations.

The latest advisory caters to two important regulations — the FSSAI's Food Safety and Standards (Labelling and Display) Regulations, 2020 which outlines the information to be included on labels of food products and the Rights of Persons with Disabilities Act, 2016 which recognises the rights of individuals with disabilities and emphasises accessibility of health for persons with disabilities.



How did the QR code come into being?

A QR code is a type of two-dimensional matrix barcode, invented in 1994, by the Japanese company Denso Wave for labelling automobile parts. According to market experts, for the food manufacturers, using QR codes on food products can help improve their brand image, customer loyalty, and operational efficiency.

On the importance of accurate and accessible food labels, a recently published paper titled, 'Food literacy & food labelling laws—a legal analysis of India's food policy', noted that aggressively marketed, cheaper and more easily available pre-packaged foods, often considered as foods high in fat, salt, and sugar, is finding a growing preference amongst consumers in India. "To prevent or control further widespread of NCDs, the FSSAI has issued numerous food and packaging laws and acts to control their manufacture, storage, distribution, sale, and import so that a safe and wholesome food is available to consumers. The front-of-pack labelling (FOPL), proposed by FSSAI in 2019, is a key strategy to alert and educate consumers in making an informed choice," notes the lead author of the paper, Om Prakash Bera, country coordinator, Global Health Advocacy Incubator, India. Food industry experts also note that consumers now consider food packaging equally important as a product. "The increase in smartphone usage by consumers indicate that QR codes are emerging as one of the most promising technologies to enhance the information provided to consumers and influence their buying behaviour," they note.

What are the trends in QR use worldwide?

The U.S., India, France and the U.K. are among the top users of QR code, according to reports. A research paper done on 'Evaluating the Use of QR Codes on Food Products' noted that the size of the global packaged food market is estimated at \$303.26 billion in 2019, with a compound annual growth rate of 5.2% over this period. According to the results of a survey, 'QR Code Statistics 2022, the Latest Numbers and Use-Cases on Global Usage', 57% scanned a food QR code to get specific information about the product, 38.99% of respondents want to see QR codes used more and 67% of the respondents agreed that these codes make life easier.

BIHAR RECORDS HIGHEST DENGUE CASES AND DEATHS IN 5 YEARS: WHAT'S BEHIND THE SURGE

Bihar has recorded more than 15,000 dengue cases with 59 deaths so far this year, according to the official records released on Tuesday (October 31). These are the highest numbers of reported dengue cases and deaths in the state in at least five years — there has been an increase of 608% in the number of cases between 2018 and 2023.

To make matters worse, the state may continue to witness a rise in dengue cases for the next two weeks, according to doctors.

Why have dengue cases and deaths soared in Bihar?

The primary reason for the rise in dengue cases and deaths in Bihar is the delayed monsoon season, which usually lasts till mid-September but this year continued till mid-October, said the doctors at Patna Medical Colleges and Hospital (PMCH) and Indira Gandhi Institute of Medical Sciences (IGIMS).

Erratic rainfall led to the creation of shallow, stagnant pools of water, especially in densely populated areas of Patna, in which mosquitoes thrived. Moreover, with winters yet to arrive,



people have continued to use water coolers that are also a breeding ground for mosquitoes, according to the doctors.

The rise in cases has come on the back of a lack of sanitation and proper defogging by the state's municipal corporations, the doctors said. For instance, Patna Municipal Corporation said it didn't have enough resources to tackle the untimely appearance of stagnant water pools across the city.

Have doctors witnessed any new dengue symptoms?

For the first time, doctors have witnessed liver and lung infections caused by dengue among the patients. Doctors have also noticed that the patients are experiencing a recurrence of fever after 2-3 hours instead of the usual 6-8 hours. Some patients have suffered from body itching and swelling in their liver.

Is there a rise in demand for platelets in Bihar?

For the last 10 days, the demand has grown substantially in Patna. According to the standard protocol, patients receive platelets only after their count drops to 15,000 in number — a normal platelet count ranges from 150,000 to 450,000 per microliter of blood. However, doctors have been injecting platelets even when the count is around 25,000 as a precautionary measure due to the high dengue death toll this season.

How many dengue cases and deaths has Bihar recorded in the last five years?

In 2019, Bihar saw a sudden spike in dengue cases — the number stood at 6,712 — in comparison with the previous year, when just 2,142 cases were reported, according to the data compiled by the National Centre for Vector Borne Disease (NCVBD). In both the years, no deaths were reported.

But in 2020 and 2021, the number of dengue cases in the state plummeted — in 2020, 493 cases were registered, and the next year, 633 were recorded. Notably, the two years were marked by the outbreak of the COVID-19 pandemic.

The resurgence of dengue took place in 2022 — Bihar was among the worst affected states that year. A total of 13,972 cases were reported, out of which 32 died. Patna alone recorded 9,256 cases with 15 deaths. This was the first time since 2018 that Bihar recorded dengue deaths. These figures didn't include the patients who received treatment or died at private hospitals and clinics.

INDIA'S OWN CAR-T CELL THERAPY: WHAT IS IT, WHEN WILL IT BE AVAILABLE, AND AT WHAT COST?

The Central Drugs Standard Control Organisation (CDSCO) this month granted market authorisation for NexCAR19, India's first indigenously-developed CAR-T cell therapy, to ImmunoACT, a company incubated by IIT Bombay. This paves the way for the commercial launch of this therapy in India, where it is expected to be available to cancer patients at a tenth of the cost abroad.

What is CAR-T cell therapy, and how do CAR-T cells find and destroy cancer cells?

CAR-T is a revolutionary therapy that modifies immune cells, specifically T-cells, by turning them into potent cancer fighters known as CAR-T cells. T-cells are special cells (white blood cells that find and fight illness and infection) whose primary function is cytotoxic, meaning it can kill other cells. In CAR-T therapy, we genetically modify them into cancer-fighting cells. These supercharged



cells are then put back into the body, and they go after cancer cells — especially in blood cancers like leukaemia and lymphomas.

How effective and different is this from other cancer treatments like, say, chemotherapy?

While chemotherapy and immunotherapy may add a few months or years to a cancer patient's life, cell-and-gene therapy is designed to cure and provide lifelong benefit. It makes treatment easier with a one-time therapy [unlike several sessions of chemotherapy] that can be truly transformative [for a patient]. It's a lifeline for non-responsive cancer patients.

Is NexCAR19 a type of CAR-T therapy?

NexCar19 is a type of CAR-T and gene therapy developed indigenously in India by ImmunoACT, which is a company incubated at IIT Bombay. Our therapy is designed to target cancer cells that carry the CD19 protein. This protein acts like a flag on cancer cells, which allows CAR-T cells to recognise and attach themselves to the cancer cells and start the process of elimination.

Even some developed nations don't have their own CAR-T therapies; they import them from the United States or Europe. India is now one of the first developing countries to have its indigenous CAR-T and gene therapy platform.

Who can get the NexCAR19 therapy?

The therapy is for people with B-cell lymphomas who didn't respond to standard treatments like chemotherapy, leading to relapse or recurrence of the cancer.

The patient's journey starts with a doctor's prescription at the clinic, followed by donation of blood by the patient at a transfusion centre. The blood goes to the lab, where the T-cells are genetically modified. In a week to 10 days, these cells return to the clinic for patient reinfusion. Essentially, patients only need to give a blood sample at their clinic, and come back in 7-10 days for reinfusion.

Recovery typically occurs within two weeks after one cycle of the treatment. In our data, approximately 70% of patients respond to the treatment, with variations between leukaemia and lymphoma cases. About 50% of these responsive patients achieve a complete response.

B-cell leukaemia is most common among children. Are they eligible for the therapy too?

The paediatric trial phase is currently underway at the Tata Memorial Hospital, in collaboration with IIT-Bombay. Although the therapy for children will not be any different, for now, ImmunoACT has received CDSCO approval for use in patients aged 15 years and older.

Is India's indigenous CAR-T cell therapy any more or less effective than CAR-T cell therapies abroad?

Laboratory and animal studies have shown a unique quality of this product. Specifically, it leads to significantly lower drug-related toxicities. It causes minimal damage to neurons and the central nervous system, a condition known as neurotoxicity. Neurotoxicity can sometimes occur when CAR-T cells recognise the CD19 protein and enter the brain, potentially leading to life-threatening situations.

The therapy also results in minimal Cytokine Release Syndrome (CRS), which is characterised by inflammation and hyperinflammation in the body due to the death of a significant number of tumour cells, as CAR-T cells are designed to target and eliminate cancer cells. You can think of this



like how the body responds to a virus such as SARS-CoV-2, where the immune response triggers an influx of certain proteins called cytokines, causing a lot of inflammation.

When will this therapy be available to patients in India?

We are in the process of obtaining licenses and onboarding hospitals. Tata Hospital is our preferred partner, and we've also got other hospitals like Nanavati, Fortis, and Jaslok in Mumbai on board. We have also added multiple hospitals in cities like Hyderabad, Pune, and Delhi.

The timeline for them to start offering CAR-T therapy may be a matter of weeks to a few months, contingent on final government approvals. Some minor approvals, including the manufacturing licence from the state government and approval of the label and pack insert by the Drugs Controller General of India, are still pending. Once these are secured, we aim to make CAR-T therapy accessible to everyone within a short timeframe.

How much will this treatment cost?

Currently, we are looking at a price range of Rs 30-40 lakh for CAR-T therapy, which we intend to hold. Even at this cost, it may not be accessible to everyone. Our ultimate goal is to bring the cost down to Rs 10-20 lakh. As technology matures and manufacturing processes improve, we anticipate that the cost will decrease. We're committed to making this therapy accessible to as many people as possible.

Will the treatment be covered by insurance?

When a therapy is approved by regulatory agencies like CDSCO or DCGI, it typically should be covered by national insurance schemes and private insurance companies. However, since this is an expensive treatment, the extent of coverage and accessibility to insurance may vary. We will engage in discussions with insurers and the government to clarify this further.

NMC TO LAUNCH 'ONE NATION, ONE REGISTRATION PLATFORM' FOR UNIFIED INFO ON DOCTORS

The National Medical Commission (NMC), the regulatory body for medical education and medical professionals, is all set to launch its "one nation, one registration platform" for doctors across the country to eliminate duplication and red tape and allow the public to access information on any physician working in India.

The NMC will unveil a patch pilot of the National Medical Register (NMR) in the next six months where doctors will be allotted a unique identification number and then can also apply for their licence to work in any State depending on where they are.

The commission had earlier this year issued a Gazette notification titled "Registration of medical practitioners and licence to practise medicine regulations, 2023" announcing the move. "The idea is to provide an ID to undergraduate students on the NMR. This ID can be used to update any further qualification," said Dr. Yogender Malik, member, Ethics and Medical Registration Board, NMC.

The data of nearly 14 lakh doctors registered in the system will be transferred to the NMR.

Meanwhile, the panel has signed an MoU with the Quality Council of India for rating medical institutions.



Both government and private medical colleges will be rated based on the quality of education they provide, from the 2024-25 academic session.

'MOST YOUNG PEOPLE HAVE SEEN ADS FOR E-CIGARETTES'

In an online survey aimed at examining factors associated with e-cigarette use among youth, The George Institute for Global Health surveyed approximately 1,000 persons aged 15 to 30 each in Australia, China, India and the UK. It assessed demographic characteristics, e-cigarette and tobacco use, number of friends and family members who vape and exposure to e-cigarette advertising (television, print, radio and social media).

Elaborating the findings in a paper — Exposure to e-cigarette Advertising and Young People's Use of e-cigarettes: A Four-country Study — the Researchers Said That the Average Number of Types of Media to which respondents were exposed was five. The number of media types was significantly associated with use of e-cigarettes.

Social media and advertising around vape shops and other retailers appeared to be the key exposure locations, raising the need for urgent attention, Simone Pettigrew, The George Institute for Global Health, said.

The WHO recommends banning all forms of e-cigarette advertising, promotion and sponsorship. All four countries - Australia, China, India and U.K. - have varying regulatory framework. India has amongst the strictest regulatory environments in the world: nicotine and non-nicotine e-cigarettes are banned and advertising is not permitted.

The report indicates a high level of exposure to e-cigarette advertising across various media outlets in four different countries. A total of 85% of respondents reported encountering such advertising, with the likelihood of exposure increasing among current users of e-cigarettes. Online platforms, particularly social media, were noted as more common spaces for advertising exposure than the general internet, with specific figures cited for China and Australia's encounters on Douyin and Instagram. Physical locations like vape shops and supermarkets also featured prominently as common sites for advertising. The George Institute found a significant correlation between the number of media types through which individuals encountered e-cigarette advertising and their usage of e-cigarettes, aligning with previous research suggesting a connection between advertising exposure and the inclination to use e-cigarettes.

BOMBAY HC'S INTERVENTION ON POLLUTION: A WELCOME MOVE

An intervention by the Bombay High Court has raised hopes of a solution to the city's recurring pollution problem. For the second year running, Mumbai's air quality deteriorated after the withdrawal of the southwest monsoon in October. The metropolis's natural cleansing advantages seem to have been negated by climate vagaries. But as a series of reports in this newspaper has shown, the crisis is, in large measure, a fallout of local governance failures. On Tuesday, a two-judge bench took suo motu cognisance of these reports and sought the response of the Brihanmumbai Municipal Corporation (BMC), the Maharashtra Pollution Control Board and the Central Pollution Control Board. The court will reportedly also hear other municipalities of cities and suburbs near Maharashtra's capital and pass comprehensive recommendations on November 6.



Judicial involvement has been instrumental in driving action on pollution in other parts of India for more than two decades. In Delhi, where bad air is a persistent hazard, the Supreme Court pulled up the authorities for the umpteenth time on Tuesday. A three-judge bench observed that pollution control measures were not reflecting on the ground and asked the Delhi, Haryana, Rajasthan and Uttar Pradesh governments to file affidavits, listing corrective measures. The capital's Graded Action Response Plan to tackle particulate emissions is, in fact, a product of the Supreme Court's intervention. In 1998, the apex court's directive — it came into effect in 2001 — made CNG use mandatory for all public transport vehicles in the city. In recent years, the SC has tried to bring Delhi, Punjab and Haryana on the same page to address the longstanding issue of crop stubble burning. Other landmark environmental interventions — closing down polluting units in different parts of the country and the short-lived odd-even scheme in the capital — are either the product of litigation or have been precipitated by court injunctions.

The recourse to the judiciary is symptomatic of a deeper problem — pollution receives attention only when it becomes an emergency. Even in Delhi, authorities continue to treat the symptoms and not the cause for the city's poor air — the complex interplay of geography, particulate matter from tailpipes of vehicles, agricultural activities in neighbouring states and industrial emissions. Building guardrails against pollution without hurting economic growth requires creativity and political will. Concerted action to clean up air rarely makes it manifestos of political parties today. But there's no time to lose. The gravity of the pollution crisis — underlined by several recent reports that join the dots between poor air and public health — makes it imperative for the judiciary to continue nudging state governments, municipalities and pollution control authorities into action. The Mumbai HC must direct the state's authorities to ensure that Maharashtra's capital does not witness a repeat of last year's winter — the city registered “poor” or “very poor” on the Air Quality Index on 66 of the 92 days from November to January.

AAP'S FAILURE TO CLEAN DELHI'S AIR IS UNFORTUNATE

Bad air has kept its date with the capital. Last month, the Delhi government began implementing the Graded Action Plan — a combination of punitive and preventive measures. Echoing its claims of the past few years, it talked of a plan to take care of an emergency. Now that the emergency is at hand, the Delhi government appears at sea.

It has asked primary schools to remain shut till Monday and enforced a ban on construction activity. The Delhi government has also done the right thing by reinforcing the city's public transport. Even so, it appears to be betraying an all too familiar lack of control over the city's air quality. The IMD has forecast unfavourable weather conditions — low wind speed, non-conductive wind direction and lack of rain — for another three days and medical experts have flagged public health concerns. In response, Delhi's environment minister Gopal Rai has reportedly raised the bogey of polluted air entering Delhi from neighbouring states. “Sources outside Delhi cause twice the amount of pollution,” he said.

Pollution levels have indeed crossed the CPCB's “severe” category — or are close to it — in several cities in the capital's neighbourhood. There is a sense of *deja vu* even in that. It's high time, therefore, that a coordination mechanism between Delhi and neighbouring states is put in place to clean up the region's air. Before 2022, Delhi's Aam Admi Party (AAP) government would blame the fumes from stubble burning in neighbouring Haryana and Punjab for the capital's annual misery.



AAP's assumption of office in Punjab, last year, raised hopes of an arrangement to wean farmers off the environmentally-harmful practice. Data does show an appreciable reduction in stubble burning in Haryana. However, farm fires from Punjab continue to add to Delhi's pollution load.

According to Indian Agriculture Research Institute Data, Punjab saw more than 1,900 instances of stubble burning on Wednesday — the fourth consecutive day when the count was more than 1,000. The intense burning season has just begun and experts fear a further deterioration of air quality.

In recent years, several studies have joined the dots between pollution and public health. Last year, a Lancet study estimated that India lost 1.67 million people in 2019 to diseases caused by inhaling hazardous amounts of PM 2.5. In September, an Air Quality Life Index prepared by the University of Chicago's Energy Policy Institution reckoned that pollution by these fine particles reduces the average Indian's life expectancy by more than five years. Researchers who worked on the study estimated that people in Delhi lose close to 12 years because of the poor air they breathe.

The AAP has rightly made people's welfare its credo. Health and education have a prominent place in the party's governments in Delhi and Punjab. Unfortunately, however, the pollution-health connection continues to elude the two governments.

THE EXPANSION OF SETTLEMENTS INTO FLOOD-PRONE AREAS

The story so far:

India's urban areas have been flooding more and more often, destroying lives and livelihoods. Yet, according to a study led by the World Bank and published in Nature on October 4, flood risk in many cities is rising because they are expanding into flood-prone areas. According to the paper, since 1985, human settlements in flood-prone areas have more than doubled. Experts say the findings spotlight the risk of unsustainable urbanisation in India. The study also found that middle-income countries like India have more urban settlements in flood-prone zones than low- and high-income countries.

How is India at risk?

India isn't among the 20 countries whose settlements are most exposed to flood hazards, but it was the third highest contributor to global settlements, after China and the U.S., and also third — after China and Vietnam — among countries with new settlements expanding into flood-prone areas, all from 1985 to 2015. Gautam Bhan, a researcher at the Indian Institute of Human Settlements (IIHS), Bengaluru, said this means India is at significant risk of flood-related problems that could worsen in the coming years if the country wasn't careful.

Raj Bhagat Palanichamy, a geoanalyst at WRI India, said the data in the study — from a database called EM-DAT — may not have the “granularity required for studying flood-prone areas in our urban areas and peri urban areas.” At the heart of flood-related hazards is “where we build or expand our cities,” Mr. Palanichamy had written in 2022. He had estimated that the Bengaluru floods that year cost the city ₹225 crore. In 1901-2022, the city's population grew from around 1.6 lakh to more than a crore. To accommodate these people, the city expanded — but new localities overlooked the local “topography”, Mr. Palanichamy added.

Who are most affected?



Both Mr. Palanichamy and Dr. Bhan agree that the risks are disproportionately higher for those living in informal structures. As Dr. Bhan said, “The geography of environmental risk is also the geography of informal low-income housing.” Informal housing in cities is on “land that is vacant and less desirable, so that they are not immediately driven off,” he added. So they often lie in “low-lying, flood-prone areas”.

According to Dr. Bhan, an important reason why urbanisation has expanded into flood-prone areas is that “we don’t have the governance processes to say, ‘Look, this kind of development is environmentally unsustainable.’” When environmental regulations are applied to new constructions, they are often applied only to big infrastructure projects and not to medium- and small-scale modifications of localities. This contradicts the notion that certain localities are more flood-prone and that flooding and flood-risk are locality-level issues.

Dr. Bhan added that people commonly violate existing government regulations. He invoked the examples of a rise in eco-tourism resorts on forest land and the construction of large structures, including government buildings and even religious structures, on rivers’ floodplains.

What is to be done?

As cities continue to expand, Mr. Palanichamy and Dr. Bhan cautioned that we can no longer avoid expanding into flood-prone areas. “Market forces tend to push expansion into flood-prone areas,” said Mr. Palanichamy. “But recognising what these areas are and that we are actually expanding into them is the first step towards sustainable urban planning that addresses the risks.” Some forms of adaptation are necessary, said Dr. Bhan, and they need to differentiate between low-income residents and unauthorised structures erected for the elite.

“Every city needs to do a proper scientific mapping of the flood prone areas,” Mr. Palanichamy said. Dr. Bhan added that urban governments need to make housing in such areas more flood-resilient and protect low-income housing. He gave the example of riverside settlements that use stilt houses, like those used by the Mishing and the Miyah communities along the Brahmaputra.

UN REPORT ON GROUNDWATER EXTRACTION: EVERY DROP COUNTS

A report published, last week, by United Nations University has warned that 27 of the 31 aquifers in the country are depleting faster than they can be replenished. The alarm bells have been ringing for at least a decade. In 2016, the Mihir Shah Committee argued that there is little “understanding of river systems or their interconnections with the health of catchment areas or groundwater”. Several other reports, including those commissioned by the Niti Aayog and the Central Water Commission, have underlined the poor state of the country’s aquifers. Conversations in the wake of these studies pushed the Union Jal Shakti Ministry to initiate the Atal Bhujal Yojana in 78 water-stressed districts. The programme, which commenced in 2020, aims to bring about behavioural changes at the community level in seven states. It’s a welcome initiative and Ministry data does show that groundwater extraction for irrigation, domestic and industrial uses came down by about 6 billion cubic metres in 2022 from 2020. However, the gravity of the crisis is such that much more is required from the Centre and the states.

India pumps up the most groundwater globally — more than China and the US combined. According to the Central Ground Water Board, about 70 per cent of the water used in the country is from groundwater sources. The emphasis on the use of tubewells and borewells played an important role in ensuring food security. But as the Shah Committee pointed out, there has been



little emphasis on institutional innovations in the water sector. The link between power subsidies and the falling water table in states such as Punjab has been long apparent. Yet, addressing demand-side management remains a complex problem. The UN report shows that 78 per cent of the wells in the state are overexploited.

In recent years, researchers have joined the dots between groundwater extraction and the climate crisis. The problem could become acute in the country's southwest, where aquifers of hard rock already impose limits on recharging. Hotter temperatures could leave less moisture to soak in the soil and replenish groundwater sources. In recent years, the Centre has been trying to promote less thirsty crops like millets and the use of efficient watering techniques. But because borewells and tubewells are covered structures, people don't realise the gravity of the crisis till it's too late. The use of technologies that allow people to monitor the water available in their borewells could be the first step to nudge them to manage aquifers responsibly. These could be the catalyst for bringing about behavioural changes.

WHY A 'NORMAL' MONSOON ISN'T NORMAL ANYMORE FOR INDIA

The monsoon season this year ended with 94 per cent overall rainfall, making it the eighth year in succession that the seasonal rainfall has been broadly in the normal range. This makes it seem as though monsoon rainfall in the country has been remarkably consistent in recent years.

But that is far from being the case, as is evident from common experience too. There have been large variations in the distribution of rainfall, in spatial as well as temporal terms. While some days produced very heavy rainfall, prolonged periods went extremely dry. Similarly, a majority of the districts received very little rainfall during most of the season. This rainfall variability only seems to be increasing, possibly because of climate change.

Rarely normal

At the district level, rainfall has been highly erratic. During the four-month monsoon period, there have been very few instances of districts receiving normal daily rainfall. A new analysis by Climate Trends, a research organisation, found that districts getting normal daily rainfall was an extremely rare occurrence. Out of the nearly 85,000 district rain-days — 121 days of rainfall for each of the 718 districts — only 6 per cent were found to be normal.

chart 1

In contrast, over 60 per cent of the daily district wise rainfall showed deficits of over 60 per cent, or no rain at all on days when rains were expected. The analysis also showed that large excess days — days on which districts received 60 per cent or more than normal rainfall — were the next most frequent instances.

"It is understood that normal rainfall data has been averaged out over several years and cannot be expected to indicate the consistency of rainfall, but the relatively minuscule number of 'normal' rainfall days experienced by India's 718 districts does reflect a reality of being swung between extremes," the analysis said.

The season also produced the second largest number of extreme rainfall events in the past five years, which compensated for the deficit on the dry days and brought in an illusion of normalcy.



Dry North-East, drying Kerala

Even at the regional level, rainfall showed large variations. Northwest and central parts of the country received more than 100 per cent rains during the season, while eastern and North-Eastern regions got barely 80 per cent. The southern part of the country also had large deficits for most of the monsoon season. The region finally ended with 92 per cent rains for the season.

The deficiency in east and North-East India strengthens a long-term trend of below normal rainfall in the region. As pointed out by the Climate Trends analysis, the region has received less than 100 per cent rains in nine out of 10 previous years. On five of those occasions, the deficiency has been larger than 10 per cent. This region, at least the North-East, traditionally gets a lot of rain.

This year, the states of Bihar, Jharkhand and West Bengal received particularly poor rainfall, each ending with a deficiency of more than 20 per cent. Nagaland, Manipur, Mizoram and Tripura also had more than 20 per cent deficit.

Kerala is one of the rainiest states in the country, but this year it finished with the largest deficit, 34 per cent. Rainfall over Kerala has been showing a declining trend in recent years, not just during the monsoon, a phenomenon that is not very well explained. But this year's monsoon rainfall, 132.7 cm in total, was the least that the state has received in the past 12 years.

Climate change

The increasingly erratic behaviour of monsoon rainfall is usually blamed on climate change, but it is not that simple. There are many other factors at play. This year's monsoon, for example, was expected to be hit by the prevailing El Nino in the eastern Pacific Ocean. In previous years, El Nino events have resulted in large rainfall deficits during monsoon. But it did not have a similar impact on the rainfall this year, at least in overall quantitative terms.

An extended cyclone on the western coast in June, and a prolonged bout of extremely heavy rainfall in the northern states in July, helped nullify the rain-suppressing impact of El Nino. August was the only month that seemed to have been under the influence of El Nino. In fact, it happened to be the driest August ever, producing just 64 per cent rainfall. But September once again brought good rainfall, despite El Nino gaining in strength.

Climate change has introduced a greater degree of uncertainty in weather events. The unpredictability in monsoon rainfall is likely to continue even if some drastic measures are taken to immediately bring down greenhouse gas emissions, known to be the cause of global warming and climate change.

The only coping mechanism right now seems to be better preparedness to face the unpredictable events. Increased emphasis on disaster preparedness, steps to remove the bottlenecks that worsen the impacts of extreme weather events —urban flooding, for example — and strengthening of climate resilience in new and old infrastructure are some of the things that are expected to attract greater attention.

IITM PUNE DEMONSTRATES CLOUD SEEDING CAN PRODUCE RAINFALL

A cloud seeding experiment carried out in Solapur city, which falls on the leeward side of the Western Ghats and hence gets low rainfall — 384 mm and 422 mm of total rainfall during the period June to September 2018 and 2019, respectively — was able to achieve 18% relative



enhancement in rainfall, which is approximately 8.67mm more rainfall. The relative enhancement of accumulated rainfall was seen over two hours after seeding the clouds. In all, the total enhancement of water availability through cloud seeding experiments was 867 million litres. The results of the study were published recently in the journal Bulletin of the American Meteorological Society.

The experiment — Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX phase-4) — was a scientific investigation conducted in Solapur city during the summer monsoon period of 2018 and 2019. The primary objective was to investigate the efficacy of hygroscopic seeding in deep convective clouds and to develop a cloud seeding protocol. The experiment used two aircraft for studying various cloud parameters and for seeding the clouds. The study found that cloud seeding is an effective strategy for enhancing rainfall in a region under suitable conditions. A randomised seeding experiment was undertaken to study the effectiveness of cloud seeding in producing rainfall. In total 276 convective clouds were chosen, and 150 were seeded while the remaining 122 clouds were not seeded.

“In our previous work we have found certain characteristics in a cloud such as the liquid water content in the cloud, the vertical motion in the cloud, which is an indicator of the growth of the cloud, will help inform us if the cloud will rain or not. Based on several criteria we know if a convective cloud has a potential to rain as all clouds cannot rain,” she says.

Convective clouds with a depth of over one kilometre and likely to evolve into deep cumulus clouds were targeted.

“We must indicate that the availability of a large number of samples (150/122 seed/no-seed) is a testimony to the rainfall enhancement through hygroscopic seeding with the physical conditions set in CAIPEEX,” the authors write.

“The seeded clouds produced more rainfall than the unseeded clouds,” Dr. Thara Prabhakaran from the Indian Institute of Tropical Meteorology, Pune and the corresponding author of the paper tells The Hindu.

Calcium chloride flare was used for seeding the clouds. A cloud seeding flare releases these particles when triggered. The seeding was done at the base of the warm convective clouds and at a time when the clouds were in their growing stage so that the seed particles could enter the clouds with minimum dispersion.

“The convective cloud bases are found at 500-1,500 metres altitude during the summer monsoon period and around 2,000 metres or more altitude during the monsoon break periods, which depends on the moisture content in the lower atmosphere,” Dr. Prabhakaran says. “Since the clouds are found at lower heights, the base of the convective clouds is warm, around 15 degrees C.”

“But cloud seeding alone cannot mitigate droughts but can help produce 18% more rainfall and partially address water requirements,” says Dr. M. Rajeevan, former secretary, Ministry of Earth Science, and a co-author of the paper. Undertaking cloud seeding as catchment-scale projects can possibly help in managing drought conditions.

“The study was carried for two years to first study and understand the microphysics and characteristics of convective clouds that can be targeted to enhance rainfall. The work provides elaborate protocols and technical guidance to plan and conduct cloud seeding in India,” he says.



The two-year study has helped develop a high-resolution numerical model that can help stakeholders to identify target locations, clouds that can be seeded, and a suitable seeding strategy to enhance rainfall in an area.

One of the most important findings of the study was that not all cumulus clouds produce rainfall when cloud seeding is done. “We found 20-25% of cumulus clouds produce rainfall if cloud seeding is done correctly. The microphysics of clouds vary widely and so not all clouds produce rainfall through cloud seeding,” says Dr. Rajeevan.

“Though the relative enhancement of rainfall was 46% as measured by automatic rain gauges, the actual increase in rainfall over a 100 sq.km area was only 18%,” says Dr. Prabhakaran.

“We estimated the cost-benefit ratio and found the approximate cost of producing water through cloud seeding was 18 paisa per litre. It was a research experiment and so we hired two aircraft from outside India for seeding the clouds. The cost will drop by more than 50% if we use indigenous seeding aircraft,” says Dr. Prabhakaran. In places like Solapur where water is supplied only once in three days, the availability of additional water through cloud seeding will be immensely beneficial.

UNESCO NAMES KOZHIKODE ‘CITY OF LITERATURE’: WHAT THIS TAG MEANS

The city of Kozhikode in Kerala was added in UNESCO’s Creative Cities Network (UCCN) on Wednesday. Gwalior from Madhya Pradesh was also among the 55 new cities to join the network.

These cities have been handpicked to represent seven creative fields — crafts and folk arts, design, film, gastronomy, literature, media arts, and music. Kozhikode was included in the category of literature and Gwalior in the category of music.

The UNESCO Creative Cities Network (UCCN)

The UCCN was created in 2004 to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development. It now includes 350 cities in over a hundred countries.

The network is aimed at leveraging the creative, social, and economic potential of cultural industries. It was launched to promote UNESCO’s goals of cultural diversity and strengthen resilience to threats such as climate change, rising inequality, and rapid urbanisation. It encourages a culture of creativity in urban planning and solutions to urban problems.

Indian cities in the network

Apart from Kozhikode and Gwalior, Varanasi (music), Srinagar (crafts and folk arts) and Chennai (music) are part of the network.

Kozhikode’s literary tradition

The North Kerala city of Kozhikode is home to many prominent personalities of the state’s literary and cultural world. The city, where several leading media houses are headquartered, has hundreds of publishing banners and several libraries enriching its literary tradition.

The first Malayalam novel Kundalatha was born in Kozhikode in 1887. It was authored by Appu Nedungadi. Several illustrious writers like S K Pottekkatt, Vaikom Muhammad Basheer, Uroob,



Thikkodiyan, NN Kakkad, P Valsala, Akbar Kakkattil, Punathil Kunjabdulla and MT Vasudevan Nair have brought laurels for Kozhikode. The city has also produced many film and theatre professionals in the last half a century.

Objective of the CCCN

The UNESCO Creative Cities Network allows member cities to recognise creativity as an essential component of urban development, notably through partnerships involving the public and private sectors and civil society. It envisages to develop hubs of creativity and innovation and broaden opportunities for creators and professionals in the cultural sector. These cities have to achieve the UN agenda of sustainable development.

Areas of action

The objectives of the network are implemented both at the level of the member cities and at the international level, notably through sharing experiences, knowledge and best practices. There are professional and artistic exchange programmes, research and evaluations on the experience of the creative cities, among other activities.

The annual conference of network cities

A highlight of the network is the annual conference of mayors and other stakeholders of network cities, which offers a unique occasion to strengthen ties between creative cities from across the world. The main objective of the conference is to exchange practical information on policies and activities carried out by cities and stimulate inter-city collaborations.

The last conference was held in Santos, Brazil, and this year's conference was in Istanbul. The next conference will be held in July 2024 in Braga, Portugal.

What members have to do

Every four years, member cities are required to submit a Membership Monitoring Report, with the aim of demonstrating their steadfast commitment towards the implementation of the UCCN Mission Statement. They present an action plan for the following four years, providing insights into their achievements and lessons learnt, as well as the impact of the designation.

AT ASIAN PARA GAMES, INDIA'S 111 TALES TO INSPIRE

Indian athletes continue to back the country's Olympic-size dreams. Close on the heels of a record-setting performance at the Asian Games and the strong pitch to host the 2036 Summer Games, India's para-athletes dazzled with the country's best-ever showing at the continental event.

In an encore of historical magnitude at Hangzhou, India finished with 111 medals — 29 gold, 31 silver and 51 bronze — at the Asian Para Games. The medal count may be a fraction of China's tally of 521, but the back-to-back hundreds at Hangzhou — India's count at Asian Games was 107 medals — spoke of a sporting ecosystem that wasn't just consistent in producing champion athletes but was inclusive too. The Asian Para rich haul is also a hat-tip to the parents, coaches and administrators who spotted and nurtured the sporting passion in the hearts and minds of children with physical disabilities. Hangzhou gave India 111 inspirational tales.

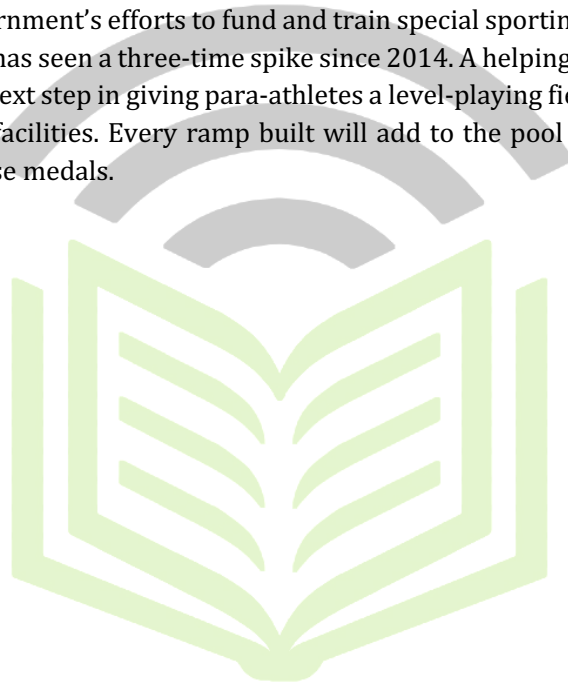
Take the case of India's first gold medalist, swimmer Suyash Narayan Jadhav, who got electrocuted at his brother's wedding which led to both his hands getting amputated. Or the athlete who won



the 100th medal — 400m runner Dilip Mahadu Gavit, whose right arm is amputated below the elbow. Canoeist Prachi Yadav, paralysed from the waist down, rode against the tide and finished on the podium. Javelin thrower Sumit Antil, a world record holder oozing with self-confidence, hopes to give opponents a run for their money.

The incredible story of 16-year-old armless archer Sheetal Devi, from Jammu and Kashmir, will inspire generations. Born with phocomelia, a rare congenital disorder that causes under-developed limbs, she is the world's first female archer without arms to compete internationally. In Hangzhou, the athlete who took up the sport just two years ago won two gold medals and a silver. The video clip of Sheetal hitting a bull's eye by pulling the bow with her magically flexible legs and mouth has become viral.

The results of the government's efforts to fund and train special sporting persons are there to see. The sports budget too has seen a three-time spike since 2014. A helping hand is all that those with disabilities need. The next step in giving para-athletes a level-playing field is to provide them easy access to local sports facilities. Every ramp built will add to the pool of talent. That will be the enduring legacy of these medals.



DreamIAS



BUSINESS & ECONOMICS

WHY THE LEWIS MODEL ON LABOUR AND INDUSTRIALISATION HAS WORKED IN CHINA, NOT IN INDIA

In 1954, the Saint Lucian economist William Arthur Lewis wrote on the enormous industrialisation possibilities for underdeveloped countries having an unlimited supply of labour available at subsistence wages. The marginal productivity of such labour, engaged in sectors such as agriculture, was “negligible, zero, or even negative”: Their withdrawal from farms would, far from reducing agricultural output, make the existing holdings more viable and amenable to productivity-enhancing mechanisation.

Lewis’ influential essay (‘Economic Development with Unlimited Supplies of Labour’) argued that an expanding manufacturing (“capitalist”) sector could absorb much of the surplus labour in agriculture and other “subsistence” sectors. All it had to do was pay wages just high enough to make men leave the family farm. So long as the higher subsistence wage levels matched the value of the additional output that was produced, the factories would keep hiring workers. In this situation, “new industries can be created, or old industries expanded, without limit”.

For Lewis – his work won him the Economics Nobel Prize in 1979 – industrialisation was a virtual inevitability for countries with surplus labour populations; he specifically mentioned India. The only bottlenecks to this seamless transfer of labour from farms to factories were “capital and natural resources”, which these countries lacked relative to their populations.

How has the model panned out in India?

Not quite the way Lewis envisaged. Agriculture employed about two-thirds of India’s workforce till the early nineties. The accompanying chart shows that share falling from 64.6% to 48.9% between 1993-94 and 2011-12. But not much of it was courtesy of manufacturing, whose share in employment rose marginally, from 10.4% to 12.6%, during this period.

China model India didn’t follow

The subsequent period has seen the farm sector’s share in the country’s employed labour force first drop somewhat slowly, to a low of 42.5% in 2018-19, and then increase to 45.6% and 46.5% in the following two Covid-impacted years. The current 45.8% share, as per the National Sample Survey Office’s Periodic Labour Force Survey report for 2022-23 (July-June), is still higher than the pre-pandemic levels.

No less striking is the dip in manufacturing’s share, from the 2011-12 high of 12.6% to 11.4% in 2022-23. The declining trend, in fact, preceded the pandemic – so much so that this sector now employs less than even the workforce in construction (13%) and trade, hotels & restaurants (12.1%). Employment in the latter two sectors is pretty much similar to agriculture – low marginal productivity (output per worker), informal and paying just-about subsistence wages.

Simply put, the virtuous structural transformation, entailing a transfer of surplus labour from “subsistence” to “capitalist” sectors that Lewis talked about, hasn’t really played out. It has stalled, if not reversed, in recent times. The movement of labour – as economists like Amit Basole at Azim Premji University have demonstrated – has been largely happening within the “subsistence” sectors. The jobs being generated outside agriculture are mostly in low-paid services and



construction, not in manufacturing and high-productivity services (think gig workers versus IT professionals).

The picture at state level

Manufacturing's share in employment is below that of construction and services for states with high percentage of workforce engaged in farming. Even for less agriculture-dependent states, the labour force in services is 2-3 times or more that in manufacturing (tables above).

The exception, perhaps, is Gujarat. Nearly 24% of its workforce – more than twice the national average – is employed in manufacturing, which is almost as much as in services. Gujarat is the only state that seems to confirm closer to the Lewis model of labour shifting from farms to factories. Yet, the proportion of its workers in agriculture is much higher than for Punjab, Haryana, Kerala, Tamil Nadu or even West Bengal. Less services sector-dependent would be a more appropriate description for Gujarat.

“The Lewis model was propounded, and had relevance for India, in the fifties. It was a time when industry was synonymous with textile mills employing large numbers of people. Even Mumbai then had mills, with workers drawn from neighbouring rural areas and housed in chawls (tenements) in the centre of the city,” noted Ramesh Chand, Member of NITI Aayog, the successor to the erstwhile Planning Commission.

Farm as a factory

The Lewis model's exemplar was China. That country, from the late 1970s to the 2000s, leveraged its demographic dividend and large pool of surplus rural labour to become “the world's factory” – just as Gujarat is India's.

However, the relevance or replicability of that model of structural transformation is open to question today. India does still have near-unlimited supply of surplus labour working in subsistence sectors and suffering, what is called, “disguised unemployment”. It is also experiencing a bulge in the working-age population, like China did till the last decade. But the opportunities for gainful employment through the conventional route aren't as much as before.

“Manufacturing is turning increasingly capital-intensive, with the deployment of both labour-saving and labour-displacing technologies such as robotics, artificial intelligence and machine learning. We need to rethink the whole model of labour transition from agriculture to industry,” said Chand.

NITI Aayog, he added, is working on a “new” economic development model for India, exploring the scope for remunerative job creation “in and around agriculture” itself. Such jobs needn't be on the farm, but outside it – in the aggregation, grading, packaging, transporting, processing, warehousing and retailing of produce or the supply of inputs and services to farmers.

“The use of grain, sugarcane and oilseeds as bio-fuel is already growing, but so can the crop stubble and residues that farmers are now burning in the fields. There is also rising demand for bio-based products, whether as cosmetics and medicines, building materials, polymers and specialty chemicals, or even as insecticides and fertilisers. All these can be the next big employment avenues outside, and yet linked to, the farm,” Chand pointed out.



INDIA'S RUSSIAN OIL IMPORTS SLIP IN OCT, SAUDI SUPPLY REBOUNDS FROM SEP LOW

India's oil imports from Russia averaged 1.57 million barrels per day (million bpd) in October, down from 1.78 million bpd in September, as per Kpler data. India's overall oil imports for the month, however, rose 8.1 per cent sequentially to 4.50 million bpd, mainly on the back of higher imports from Riyadh.

Russian crude accounted for nearly 35 per cent of India's oil imports in October, followed by Iraq with 21 per cent, and Saudi Arabia with an 18 per cent share.

In October, oil imports from Saudi Arabia jumped nearly 65 per cent month-on-month to 7,96,659 bpd. In September, volumes from Riyadh had slumped, largely due to price advantage of competing crude oil grades from other countries and maintenance shutdown at a few units. Analysts had viewed the unusually low volumes of Saudi Arabian oil imports in September as temporary, and predicted a strong rebound in October. As for supplies from Iraq, oil import volumes in October were nearly flat month-on-month at around 9,35,000 bpd.

RIL, which has been among the top Indian buyers of Russian crude since the Russia-Ukraine war broke out in February last year, scaled back its offtake of Moscow's oil in October as its Jamnagar refinery complex was undergoing a partial maintenance shutdown. RIL imported around 230,000 bpd of Russian crude during the month, down 24.3 per cent from September volumes, as per Kpler data. RIL's overall oil imports in October stood at 968,384 bpd, the lowest in 13 months. However, with the company's units now out of maintenance, Russian oil imports are likely to rise in November.

"Russia slipped back some 200,000 bpd after its 1.78 million bpd reading in September, mostly on the back of weaker buying from Reliance and several cargoes slipping into early November instead of late October. In the first three days of November alone, there are 10 tankers to be discharged into Indian ports, carrying 11 million barrels. In view of this, we expect November imports from Russia to come in around 1.8 million bpd again," Kpler's lead crude analyst Viktor Katona said.

India's Russian oil imports slip in Oct, Saudi supply rebounds from Sept low

In October, Nayara Energy Ltd (NEL) emerged as the largest Indian buyer of Russian crude, slightly surpassing state-owned Indian Oil Corporation Ltd (IOC), which has consistently been the largest Indian offtaker of Russian oil for a few months now. NEL, which is partly owned by Russian oil major Rosneft, imported 306,807 bpd of Russian oil, while IOC imported 303,944 bpd.

From being a marginal supplier of crude oil to India before the war in Ukraine, Russia turned into New Delhi's largest source of crude as Moscow started offering deep discounts after Western buyers started shunning its oil. Prior to the war in Ukraine, Iraq was India's largest supplier of crude oil, followed by Saudi Arabia. India is the world's third-largest consumer of crude oil and depends on imports to meet over 85 per cent of its requirement.

According to Katona, apart from a likely increase in oil imports from Russia in November and December, India's overall oil imports are also expected to rise in this high-demand festival season. "We believe the average pace of incoming cargoes would move higher to 4.7 million bpd (from October's 4.5 million bpd), so there's a solid 200,000 bpd upside still in Indian buying, mostly accounting for Reliance's much-anticipated return after autumn maintenance," he said.



DEVELOPED COUNTRIES WILL KEEP INTEREST RATES HIGH

In their recent meetings, central banks across much of the developed world have chosen to keep interest rates unchanged. Last week, the European Central Bank chose to hold rates steady after 10 consecutive rate hikes. On Wednesday, the US Federal Reserve voted to maintain the status quo, and on Thursday, the Bank of England chose to keep interest rates unchanged. While the underlying dynamics of these economies do vary, the commentary from these central banks does seem to affirm the widely-held view that interest rates are likely to remain higher for longer as inflation is expected to remain above target for some time.

In the US, the economic momentum has been quite strong. In the third quarter, GDP grew at a seasonally adjusted 4.9 per cent annualised rate, surpassing expectations. The labour market remains tight. Non-farm payrolls in September were above expectations.

And consumer spending has been healthy. While inflation has fallen, it remains well above the Fed's target of 2 per cent. Core inflation, which excludes the volatile food and fuel components, is at 3.7 per cent on an annual basis. In comparison, the Bank of England is rather pessimistic about the prospects of the UK economy. The central bank now expects growth to be "flat" in the third quarter, which is weaker than what it had previously projected.

For the fourth quarter, it projects a growth of only 0.1 per cent. Over the medium term, growth is expected to "remain well below historical averages". Inflation also appears to be more entrenched. In September, it stood at 6.7 per cent. The bank expects it to fall to 4.5 per cent in the first quarter of 2024, and then to 3.1 per cent in the last quarter of 2024.

Inflation is expected to be around the target only by the end of 2025. The situation is similar in the Euro Zone. The ECB has projected inflation at 5.6 per cent this year, declining thereafter to 3.2 per cent by next year. Inflation is expected to trend towards the 2 per cent target by 2025. The central bank also expects growth in the Euro Zone to be subdued at 0.7 per cent this year, rising marginally thereafter to 1 per cent in 2024.

Tighter monetary policy in these economies will have consequences for emerging markets like India. It will impact capital flows, currency, and exports. During this period of considerable economic and geopolitical uncertainty, policymakers in India must be guided by the objective of ensuring macroeconomic stability.

WHAT IS THE IMPACT OF AIR POLLUTION ON ECONOMIC GROWTH?

Given that GDP growth rates and per capita income levels are generally seen as having a direct trade-off with emissions levels, conventional wisdom tends to dismiss air pollution as an unavoidable by-product of economic growth. And this tends to limit the urgency for formulating a policy response to the problem.

A slew of new research, however, points to exactly the opposite: that air pollution has a direct, and a particularly debilitating impact on GDP growth and per-capita income levels by way of reduced worker output, lower consumer footfall in consumption-led services, hampered asset productivity, and a surge in health expenses and welfare allocations, especially in the productive age groups.

This is particularly worrying for a country like India, where key economic hubs such as Delhi NCR are now prone to a recurrent annual cycle of high pollution with the onset of every winter, and



Mumbai is struggling to cope with a polluting haze after the withdrawal of the southwest monsoon, as highlighted in a series recently in The Indian Express.

The impact on economic output

The Reserve Bank of India's Department of Economic and Policy Research (DEPR) said in its latest report on Currency & Finance 2022-23 that up to 4.5% of India's GDP could be at risk by 2030 due to lost labour hours from climate change issues, including extreme heat and humidity.

If the impact of recurrent annual cycles of pollution in key manufacturing and services hubs is added to that estimate, the drain on economic productivity is far higher.

A June 2023 World Bank paper authored by A Patrick Behrer, Rishabh Choudhary, and Dhruv Sharma pointed to clear evidence that the well-documented micro-level impacts of air pollution on health, productivity, labour supply, and other economically relevant outcomes aggregate to "macro level effects that can be observed in year-to-year changes in GDP".

These results, based on data from about 550 districts in some 25 states and Union Territories (which contribute, the report said, to 90% of India's real GDP), were consistent with well documented micro effects of heat generating aggregate-level effects.

A 2021 paper in The Lancet Planetary Health, which studied the direct impacts of air pollution in India on mortality and morbidity, found large inter-state variations in economic loss as a proportion of the state GDP — from 0.67% to 2.15% — with the biggest losses in the low per-capita GDP states of Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, and Chhattisgarh. ('Health and economic impact of air pollution in the states of India: The global burden of disease study')

This is especially relevant since RBI data suggest that 50% of India's GDP comes from sectors that are exposed to heat, which is a rough approximation for the share of GDP generated by outdoor work. In comparison, less than 25% of European GDP is generated by the same sectors, European Central Bank figures show.

While firm estimates on the impact of pollution on economic output are sketchy, a first-of-its-kind report from Dalberg Advisors, in partnership with Clean Air Fund, Blue Sky Analytics, and the Confederation of Indian Industry, had estimated that air pollution entailed costs of about \$95 billion annually for Indian businesses, which is about 3% of India's GDP.

The 2021 study quoted above collated anecdotal evidence from across India: (i) footfall in Mumbai's Linking Road shopping district dropped by 5% during the highly polluted period between November and January; (ii) a rooftop solar company reported a 13% decrease in the productivity of its solar panels on high pollution days, thereby reducing economic viability for solar in India; and (iii) employees at Bengaluru's tech hub, Whitefield Corporate Zone, reported an 8-10% reduction in productivity at work.

The costs of poor air quality, the study said, was manifested in six distinct ways: (i) lower labour productivity, (ii) lower consumer footfall, (iii) lower asset productivity, (iv) increased health expenses, (v) welfare losses, and (vi) premature mortality. To calculate the impact of air pollution, the analysis used big data analytics, a primary survey, existing literature, and inputs from diverse stakeholders including academic experts in air pollution, along with cross-sectoral business heads and service providers.



The challenge for India

Air pollution is an urgent prerogative in India, as more than 20 of the world's 30 cities with the worst air pollution are in the country. Delhi has the poorest air quality among cities globally, with PM2.5 concentration levels pegged at nearly 10 times the WHO target.

A paper in The Lancet had listed Delhi as the city with the highest level of per-capita economic loss due to pollution among major Indian cities. With the air quality plummeting to the "severe plus" category on Friday morning, emergency measures, including a ban on trucks and all types of construction are set to be enforced in the National Capital Region.

A report by Greenpeace Southeast Asia and the Centre for Research on Energy and Clean Air said the costs of air pollution from fossil fuels, burning gas, coal, and oil results in three times as many deaths as road traffic accidents worldwide. According to the study, air pollution has an economic cost of \$2.9 trillion, about 3.3 per cent of the world's GDP.

As pointed out in the RBI report, the trend is a concern especially in developing countries such as India when employment generation is still largely linked to economic activities involving the outdoors — agriculture and construction are among the biggest employment avenues, while delivery services and security agency work account for the bulk of employment generation options in the urban areas.

Services sector is impacted as well

Even in indoor jobs such as those in call centres, air pollution takes a toll on productivity.

The paper 'The Effect of Pollution on Worker Productivity: Evidence from Call-Center Workers in China' (NBER Working Paper 22328) by Tom Chang, Joshua Graff Zivin, Tal Gross, and Matthew Neidell, measured data on the daily productivity of 5,000 workers at the Shanghai and Nantong call centres of Ctrip, China's largest travel agency in 2016, against the government-reported daily air pollution index (API) for each city.

The study found that for each 10-unit increase in the API, worker productivity, measured by the number of calls handled, fell by 0.35%. While the average duration of individual calls was not impacted by pollution levels, the time workers spent on break went up.

Also, poor air quality impeded the performance of otherwise highly productive employees as much as it did of less productive workers.

The findings of this study are of particular relevance to India, where the services sector accounts of more than 50% of the GDP.

WHAT'S IN STORE FOR ECONOMY IN SECOND HALF?

The story so far:

The Indian economy, measured in terms of the Gross Domestic Product (GDP) as well as Gross Value-Added (GVA), grew 7.8% between April and June (first quarter or Q1) this year, a four quarter-high. The Finance Ministry believes the momentum of economic activity was carried forward in the July-September quarter, despite retail inflation hardening to 6.4% from 4.7% in Q1 thanks to a spike in food prices. Growth estimates for Q2 will come in next month, but the Reserve Bank of India (RBI) expects GDP growth to moderate to 6.5%. A week into the second half of the



year, the Israel-Palestine conflict erupted and a spate of fresh dark clouds now hover over the economy.

How have experts reacted to recent events?

Economists feel a prolonged conflict in West Asia could push crude oil prices beyond India's comfort zone and if other countries join the fray, critical sea routes could face disruptions and spike transport and insurance costs. The government may not pass on higher petroleum prices to consumers ahead of critical elections, but producers' costs may still rise. Airlines, for instance, have been hiking fares in line with aviation turbine fuel costs. Moreover, higher fuel import bills could pose implications on the exchequer as oil marketing companies may need support for under-recoveries. Finance Minister Nirmala Sitharaman, in her first remarks since the strife in Gaza, said it has brought concerns about fuel, food security and supply chains back to the forefront. She flagged concerns about the impact of any disruptions on inflation in the near future. In subsequent comments, she has also emphasised the need to ensure that global food, fertilizer and fuel supplies did not become an "instrument of war and disruption".

The RBI Governor Shaktikanta Das, who chaired a monetary policy review hours before Hamas launched the first salvo in the conflict, summed up the emerging situation eloquently. "We all thought that the period of uncertainties is over, but as you would have seen in the last fortnight, new uncertainties have been thrown up while some that already existed, like oil prices and volatility in financial markets, have got more pronounced," he said last Friday. Among the new uncertainties, he listed the spurt in U.S. bond yields that hit a 16-year high this month and mixed global data points amid fears of "higher for longer" interest rates. A cut in India's interest rate is not on the cards, he emphasised. "Interest rates will remain high... how long... only time and the way the world is evolving, will tell." Higher interest rates can impact investment flows in markets like India.

Is there a shift in the assessment of risks for the economy?

The International Monetary Fund (IMF) raised its 2023-24 GDP growth estimate for India to 6.3% this month from 6.1% estimated earlier. This is just slightly below the 6.5% GDP uptick the Finance Ministry and the RBI have penned in for this year, following last year's 7.2% growth. In its monthly economic review report released last month, the Department of Economic Affairs (DEA) in the Finance Ministry said it was comfortable with the 6.5% hopes "with symmetric risks". Bright spots of corporate profitability, private sector capital formation, bank credit growth and construction sector activity offset the risks at the time. These included steadily climbing crude oil prices ("but no alarms yet") and an overdue global stock market correction, which it termed "an ever-present risk". The RBI, this month, also asserted that risks from the uneven monsoon, geopolitical tensions, global market volatility and economic slowdown, were "evenly balanced". The RBI expects GDP growth to slow to 6% in the current quarter, and further to 5.7% in January to March 2024 before picking up to 6.6% in Q1 of 2024-25. Governor Das has since exuded confidence in the overall macro fundamentals of the Indian economy, despite the uncertainties that have emerged this month.

Last Monday, in its latest economy review, the DEA noted that though domestic fundamentals are strong and improving, downside risks arise from global headwinds that have been compounded by recent developments in the Persian Gulf, and uncertainties in weather conditions due to El Niño effects. "Depending on how the situation develops, crude oil prices may push higher. Further, the relentless supply of U.S. Treasuries and continued restrictive monetary policy in the U.S. (with



further monetary policy tightening not ruled out) could cause financial conditions to be restrictive," it said. It was also prescient about the U.S. stock markets having a greater correction risk, which would have spillover effects on other markets. India's stock markets clocked six straight days of sharp declines before a marginal recovery was seen this Friday. The DEA has flagged a broader worry about fraught geopolitical conditions triggering a surge in risk aversion. "If these risks worsen and are sustained, they can affect economic activity in other countries, including India," it noted, even as it averred that India's growth story remained on track. Inflation had eased to 5% in September from a 15-month high of 7.4% in July and the department highlighted higher upticks in industrial capacity utilisation levels, private consumption and investment, retail loans extended for vehicles and housing as bright spots in its economic outlook. The report also cited 'optimistic' findings from RBI's forwarding-looking surveys on manufacturing, consumer confidence, employment and inflation expectations to stress all is well.

What are domestic factors to watch out for?

Inflation may have subsided last month, but could creep back up. The RBI, which expects average inflation of 5.4% through 2023-24, has penned in a 5.6% average uptick in prices for the October to December quarter and 5.2% for the first six months of 2024. While some vegetable prices have corrected, inflation in onions has shot up while for pulses and some cereals, prices are likely to stay high for a while. The IMF and World Bank expect inflation to average even higher at 5.5% and 5.9%, respectively. The RBI's preferred 4% inflation mark remains elusive as do prospects of interest rate cuts. This doesn't bode well for a sustained rise in consumption demand that is vital to revive private investments. A Bank of Baroda study on consumption trends shows that production of readymade garments, mobile phones, hair dye, shampoo, cookers and even ice cream, had declined between 12% to 20% in the first five months of this year. "Normally when inflation is high households tend to cut back on discretionary spending which is what is being seen today," it noted. With pent-up demand effects fading, the next couple of months will determine whether consumption has actually picked up, the Bank's economists said. Rural demand which has been lagging, will be important, and may come under more pressure if some crops' output is affected. Last but not the least, an economist from a rating firm said, the upcoming election season could imply some slowdown in public capex in infrastructure that revved up the economy in recent quarters.

SLOWING MOMENTUM

Latest data, including the official Index of Eight Core Industries for September and S&P Global's Purchasing Managers' Index (PMI) for the manufacturing sector for October, point to a palpable softening in economic momentum. The government's provisional figures for output across the key infrastructure industries, from cement and coal to steel and electricity, show the average year-on-year growth in production eased appreciably to a four-month low of 8.1% in September, from the 12.5% pace posted in August. The pace of expansion flagged across all but one of the eight sectors, with only fertilizers registering a quickening in growth from the preceding month as farmers stocked up on the key agricultural input ahead of the rabi season. Heavy rains in the final month of the southwest monsoon season, which resulted in 13% surplus precipitation for September, also likely contributed to dampening demand and output for cement, electricity and steel, all of which saw significant slowing in growth from double-digit paces in August. Sequentially, production in fact contracted across all the eight sectors, with the overall index declining 4.8% from August's level. Coal offered the silver lining: the year-on-year growth in output of the fuel



eased only slightly to a still robust 16.1% pace, from August's 17.9%, and posted just a 1.5% sequential contraction.

Independently, the more up-to-date survey-based manufacturing PMI data for October buttresses concerns that broader economic momentum may yet again be sliding for want of traction. The seasonally adjusted S&P Global India Manufacturing PMI signalled sectoral growth slid to an eight-month low last month, amid a weakening in demand, particularly for consumer goods. Factories saw new orders rise at the slowest pace in a year, with even international sales losing vigour. More worrying is the fact that less than 4% of the about 400 companies surveyed said they were adding staff, thus depressing job creation in manufacturing to the slowest level since April. Input cost inflation also accelerated. But factory gate inflation was considerably slower indicating that with demand uncertain, producers were forced to temper the pass-through of higher costs. With business confidence ebbing to a five-month low, the panellists cited rising inflation expectations as the key factor expected to dent demand and production growth over the next 12 months. And the advance estimates for lower kharif output, disconcertingly flag the fact that the farm sector may be able to offer little succour as rural incomes get hit. Policymakers have their task cut out to surmount the twin challenges of slowing growth and persistent inflation.

WITH HEALTHY GROWTH IN DIRECT TAX AND GST REVENUES, CENTRE'S FISCAL ARITHMETIC LOOKS MANAGEABLE

In the first four months of the ongoing financial year, the central government's gross tax revenues had been fairly subdued. This had raised concerns over its fiscal math. However, collections picked up sharply in August, driven by direct taxes. Recent data released by the Controller General of Accounts shows that this surge has continued thereafter. In September, gross tax collections grew by a healthy 15.8 per cent. As a consequence, the Union government's tax revenue has grown at a robust 16.3 per cent in the first half of the year. This is in sharp contrast to the Union budget which had factored in tax revenues to grow at around 10 per cent. These are encouraging signs.

The disaggregated data show that direct tax collections, which include both corporate and personal income tax, continue to grow at a healthy clip, with the former growing at 27 per cent in September, reflecting healthy advance tax inflows. Overall direct tax revenues have grown at 25 per cent in the first six months of the year, roughly half of the full year's target. On the indirect tax side too, revenue has been healthy. Data released on Wednesday showed that GST collections rose by 13.4 per cent in September. With this print, GST collections have now averaged at Rs 1.66 lakh crore per month during April-October 2023, up 11.4 per cent from Rs 1.49 lakh crore during April-October 2022. This sustained increase in collections is not only indicative of the underlying momentum in the economy, the pre-festive push, but also a tightening of the tax systems to reduce evasion. Excise collections though remain below last year's levels. On the non-tax side, the higher than budgeted transfer from the RBI will provide some cushion. However, the subdued proceeds from disinvestment remain a matter of concern. As against a target of Rs 61,000 crore, collections have so far only touched Rs 8,000 crore. Alongside, tax devolution to states continues to grow at a fairly brisk pace. Till September, the Centre had transferred Rs 4.55 lakh crore to states, up 21 per cent from last year. To meet the budget target, the government has to devolve Rs 5.66 lakh crore, roughly similar to that last year.

On the expenditure side, total central government spending was up 16 per cent in the first half of the year. Capital expenditure has continued to grow at a healthy pace, registering a growth of 29 per cent in September. In the first six months of the year, the Centre's capex has risen by a robust



43 per cent, touching almost half of its full-year target. While it is possible that expenditure on NREGA may end up exceeding the budget allocation, and that proceeds from disinvestment undershoot the target, higher tax and non-tax collections could provide some cushion. Considering these trends, the Centre's fiscal arithmetic looks manageable.

DIRECT LISTING ON FOREIGN EXCHANGES: WHAT DOES IT MEAN FOR INDIAN COMPANIES?

The government recently permitted certain Indian companies to directly list on select foreign stock exchanges, which will allow these companies to access global capital and boost capital outflows.

In a notification issued earlier this week, the Ministry of Corporate Affairs (MCA) said the provision, which was announced in the Companies (Amendment) Bill, 2020, came into effect on October 30.

In July, Finance Minister Nirmala Sitharaman had announced that the government had decided to enable listed and unlisted domestic companies to directly list their equity shares on the International Financial Services Centre (IFSC), Ahmedabad.

What did the Corporate Affairs Ministry say in its notification?

In its October 30 notification, the Ministry said: "In exercise of the powers conferred by sub-section (2) of section 1 of the Companies (Amendment) Act, 2020 (29 of 2020), the Central Government hereby appoints the 30th day of October 2023 as the date on which the provisions of section 5 of the said Act shall come into force."

The amendment empowered the central government to allow certain classes of public companies to list prescribed classes of securities in foreign jurisdictions. This essentially means certain classes of domestic public companies can be listed on prescribed foreign stock exchanges, including GIFT IFSC, Ahmedabad.

Source: Prime Database

Section 5 also allows the government to exempt such listing from certain procedural requirements (such as prospectus, share capital, beneficial ownership requirements, failure to distribute dividend), according to Manendra Singh, Partner, Economic Laws Practice.

How do companies currently list on foreign bourses?

Domestic listed companies would use depository receipts — American Depository Receipts (ADR) or Global Depository Receipts (GDR) — to list in the overseas market. Under this route, Indian companies wanting to get listed on foreign stock exchanges would give their shares to an Indian custodian, and depository receipts would be issued to foreign investors.

According to Prime Database, between 2008 and 2018, 109 companies raised Rs 51,847.72 crore through the ADRs/GDRs route. After 2018, none of the companies got listed overseas.

How will direct foreign listing benefit Indian companies?

With the new provision, domestic companies can tap foreign markets to raise funds. It will offer them better valuation and exposure to trade in foreign currency such as the dollar, Singh said. It



may also benefit the startup and unicorn community as another avenue to raise funds and increase their profile globally. It will also add to India's foreign exchange kitty.

"This allows Indian companies another medium of raising capital. It would also need them to meet governance norms at such specified jurisdictions. Over the years, the requirements of SEBI and the Indian stock exchanges have surpassed these concerns and this would no more be an issue," Yash Ashar, Partner & Head, Capital Markets, Cyril Amarchand Mangaldas, said.

Even on the accounting front, the Indian Accounting Standards (IndAS) are now aligned largely to globally accepted accounting norms, and that would also help Indian companies and avoid the time-consuming and costly preparations of accounts in the US Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS), he said.

What are the challenges involved in direct foreign listing?

According to Ashar, the likely challenge will be that relating to investors.

"Will global investors provide the same valuations as that in India? What would be the commercial benefits of these listings? These are the more important and relevant questions that Indian companies and their Boards would have to grapple with over the coming months and year," he said.

Experts said this week's MCA announcement is a first step for direct listing on foreign jurisdictions but more details, especially where and how they will be listed, are required.

"In terms of clarity, what is needed immediately is to understand (a) which classes of public companies can use this route, (b) what are the classes of securities (such as equity, preference, etc) which can be listed, (c) which are the foreign jurisdictions and permitted stock exchanges where such companies can list, (d) what are the exemptions offered to such companies in terms of procedural compliances," Singh said.

It will need to be seen if the government notifies GIFT City as one of those jurisdictions, he said.

SEBI ORDERS ON FINFLUENCERS: A BAD INFLUENCE

Last week, the Securities and Exchange Board of India barred Mohammad Nasiruddin Ansari, a financial influencer, from dealing in the securities market. The stock market regulator also ordered Ansari to pay back Rs 17.2 crore which he had allegedly made by luring clients through "misleading/false information" and "influencing" them to deal in securities.

This is, however, not a one-off. In May, P R Sundar, another financial influencer, settled a case with SEBI, agreeing to refrain from buying/selling securities for a year. The SEBI order in that case also required the payment of a settlement amount, and disgorgement of more than Rs 6 crore. These orders indicate the stock market regulator's determination to act against unregistered investment advisors, and reflect the hardening of norms for financial influencers.

Financial influencers, or finfluencers, are those who provide financial advice and recommendations on social media platforms to investors. This category of influencers has gained prominence in recent years, more so during the pandemic, as retail investor participation in the markets soared during this period. However, the explosion in this category of influencers has brought with it a host of issues. It attracted a set of self-styled experts, with little knowledge of the workings and intricacies of markets. In their desire to gain eyeballs, to get people to subscribe for



their services, and to monetise them, some of these influencers resort to exaggerated clickbait-y claims.

Following their advice has at times been to the detriment of novice investors. Concerns have also been voiced that these individuals, whose track record is often difficult to independently verify, have resorted to unethical means of pushing stocks down the throats of gullible investors. The incentive structures of these influencers, some of whom work on commissions, and their relationships with various brokerages, are also controversial.

The stock market regulator has been highlighting, and rightly so, the concerns surrounding influencers. It had issued a consultation paper with the objective “to restrict the association of Sebi registered intermediaries and regulated entities with unregistered influencers”. However, influencers can also play a role in the dissemination of financial education and advice to those not well versed in financial markets, products and services. Over the coming years, as the economy grows in size, as more and more individuals channel their money into the stock markets, ensuring the flow of accurate financial information, educating investors and ensuring their protection will be of critical importance.

WHY IDBI BANK HAS TAKEN MUMBAI METRO ONE TO BANKRUPTCY COURT

IDBI Bank has filed a petition under the Insolvency and Bankruptcy Code (IBC) against Mumbai Metro One Private Ltd (MMOPL) to recover dues of Rs 133.37 crore. This follows a similar move by State Bank of India (SBI) to recover around Rs 416.08 crore. MMOPL, a joint venture primarily owned by Reliance Infrastructure with the Mumbai Metropolitan Regional Development Authority, is facing financial difficulties, with liabilities reported at Rs 4,111.17 crore as per RInfra's Annual Report for FY2023. The company's net worth has eroded, and it has overdue obligations to lenders. MMOPL has proposed a one-time settlement for its debts, which is under discussion.

MMOPL has also been involved in a legal tussle with MMRDA over claims for damages due to project delays and additional costs from design changes, with claims amounting to Rs 1,766.25 crore currently under arbitration. The Versova-Andheri-Ghatkopar corridor, operated by MMOPL, was the first metro project in India awarded on a PPP basis and began operations in June 2014. The financial impact of the NCLT proceedings on the company is currently uncertain, pending the outcome and subsequent legal challenges.

UNDERSTANDING WORKER PRODUCTIVITY

The story so far:

Infosys founder N.R. Narayana Murthy sparked a debate last week by urging young Indians to work 70 hours per week, citing Japan and Germany as examples of countries that grew because their citizens worked harder and for longer hours to rebuild their nations in the aftermath of the Second World War. He further noted that India's worker productivity is one of the lowest in the world.

What is worker productivity? Is it the same as labour productivity?

The only conceptual difference between the two is that the 'work' in worker productivity describes mental activities while the 'work' in labour productivity is mostly associated with manual activities. Productivity of an activity is usually measured as the quantum of output value



per unit of labour (time) cost at a micro level. At a macro level, it is measured in terms of the labour-output ratio or change in Net Domestic Product (NDP) per worker in each sector (where working hours are assumed to be 8 hours per day).

However, in certain types of services, especially ones involving intellectual labour, measuring the value of the output independently is very difficult, so the income of workers is usually taken as proxies to suggest productivity. Therefore, the statement by Mr. Murthy, which conveys that by increasing the total number of working hours, productivity or the value of the quantum of work done per unit of labour (time) can increase, looks fallacious. The only way this can happen is if the additional quantum of work done and output value produced has no commensurate pay. While this may seem normal for someone who wishes to maximise profits, it can otherwise be seen as a repulsively crude appetite for increasing profits at the expense of the workers.

Productivity in a more sophisticated usage is an attribute not of time but of skill. Human capital (a more reductionist version of Human Development) including education, training, nutrition, health etc., enhances the ability of labour to become more productive, or churn out greater quantum of value within the same number of working hours. Based on this understanding, the reduction in the number of working hours does not hamper the value of output produced, but in turn enhances the leisure and quality of life of workers in real terms, while the value added to the economy could still be increasing, nominal wages remaining the same.

Is there a direct link between worker productivity and economic growth?

While an increase in productivity made through any sector is likely to affect the value added and the accumulation or growth in the economy, the relationship between the two could be quite complex.

If by prosperity we intend to suggest prosperity of the workers, this may or may not be true. In 1980, India's Gross Domestic Product was about \$200 billion, which by 2015 exceeded \$2,000 billion. However, in terms of the distribution of income across groups in India, Lucas Chancel and Thomas Piketty have shown that during 1980-2015, where the share in the national income of 40% of the middle income group and 50% of the low income group in India had decreased from 48% to 29% and 23% to 14% respectively, the top 10% income groups share had increased from 30% to 58%.

This effectively means that the income groups in the bottom 50% in India experienced an increase in their income from 1980 to 2015 by 90%, whereas income groups in the top 10% experienced an increase in income by 435%. The top 0.01% has had an increase of 1699% percent from 1980 to 2015 and the top 0.001% have had an increase of 2040%. Chancel and Piketty note that the increase in incomes or the prosperity of the richest people is not quite explained by their productivity. On the contrary, this prosperity is either linked to hereditary transfers of wealth upon which the rich are earning yields (he called this patrimonial capitalism) or to the 'super managerial' class who seem to be deciding their own exorbitant pay packages, quite arbitrarily, not related in any way to their productivity. While Mr. Murthy might have worked quite hard, the class he belongs to in general seems to be holding a value, which in no way is either linked to productivity or value contributions based on skill and effort. This delinking of productivity and rewards is in fact one of the worries about the legitimacy of the capitalist class order in contemporary times which Piketty expresses.



Does India have one of the 'lowest worker productivity' in the world?

As incomes are seen as a proxy for productivity, there is a fallacious inference about productivity of workers in India being low. The question as to why over the years, beginning with the 1980s, the share of wages and salaries have declined while the share of profits has increased, perhaps is linked to the informalisation of employment, labour laws and the development and regulation regime becoming unfavourable to workers.

Kronos Incorporated, a U.S based multi-national workforce management firm, has in fact observed that Indians are among the most hard working employees in the world. On the other hand, Picodi.com an international ecommerce platform has observed that India ranks one of the lowest in terms of average wages per month globally. Therefore, Mr. Murthy's statement does not seem to be backed by facts. It seems to be part of an effort to push further labour reforms unfavourable to the workers by creating a false narrative.

Interestingly, Mr. Narayana Murthy has found support from Sajjan Jindal, the Managing Director of JSW Steel. While the Chinese are producing steel and selling them at a 40% lower cost, Indian entrepreneurs in this sector, and the metal sector in general, are choosing to move out of higher end activities of manufacturing to the back-end activities of mining and smelting. Here it is the entrepreneurs who must take the blame for low productivity.

Does having a high informal labour pool complicate the calculation of worker productivity and its correlation to GDP?

Yes. Informal employment in both the unorganised as well as the organised sectors has been on the rise through the course of economic reforms. The dubious claim of increased formalisation has been limited only to bringing activities under the tax net. This has however had no impact on improving labour standards or working conditions.

Even in the formal manufacturing sector you find an overwhelming presence of Micro-Small-Medium Enterprises (MSME) which are labour intensive. Studies have also found that there is a systematic process of cost cutting through wage cutting in these enterprises. However, since high labour productivity combined with low wages fetch high profits, there can be no other explanation, but for exploitation of the workers, for why this segment becomes the preferred mode of investment. In fact, large number of large-scale corporations have been found to outsource and sub-contract production to these smaller units, in India as well as globally. This is true with the IT sector as well.

Are the comparisons of India's economy with those of Japan and Germany economies apt?

These comparisons don't seem to enable serious analysis. Japan and Germany are neither comparable in terms of the size and quality of labour force nor in terms of the nature of their technological trajectories or their socio-cultural and political structures. India presents a unique case and any arbitrary comparison would only lead to dubious analytical inferences and fallacious policy prescriptions. Enhancing social investments, focusing on exploring domestic consumption potential for increased productivity with a human centric assessment of development achievements is the way to a more sustainable and desirable outcome.



LIFE & SCIENCE

STUDIES PROVIDE INSIGHT INTO THE INTERNAL STRUCTURE OF MARS

Mars's liquid iron core is likely to be surrounded by a fully molten silicate layer, according to a pair of studies published in Nature. These results offer a new interpretation of the interior of Mars, suggesting its core is smaller and denser than previously proposed. Seismological study of Mars to understand the interior of the red planet was carried out in 2019. The InSight Mars Lander used an instrument called the Seismic Experiment for Interior Structure (SEIS) to record seismic waves passing through Mars's interior. Data from three years of quakes in Mars, including two seismic events caused by meteorite impacts, were used for the study.

Measurement analysis

The analysis of measurements from the NASA InSight lander's Seismic Experiment for Interior Structure (SEIS) project in 2021 suggested the presence of a large but low-density core, composed of liquid iron and lighter elements such as sulphur, carbon, oxygen and hydrogen.

Lighter elements

However, the result of the two studies published in Nature results suggest that the core has a higher proportion of lighter elements than is feasible according to estimates of the abundances of these elements early in Mars's formation history. Amir Khan from the Institute of Geochemistry and Petrology, ETH Zürich, Zurich, Switzerland and colleagues and Henri Samuel from Université Paris Cité, Institut de physique du globe de Paris, CNRS, Paris, and colleagues examined the latest batch of seismic signals in combination with first principles simulations and geophysical models to produce their estimates for the size and composition of the Martian core. The two studies found that the liquid iron-nickel core of Mars is surrounded by an approximately 150 km-thick layer of near-molten silicate rock, the top of which was previously misinterpreted as the surface of the core. This decrease in core radius implies a higher density than estimated in the earlier InSight study. These estimates can more easily be reconciled with our existing knowledge of chemical abundance on Mars.

"The molten state of this layer suggests that its temperature must be at least 2,000 Kelvin. This could be a sign that Mars had a turbulent interior following its formation, rather than a calmer one that more gently transported and shed heat to interplanetary space," Suzan van der Lee from North-western University, Evanston, Illinois, U.S., writes in an accompanying News and Views article.

DINO-KILLING ASTEROID KICKED UP MOUNTAINS OF DUST

It was, to put it mildly, a bad day on the earth when an asteroid smacked Mexico's Yucatan Peninsula 66 million years ago, causing a global calamity that erased three-quarters of the world's species and ended the age of dinosaurs.

The immediate effects included wildfires, quakes, a massive shockwave in the air, and huge standing waves in the seas. But the coup de grâce for many species may have been the climate catastrophe that unfolded in the following years as the skies were darkened by clouds of debris and temperatures plunged.



Researchers on October 30 revealed the potent role that dust from pulverised rock ejected into the atmosphere from the impact site may have played in driving extinctions, choking the atmosphere and blocking photosynthesis.

The total amount of dust, they calculated, was about 2,000 billion tonnes - exceeding 11-times the weight of Mt. Everest.

The researchers ran palaeoclimate simulations based on sediment unearthed at a North Dakota palaeontological site that preserved evidence of the post-impact conditions.

The simulations showed this fine-grained dust could have blocked photosynthesis for up to two years by rendering the atmosphere opaque to sunlight and remained in the atmosphere for 15 years, said planetary scientist Cem Berk Senel of the Royal Observatory of Belgium and Vrije Universiteit Brussel, lead author of the study published in the journal Nature Geoscience.

While prior research highlighted two other factors - sulphur released after the impact and soot from wildfires - this study indicated dust played a larger role than previously known.

The dust - silicate particles measuring about 0.8-8.0 micrometers - that formed a global cloud layer were spawned from the granite and gneiss rock pulverized in the violent impact that gouged the Yucatan's Chicxulub crater, 180 km wide and 20 km deep.

In the aftermath, the earth experienced a drop in surface temperatures of about 15 degrees Celsius.

"It was cold and dark for years," Vrije Universiteit Brussel planetary scientist and study co-author Philippe Claeys said.

Earth descended into an "impact winter," with global temperatures plummeting and primary productivity - the process land and aquatic plants and other organisms use to make food from inorganic sources - collapsing, causing a chain reaction of extinctions. As plants died, herbivores starved. Carnivores were left without prey and perished. In marine realms, the demise of tiny phytoplankton caused food webs to crash.

"While the sulphur stayed about eight to nine years, soot and silicate dust resided in the atmosphere for about 15 years after the impact," Royal Observatory of Belgium planetary scientist and study co-author Özgür Karatekin said.

THE GRAVITATIONAL CONSTANT

WHAT IS IT?

Any mass warps the fabric of space-time around itself. The more the mass, the more the warping. The force that an object feels when travelling along this warped path is called gravity. It tends to move the object towards the mass.

The strength of this force depends on the gravitational constant. Denoted by a 'G', it is a fundamental physical constant. It was first accurately determined by Henry Cavendish in 1797. G is an essential component of both Isaac Newton's law of universal gravitation and Albert Einstein's theory of general relativity.



In Newton's theory, the gravitational force between two objects is directly proportional to the product of their masses and inversely proportional to the square of the distance between them. G is the proportionality constant.

In Einstein's theory of general relativity, G appears in the equations that describe the curvature (or the 'warping') of spacetime in the presence of mass and energy. This theory provides a more accurate description of gravitation, particularly in extreme conditions, such as near massive celestial objects.

The precise value of G is crucial to understanding celestial mechanics and to determine the mass of celestial bodies. Yet its value has been determined only with an uncertainty of about 22 parts per million. Its precise determination remains a topic of ongoing research in the field of experimental physics.

AI SUMMIT: WHY NEW GLOBAL PACT ON TACKLING ARTIFICIAL INTELLIGENCE RISKS IS A BIG DEAL

Bletchley Park in Buckinghamshire near London was once the top-secret base of the codebreakers who cracked the German 'Enigma Code' that hastened the end of World War II. This symbolism was evidently a reason why it was chosen to host the world's first ever Artificial Intelligence (AI) Safety Summit.

The two-day November 1-2 summit that has drawn in global leaders, computer scientists, and tech executives began with a bang, with a pioneering agreement wrapped up on the first day, which resolved to establish "a shared understanding of the opportunities and risks posed by frontier AI". Twenty-eight major countries including the United States, China, Japan, the United Kingdom, France, and India, and the European Union agreed to sign on a declaration saying global action is needed to tackle the potential risks of AI.

The Bletchley Park Declaration

"Frontier AI" is defined as highly capable foundation generative AI models that could possess dangerous capabilities that can pose severe risks to public safety.

The declaration, which was also endorsed by Brazil, Ireland, Kenya, Saudi Arabia, Nigeria, and the United Arab Emirates, incorporates an acknowledgment of the substantial risks from potential intentional misuse or unintended issues of control of frontier AI — especially cybersecurity, biotechnology, and disinformation risks, according to the UK government, the summit host.

The declaration noted the "potential for serious, even catastrophic, harm, either deliberate or unintentional, stemming from the most significant capabilities of these AI models", as well as risks beyond frontier AI, including those of bias and privacy.

These risks are "best addressed through international cooperation", the Bletchley Park Declaration said. As part of the agreement on international collaboration on frontier AI safety, South Korea will co-host a mini virtual AI summit in the next six months, and France will host the next in-person summit within a year from now.

President Biden's Executive Order

The declaration has come days after US President Joe Biden issued an executive order aimed at safeguarding against threats posed by AI, and exerting oversight over safety benchmarks used by

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



companies to evaluate generative AI bots such as ChatGPT and Google Bard. The order was seen as a vital first step taken by the Biden Administration to regulate rapidly-advancing AI technology. White House Deputy Chief of Staff Bruce Reed said the batch of reforms amounted to “the strongest set of actions any government in the world has ever taken on AI safety, security, and trust”.

The order, issued on Monday, requires AI companies to share the results of tests of their newer products with the federal government before making the new capabilities available to consumers. The safety tests undertaken by developers, known as “red teaming”, are aimed at ensuring that new products do not pose a threat to users or the public at large. Following the order, the federal government is empowered to force a developer to tweak or abandon a product or initiative. “These measures will ensure AI systems are safe, secure, and trustworthy before companies make them public,” the White House said.

Thus, a new rule seeks to codify the use of watermarks that alert consumers to a product enabled by AI, which could potentially limit the threat posed by content such as deepfakes. Another standard asks biotechnology firms to take appropriate precautions when using AI to create or manipulate biological material.

While the industry guidance has been prescribed more as suggestions rather than binding requirements — thus giving developers and firms elbow room to work around some of the recommendations — American government agencies, such as the Departments of Energy or Homeland Security, have been explicitly directed to implement changes in their use of AI, thus creating industry best practices that the administration expects the private sector to also embrace.

Different Countries, Varied Approaches

In fact, policymakers across jurisdictions have stepped up regulatory scrutiny of generative AI tools, prompted by ChatGPT’s explosive launch. The concerns lie under three broad heads: privacy, system bias, and violation of intellectual property rights. But the policy response has varied.

The EU has taken a tough line, proposing to bring in a new AI Act that classifies artificial intelligence according to use-case scenarios, based broadly on the degree of invasiveness and risk. The UK is at the other end of the spectrum, with a decidedly “light-touch” approach that aims to foster, and not stifle, innovation in this field.

The US approach is seen to be somewhere in between, with Monday’s executive order setting the stage for defining an AI regulation rulebook that will ostensibly build on the Blueprint for an AI Bill of Rights unveiled by the White House Office of Science and Technology Policy in October 2022.

China has released its own set of measures to regulate AI.

All of this comes in the wake of calls this April by tech leaders Elon Musk (of X, SpaceX, and Tesla), Apple co-founder Steve Wozniak, and more than 15,000 others for a six-month pause in AI development. Labs are in an “out-of-control race” to develop systems that no one can fully control, the tech leaders warned.

Musk was in attendance at Bletchley Park, where he warned that AI is “one of the biggest threats” and an “existential risk” to humans, who face being outsmarted by machines for the first time.



India's Change in Stance

Union Minister of State for IT Rajeew Chandrasekhar, who is representing India at Bletchley Park, said at the opening plenary session that the weaponisation represented by social media must be overcome, and steps should be taken to ensure AI represents safety and trust.

“We are very clear that AI represents a big opportunity for us. We are extremely clear in our minds about what we need to do in terms of mitigating all of the other downsides that AI and, indeed, any emerging technology can or will represent we look at AI and, indeed, technology, in general, through the prism of openness, safety and trust and accountability,” he said.

India has been progressively pushing the envelope on AI regulation. On August 29, less than two weeks before the G20 Leaders Summit in New Delhi, Prime Minister Narendra Modi had called for a global framework on the expansion of “ethical” AI tools. This statement put a stamp of approval at the highest level on the shift in New Delhi’s position from not considering any legal intervention on regulating AI in the country to a move in the direction of actively formulating regulations based on a “risk-based, user-harm” approach.

Part of this shift was reflected in a consultation paper floated by the apex telecommunications regulator Telecom Regulatory Authority of India (TRAI) earlier in July, which said that the Centre should set up a domestic statutory authority to regulate AI in India through the lens of a “risk-based framework”, while also calling for collaborations with international agencies and governments of other countries for forming a global agency for the “responsible use” of AI.

This also came amid indications that Centre was looking to draw a clear distinction between different types of online intermediaries, including AI-based platforms, and issue-specific regulations for each of these intermediaries in a fresh legislation called the Digital India Bill that is expected to replace the Information Technology Act, 2000.

In April, the Ministry of Electronics and IT had said that it is not considering any law to regulate the AI sector, with Union IT minister Ashwini Vaishnaw admitting that though AI “had ethical concerns and associated risks”, it had proven to be an enabler of the digital and innovation ecosystem. “The NITI Aayog has published a series of papers on Responsible AI for All. However, the government is not considering bringing a law or regulating the growth of artificial intelligence in the country,” Vaishnaw had said in a written response in Lok Sabha this Budget Session.

TRAI’s July recommendation on forming an international body for responsible AI was broadly in line with an approach enunciated by Sam Altman, the founder of OpenAI — the company behind ChatGPT — who had called for an international regulatory body for AI, akin to that overseeing nuclear non-proliferation.

THE ACT OF PHOTOCOPYING: ITS ORIGINS, WORKING AND WIDE-RANGING IMPACT

What is photocopying?

Photocopying refers to various methods used to duplicate printed material, with the most common method being xerography—a dry process that avoids the use of liquid chemicals. Xerography works by using a photoconductive surface that is charged and then exposed to light to reflect the image of the document to be copied. Toner, which is positively charged, adheres to the negatively charged areas, and this pattern is then transferred to paper. The toner is heated to fuse with the paper, producing the photocopy. This technology, invented by Chester F. Carlson,



has evolved since the 1930s and became widely used with the Xerox 914 and 813 models. Xerography has had a significant impact on the world: it has been used to prevent banknote counterfeiting, has played a role in debates over copyright and surveillance, and has influenced art by allowing the reproduction of materials that bypass traditional gatekeeping, fostering a vibrant arts scene.

WHY HAVE 33 US STATES SUED META?

Dozens of US states have sued Instagram and Facebook's parent company Meta, accusing the tech giant of contributing to the youth mental health crisis through the addictive nature of its social media platforms.

In a complaint, the attorneys general of 33 US states, including California and New York, said Meta repeatedly "misled" the public about the dangers of its platforms, and knowingly induced young children and teenagers into addictive and compulsive social media use.

The lawsuit comes two years after former Meta employee Frances Haugen emerged as a whistleblower with allegations that the company was knowingly preying on vulnerable young people to boost profits. She had revealed an internal study at Instagram which found that many young girls using the app were suffering from depression and anxiety around body-image issues.

What has the lawsuit alleged?

While a majority of the lawsuit has been redacted from public view, it specifically names features such as likes, alerts and filters that are "known to promote young users' body dysmorphia". Body dysmorphia leads a person to spend a lot of time worrying about flaws in their appearance, and often these perceived flaws are unnoticeable to others.

"Meta has harnessed powerful and unprecedented technologies to entice, engage, and ultimately ensnare youth and teens," the suit said. "It has concealed the ways in which these platforms exploit and manipulate the most vulnerable consumers: teenagers and children. And it has ignored the sweeping damage these platforms have caused to the mental and physical health of our nation's youth."

Meta has contested the allegations. "We share the attorneys general's commitment to providing teens with safe, positive experiences online, and have already introduced more than 30 tools to support teens and their families," Liza Crenshaw, Meta spokesperson, said in a statement responding to the lawsuit. "We're disappointed that instead of working productively with companies across the industry to create clear, age-appropriate standards for the many apps teens use, the attorneys general have chosen this path."

What had Frances Haugen revealed about Instagram's impact on mental health?

In the lawsuit, Haugen's testimony to Congress has been cited. In 2021, she came out with a set of blockbuster internal documents from Meta. One of them was an internal survey which Instagram had carried out to find the app's impact on teens in the US and UK.

"Thirty-two percent of teen girls said that when they felt bad about their bodies, Instagram made them feel worse," was one of the findings of the survey. Teenagers also tend to blame their usage of Instagram for increased rates of anxiety and depression, it had found.



Significantly, one presentation showed that 13 percent of British users and six percent of users in the US connected their desire to kill themselves to their usage of Instagram, as per the survey.

How does social media impact mental health?

According to the results of a survey conducted by the Pew Research Center, which were published in April 2021, in the US, the majority of 18-29 year olds said they use Instagram (71 percent) or Snapchat (65 percent). Half of the respondents in this age group said that they use TikTok.

There is plenty of research that has shown that social media use can have an adverse impact on users. According to a study published in the journal Behaviour & Information Technology earlier this year, researchers found that increased passive social media use was linked to elevated levels of anxiety, depression and stress.

“This finding highlights the positive aspects of active non-social media use, such as public content sharing, that allows users to receive feedback, such as likes and positive comments to their posts, but without the demands of direct social interactions. In other words, active non-social media users do not experience the additional pressures from constantly participating or initiating conversations with other people online which can be mentally exhausting,” said Constantina Panourgia, corresponding author of the paper, in a press statement.

LITTLE MONEY BEING MADE AVAILABLE TO DEVELOPING NATIONS FOR CLIMATE ADAPTATION, NEED AT LEAST TEN TIMES MORE: UN REPORT

Despite rapidly increasing climate risks which necessitate greater efforts to adapt, the money being made available to developing countries for adaptation measures has been declining, and nowhere close to the scale of requirement, a new report by the United Nations has revealed.

In 2021, just about \$21 billion went to developing countries for adaptation projects, which was down about 15 per cent from the previous years. Developing countries, together, need at least \$215 billion every year this decade to carry out meaningful adaptation work, the latest edition of Adaptation Gap Report, released by UN Environment Programme, says.

The Adaptation Gap Report is an annual publication from UNEP, released just ahead of the year-ending climate change conference, and presents the global situation of adaptation to climate change. This year’s report focuses on adaptation finance, or the availability of money to carry out the adaptation projects.

Since there is no way to stop the unfolding impacts of climate change in the short run, adaptation is crucial to saving lives, livelihoods and ecosystems, especially in developing and most vulnerable countries with low resilience. Depending on their specific needs, countries have been taking a range of adaptation measures. These can be in the form of strengthening of coastlines, or building of sea-walls especially in island countries, experiments with newer temperature-resistant food crops, creation of climate-resilient infrastructure, securing sources of water, or a whole lot of other similar efforts that help the local populations cope better with rising temperatures and its impacts.

All these efforts require money. Under the international climate change architecture, developed countries are mandated to provide money, and technology, to help the developing countries adapt to climate change. Developing countries can do whatever they can with their own resources, but are entitled to seek international help for financing their projects.



Most of the developing countries have listed their adaptation requirements in their climate action plans, called Nationally Determined Contributions or NDCs. The NDCs seek to document every country's 'contribution' to the global fight against climate change.

The combined requirement put forward by the developing countries far exceeds the money that is currently available.

The latest assessment by UNEF in the Adaptation Gap Report says the gap between requirement and availability was only increasing.

Efforts are being made to increase the finance flows, not just for adaptation, but for all other kinds of climate needs, together called climate finance. Developed countries had promised, way back in 2009, to mobilise at least USD 100 billion in climate finance every year from 2020 but even three years after the deadline, that amount has not been realised. In the meanwhile, the need for climate finance has skyrocketed and is now assessed to be in trillions of dollars every year.

At the Glasgow climate conference in 2021, the developed countries had committed themselves to double the money for adaptation. Separately, there is also an agreement that a new climate financing goal, over and above USD 100 billion every year, would be set by 2025.

But the Adaptation Gap Report suggests that the current ambition on raising climate finance would just not be enough.

It identifies seven ways to bridge the adaptation gap, which include an increase in international finance flows, and greater domestic mobilisation of resources. Besides these, it calls for a reform of global financial architecture, to ensure greater and easier access to finance for climate-related purposes from multilateral agencies the World Bank or the IMF. This is something that is being intensely discussed for the last few years after it has become evident that current levels of international financial flows for fighting climate change are woefully inadequate, and existing regulations too rigid for raising more resources for climate-related projects.

The Adaptation Gap Report is an important input in the discussions at the annual climate change conference that is being held in Dubai this year.

LOSSES FROM EXTREME EVENTS OVER 31 YEARS WERE \$3.8 TRILLION

Disaster events are not only becoming more frequent and severe but their impact is also expected to worsen. The year 2023 brought an end to the warmest decade on record, marked by unprecedented extreme weather events and large-scale disasters. These catastrophes were worsened by ongoing conflicts and the COVID-19 pandemic.

A report by the Food and Agriculture Organization titled 'The Impact of Disaster on Agriculture and Food Security' found that the frequency of extreme disaster events has risen significantly over the past 50 years. The 1970s saw approximately 100 disaster events per year. In the last 20 years, that number went up to about 400, globally (Chart 1).

Agricultural activities and livelihoods rely heavily on environmental conditions, natural resources, and ecosystems. Globally, the agriculture sector faces growing threats from hazards such as flooding, water scarcity, drought, and environmental degradation. For instance, in Pakistan, exceptional monsoon rainfalls in 2022 led to nearly \$4 billion in damages to the



agricultural sector. In the U.S., the National Oceanic and Atmospheric Administration estimated over \$21.4 billion in crop and rangeland losses in 2022.

It reports that droughts have caused the most damage to agriculture, with over 65% of losses, while floods, storms, cyclones, and volcanic activities each contributed to about 20% of the damage. Despite the lack of systematic data collection on disaster-induced losses, secondary sources like EM-DAT and FAOSTAT were used to estimate these impacts, revealing a gradual increase in losses over time. The total estimated cost of extreme events to agriculture since 1991 is about \$3.8 trillion, or an average of \$123 billion annually. The study found that losses in cereals, fruits and vegetables, and meats, including dairy and eggs, have been rising, with cereals seeing an average annual loss of 69 million tonnes. Regionally, Asia faced the most economic losses at 45%, with Africa, Europe, and the Americas experiencing similar levels, and Oceania the least. While high-income and middle-income countries reported higher absolute losses, low-income countries and Small Island Developing States had lower absolute losses but suffered greater relative losses when compared to their agricultural value added.

DEVELOPED COUNTRIES TO OVERSHOOT CARBON EMISSIONS GOAL, SAYS STUDY

Developed countries — responsible for three-fourths of existing carbon emissions — will end up emitting 38% more carbon in 2030 than they have committed to, going by current trajectories, shows a study published last week by the Delhi-based think tank Council for Energy Environment and Water (CEEW).

The study, which comes ahead of the 28th Conference of Parties (COP-28) of the UN Framework Convention on Climate Change to be held in Dubai in November and December, shows that 83% of this overshoot will be caused by the U.S., Russia, and the European Union.

At COP-28, countries are expected to give an account of their Nationally Determined Contributions (NDCs), which are their commitments to the UN on emission cuts.

The CEEW study noted that the NDCs of developed countries already fall short of the global average reduction of emissions to 43% below 2019 levels that is needed to keep temperatures from rising above 1.5 degrees Celsius. Instead, developed countries' collective NDCs only amount to a 36% cut.

For a fighting chance at keeping warming below critical tipping points, decades of negotiations have obliged developed countries to lead global efforts to reduce greenhouse gas emissions with legally binding targets.

Collectively, developed countries were to reduce emissions by 5% from their 1990 levels between 2008 and 2012, and by 18% during 2013 to 2020.

Several countries have committed to achieving net zero carbon emissions by 2050. Doing so would require steady measurable cuts every decade until that year. As an intermediate objective, countries presented data to the UN on their projected cuts until 2030. To keep temperatures below 1.5 degrees Celsius, developed countries need to cut emissions to 43% below their 2019 level. However, the CEEW study found that based on their current emissions trajectories, their cuts would likely amount to only 11% by 2030.



Except for two countries — Belarus and Norway — none of the developed countries seem to be on the path to meet their 2030 targets, though Japan and Kazakhstan are close, and are expected to miss their targets by only a single percentage point.

WAS TURKIYE EARTHQUAKE DUE TO INTERRUPTED ‘CHAT’ BETWEEN FAULT LINES?

On February 6, 2023, Turkey and Syria were hit by two massive earthquakes, resulting in a death toll of 50,000, over a hundred thousand injuries, and significant destruction of property, including 3.45 lakh apartments. Although earthquakes are anticipated in Turkey due to its location on fault lines, the scale of these quakes was unexpected. A study published in Science detailed the complex interaction of tectonic forces that caused these earthquakes, providing new insights into their power and implications for future forecasting. The earthquakes occurred along the East and North Anatolian Fault Lines and involved a "cascade of ruptures" due to unusual interactions between fault lines, leading to extraordinary damage.

The first quake, with a magnitude of 7.8, struck near Gaziantep, and the second, with a magnitude of 7.7, occurred approximately 200 km north. These were the strongest quakes in Turkey in over two millennia, causing significant damage along the East Anatolian Fault.

The study involved rapid data gathering and analysis post-disaster, utilizing satellite data, GPS records, and supercomputer simulations to reconstruct the earthquakes' development. Two key methods used were kinematic slip inversion, to understand fault movements, and fault-property modeling, to predict earthquake spread and compare with real data.

The research not only advances scientific understanding but also has policy implications, highlighting the importance of enforcing building codes to mitigate disaster risks. The Turkish buildings' failure to adhere strictly to these codes has been cited as a factor in the scale of the disaster. The emotional toll on researchers, who worked amidst the devastation, underscores the human impact of such natural disasters and the need for improvements in both scientific forecasting and policy enforcement.

CATS HAVE NEARLY 300 FACIAL EXPRESSIONS. CAN WE FINALLY UNDERSTAND THEM?

For centuries, cats have been among human beings' closest companions. So, it was about time someone came along who could decode what exactly is going on in the minds of these furry little despots. Do they really want you to get up from that comfortable chair and open the door, or are they simply messing with you and will, as soon as you've closed the door, demand to be let in again? And do they really see something when they suddenly stare fixedly over your shoulder — when you know for certain that there is no one else in the house — or is this something that, in a human context, would be referred to as a "mind game"?

Ailurophiles would be happy to hear of a recent study by UCLA researchers, which claims to have cracked the facial code of cats. They've tallied 276 different feline facial expressions, with 45 per cent being "distinctly friendly", 37 per cent being "distinctly aggressive" and 18 per cent being "ambiguous". A noteworthy finding of the study is that cats may have picked up these facial cues from their human companions. This wouldn't be the only feline behavioural feature that has evolved as a response to their long association with humans. It has been argued that the meow is reserved for communicating with humans — cats usually "talk" to each other using non-vocal cues, involving their posture and tails — and may have developed as an imitation of a baby's cry (a sound few humans can ignore).



Animal behaviourists hope that the findings can be used to develop an app to help cat parents better understand the subtle cues of their beloved companions. That, as anyone who has lived with a cat can attest, would be a significant achievement. Because whatever else one might call a cat — Simba, Fluffy, Leo, Mr Mittens — inscrutability is its true name.

WHAT ANIMALS HAVE THAT HUMANS LACK

One major reason why we get into misunderstandings with animals is that we do not take into account the way they see or interpret the world – which may be hugely different to the way that we do. How many times have you rolled your eyes and dragged your dog away from a tree or post, which he or she has insisted on sniffing – and walking around for an eternity – when patently there is nothing to be seen there? Exasperating, isn't it?

Not for the dog. While our primary sense working is vision, for the dog it is smell – and we alas, don't have a very good sense of smell. Oh yes, we may get a whiff of a dog's pee from the spot and wrinkle up our noses, but for the dog it's like surfing the net. For the dog, scent works better than sight. So, he or she, while sniffing around, is doing the equivalent of you checking your messages and e-mail and social media and surfing the net. He or she will know which other dog has been around, who is going out with whom, what they last ate, which dog is wearing which heavenly perfume, and if there's a new pup on the block... When the dog is done with sniffing it will leave its own message on the spot, as a reply: 'Welcome! You smell divine, when can we meet?!' or 'Get lost loser, this neighbourhood ain't big enough for the two of us!' And by pulling him or her away from the spot, you're doing the equivalent of snatching someone's smartphone away from them – or having your smartphone snatched away by someone, while you were in the midst of scrolling or messaging or taking a selfie or being made to shut down your laptop without having pressed Ctrl S.

We have five senses, though scientists are now saying we have more than that. There is for example proprioception – the awareness of our own body, which is not the same as the sense of touch, and equilibrioception, the sense of balance involving touch and vision. And each living creature is blessed with all or some of them – but not all of them work as efficiently as each other. In the animal kingdom, those sets of senses that are vital to the survival of the creature are the ones that develop the most – often, at the cost of others. These are the senses through which they perceive the world around them, blocking out or being unaware of the others because they are not relevant to their way of life. Sometimes, they even mix and merge with each other, so you cannot clearly say that hey, this is taste at work, or say smell or maybe an entirely different sense. A rattlesnake can sense the heat from its potential victim, but this is detected by the reptile's visual centre, so is this a part of its sense of vision or something new? This makes it difficult to make clear-cut divisions.

There is far too much information pouring in from the outside world for any living creature to be able to process at any one time: there are photons or light, there are sound waves (basically pressure waves), there are electrical fields, there's the earth's magnetic field, and there are molecules of scent wafting around. Any creature can only receive and make sense of a few of them: and through these, interprets and experiences its world. In 1909, a Baltic-German zoologist called Jakob von Uexkull coined the word 'Umwelt' for this, which in German means 'environment'. We have our own Umwelt, with which we perceive the world around us. Our sense of vision is excellent, hearing is good, smell, not so good, taste not bad (though some folks are pretty tasteless!) and touch, fairly sensitive.



Animals may score higher or lower than we do depending on their survival needs – their Umwelt is different to ours and in order to understand them we need to know how they perceive their world. They may even have senses that we lack entirely: like that of sensing an electrical field – something sharks have evolved to an astonishing degree. Migratory birds sense the earth's magnetic field and use it to set course while on their journeys, we can only tell north from south by looking at a compass or the position of the sun. But then again, they need it, we do not. Dogs, as we have seen, can sniff out and follow odours much better than we can – and their noses have evolved to do so. Even while exhaling, a dog's nose is still vacuuming in a stream of scent molecules from its corners non-stop, so that the flow of scent information it receives is never interrupted or blown away by the exhalation. Our sense of hearing is good, but not a patch on that of the barn owl's that can pick up and pin down the faintest rustle from a scurrying rat several meters away.

In order to understand animals, we must have an idea of what their 'Umwelt' toolkit consists of and how sophisticated it may be and that can only happen after long periods of study and observation. Usually when we refer to 'anthropomorphism' we imply the transferring of human feelings and emotions to animals – and this makes scientists shudder. But what they're now saying is that a more dangerous form of anthropomorphism is the kind where we fail to take into account the animals' 'Umwelt' and use ours as a measuring stick instead. We have to see the world through their eyes, through the senses they use, through their point of view.

WHO POST: INDIA TO CHOOSE BANGLADESH OR NEPAL NOMINEE

India, along with other South Asian and South East Asian countries, will choose between candidates from Bangladesh and Nepal for the post of Regional Director of the World Health Organization (WHO), bringing a bitterly fought campaign to an end.

The vote will take place on November 1, the third day of the 76th session of the WHO Regional Committee for South-East Asia being hosted by Union Health Minister Mansukh Mandaviya in Delhi.

The nominees are Saima Wazed, daughter of Bangladesh Prime Minister Sheikh Hasina, and Shambhu Prasad Acharya, public health veteran from Nepal and WHO senior official. The candidates will need six votes to win the contest. Ten of the 11 member countries — Bangladesh, Bhutan, DPR (North) Korea, India, Indonesia, Maldives, Nepal, Sri Lanka, Thailand, Timor-Leste — will take part in the vote. The countries are being mostly represented by their Health Ministers.

Myanmar, where the regime is under sanctions for the coup in 2020, has not sent a delegation to the meeting, while North Korea is being represented by its Ambassador to India.

While the campaign for the coveted position saw a heated campaign between India's two neighbours, including officials levelling charges of "nepotism" and "sexism" at each other, the candidates themselves shared a "selfie" photograph together on social media at the start of the WHO session.

Ahead of the election, both sides expressed confidence that they had the support of the majority of countries.

Key topics

Accelerating prevention and control of cardiovascular diseases, ending neglected tropical diseases, and regional health security, are among the key issues to be discussed. A ministerial



roundtable will be held on strengthening primary healthcare as a key element towards achieving universal health coverage, noted the regional office.

Milestones reached

Giving an overview of the health issues in the region, the WHO office notes that this area is home to more than two billion people, and since 2014, the region has eliminated polio and maternal and neonatal tetanus. Four countries — Bhutan, the Maldives, Sri Lanka and Timor-Leste — have eliminated measles and rubella, one of the eight flagship priorities.

Prioritising elimination of neglected tropical diseases, four countries — the Maldives, Sri Lanka, Thailand, and Bangladesh — have eliminated lymphatic filariasis, while Nepal and Myanmar eliminated trachoma, and India was verified yaws-free. Additionally, Sri Lanka and the Maldives eliminated malaria, while Thailand, the Maldives and Sri Lanka eliminated mother-to-child transmission of syphilis and HIV. Bangladesh, Bhutan, Nepal and Thailand achieved hepatitis B control.

Focusing on accelerating reduction of maternal, neonatal and under-5 mortality, the region recorded a 68.5% reduction in maternal mortality between 2000 and 2020, a 45% reduction in under-5 mortality and a 39% reduction in neonatal mortality during the period. Five countries — South Korea, Indonesia, the Maldives, Sri Lanka and Thailand — have achieved 2030 SDG (Sustainable Development Goals) targets of reducing under-5 mortality and neonatal mortality.

THE REASON FOR FALLING FERTILITY LEVELS

Fertility levels have dropped drastically across the world in recent decades, particularly in developed Asian countries such as Japan, South Korea and Singapore. A common reason cited for falling fertility levels is the rise in living costs, which makes it hard for people to afford many children. The truth, however, is that people across the world today enjoy higher living standards than ever before, yet have far fewer children than their ancestors who were much poorer. In “When social status gets in the way of reproduction in modern settings,” Jose C. Yong, Amy J. Lim and Norman P. Li argue that evolutionary mismatch may be the reason behind falling fertility levels despite the rise in living standards over time.

Modern times, old habits

Evolutionary mismatch refers to the phenomenon wherein traits that worked to the favour of an organism’s survival in the past become disadvantageous to survival chances in modern times.

The researchers note that human beings evolved to seek social status because it improved their access to resources, and thereby their ability to attract mates of the opposite sex and produce offspring bearing their genes. Such status seeking behaviour, while it worked well to improve the survival or reproductive success of people in the past, may be working against them in modern settings, they argue. In ancient hunter gatherer societies, which were egalitarian in nature, gaining status did not require hoarding more resources than others but rather depended on one’s contribution to the group. And since these groups were small in size and family-based, fierce competition to seek social status was discouraged. In such an environment, while there was still competition for higher social status, the cost of such status seeking behaviour was kept minimal by the social setting.



In modern societies, individuals exhibit their social status mainly through the hoarding of more resources. And unlike primitive societies in which individuals had to compete against only a small group of people, people today have to compete for higher social status against a much larger pool characterised by extreme wealth disparities. This can have adverse consequences.

The authors cite the example of East Asian countries today with extremely low fertility levels where people may ironically enjoy an abundance of resources yet choose to delay or permanently stall reproduction because they want to compete for higher social status. Education, career and wealth are common markers of status in East Asian societies, and people in these societies are found by the researchers to value social status more than those in the West. This leads to over-investment in status seeking and underinvestment in reproduction.

It should also be noted that the perceived cost of raising children can rise as people compete for social status based on resources. Take the case of educating children. Even though average education may be sufficient to impart enough skills to children, parents may opt for higher degrees that are unnecessary simply because these degrees offer better social status to their children. Parents may also prefer expensive schools for kids because they offer social status. This 'rat race' to gain higher social status, the researchers argue, can compromise reproduction.

HAEMOGLOBIN ISN'T USED ONLY IN BLOOD, SCIENTISTS DISCOVER

Textbooks have said for decades that haemoglobin is found in the red blood cells (RBCs), that it makes blood red, carries oxygen, and is essential for our survival.

A new and serendipitous discovery has revealed that haemoglobin isn't used by RBCs alone. In a study published in Nature, scientists from China have reported that chondrocytes – cells that make cartilage, the connecting tissue between bones – also make haemoglobin and seem to depend on it for their survival.

'Haemoglobin bodies'

Feng Zhang, a pathologist in the Fourth Military Medical University in China, had been working on bone development since 2010. In 2017, when he was studying growth plates –cartilaginous tissue at the end of certain long bones that allow the bones to become longer –he stumbled upon a few spherical blob-like structures. They seemed to bear an uncanny resemblance to RBCs, and they contained haemoglobin.

Dr. Zhang then teamed up with Quiang Sun at the Beijing Institute of Biotechnology and used advanced microscopy techniques to investigate further.

Dr. Zhang ascertained that the chondrocytes within the growth plates of newborn mice were not only producing large amounts of haemoglobin, but also that it was coalescing and forming large blobs without a membrane.

The scientists called these blobs haemoglobin bodies, or Hedy.

The haemoglobin does something

Now that they knew chondrocytes were making haemoglobin bodies, the question was: were the Hedy functional? That is, did they actually do something? To test this, the scientists used genetically modified mice, in this case mice in which the gene making haemoglobin had been removed. These mice produced almost no haemoglobin molecules and they died as embryos. But



it turned out that if one looked closely at the growth plate cartilage tissue from these mice, most of the chondrocytes were dying.

Removing the gene that made haemoglobin specifically in the cartilage tissue also resulted in the same outcome: cell death among the chondrocytes. It was clear that Hedy was essential for the chondrocytes to live.

In RBCs, haemoglobin carries oxygen and makes sure that different parts of the body receive the oxygen to function correctly. The scientists conducted a series of experiments to check whether haemoglobin also carries oxygen in chondrocytes. First, they checked if the cartilage cells showed signs of stress before dying when haemoglobin molecules were absent. They focused on a special type of stress called hypoxic stress, caused by low-oxygen conditions. And indeed they did: cartilage that didn't contain haemoglobin showed signs of hypoxic stress.

An oxygen store

Now they knew that the absence of haemoglobin caused the chondrocytes to go through some sort of low-oxygen stress. They then wanted to see how normal and haemoglobin-free chondrocytes behaved when there is little oxygen in the cells' environment. The researchers proceeded to test the cells in a low-oxygen, or hypoxic, environment. In the presence of haemoglobin, the cells seemed to release more oxygen. But in the absence of haemoglobin, the chondrocytes started dying.

This further confirmed their hunch that the haemoglobin in the chondrocytes was most likely storing oxygen and supplying it to the cells when required.

"What's really interesting about this paper is that they picked up on this unusual finding and delved deep into its aspects," said Noriaki Ono, a bone biologist at the University of Texas Health Science Center at Houston. He wasn't involved in the study.

Haemoglobin in other places

In a developing growth plate, where oxygen is limited due to a lack of blood supply to the region, the chondrocytes still manage to thrive. Based on the scientists' findings, it's the haemoglobin molecules that manage to bring them the oxygen they need to survive. "What surprised me the most was that cartilage tissue synthesised a large amount of hemoglobin to cope with hypoxic stress," Dr. Zhang told this writer by email.

A 2003 study had shown that chondrocytes adapt to low oxygen by, among other things, using an alternate pathway to break down sugars to release energy – one that doesn't require oxygen. This study shed light on a different mechanism with which chondrocytes dealt with reduced oxygen supply.

The scientists also found that cartilage in regions outside the growth plate, like the one in the ribs or the spine of mice, also contained haemoglobin. What we don't know yet for sure is whether the haemoglobin in these regions plays a similar role, in storing and releasing oxygen.

'Really exciting possibility'

"What is important in this paper is that it breaks down barriers between haematology and skeletal biology, and shows that, in fact, these fields are more connected than it seems," said Gerard Karsenty, a professor studying skeletal biology at Columbia University, New York.



We also don't know if the Hedy has more functions or other effects on cells in the growth plate. Dr. Ono, who discovered a bone-making stem cell population in the growth plate in 2018, is intrigued by the possibilities this discovery opens for stem cells and their fates in the growth plate. "One really exciting possibility is that the haemoglobin in the growth plate could be doing something about changing the ... fate of stem cells in the growth plate," he said.

The discovery of functional haemoglobin in cartilage also leads to the possibility that it plays a role in certain joint diseases. "There are many bone deformities that develop from defects in chondrocytes," according to Dr. Ono. "Maybe there is more cell death in some conditions due to having something wrong with the chondrocyte haemoglobin."

BENEFITS OF WALKING

The idea that you should take 10,000 steps a day originated in Japan in the 1960s, but had no scientific basis. Researchers have now shown that, if we focus on the risk of dying from cardiovascular disease, most of the benefits are seen at around 7,000 steps.

An international study led by the University of Granada has provided the first scientific proof that 8,000 steps are needed to take per day to reduce the risk of premature death. Given the average length of a human stride, taking 8,000 steps is equivalent to walking approximately 6.4 kilometres a day. Researchers have also shown that the pace at which we walk has additional benefits, and that it is better to walk fast than slow. With regard to the risk of dying from cardiovascular disease, most of the benefits are seen at around 7,000 steps.

The study has for the first time shown that the more steps one takes, the better, and that there is no excessive number of steps that has been proven to be harmful to health.

HOW MUCH SALT SHOULD YOU TAKE EVERY DAY?

Our bodies need salt. Salt also adds taste to our food. However, too much salt in your diet may lead to high blood pressure. The World Health Organization recommends 5 grams of salt in your diet every day.

But the world average is 10.8 grams. A recent report, a part of the national non-communicable disease monitoring survey, states that Indian men consume 8.9 grams, and Indian women take in 7.1 grams of salt on a daily basis (Prashant Mathur et al., Scientific Reports, 2023)

Studies in animals, as well as surveys in humans have consistently shown that high salt intake causes disease in the kidney, brain, vasculature, and immune system. High levels of sodium in the diet are also associated with conditions ranging from kidney stones to osteoporosis. It is estimated that excessive salt contribution contributes to around five million deaths worldwide every year.

The Yanomami people of the Amazon rainforest live a foraging lifestyle and eat a diet consisting of the root vegetable Cassava, plantains, fruit, fish and an occasional tapir. They use peppers for flavour, and no salt. They consume less than one gram of salt a day yet stay supremely fit.

High salt and obesity

While our bodies need a certain amount of salt for vital functions, excessive salt intake can lead to health problems such as high blood pressure and heart disease. It's always best to consume salt in moderation. India faces a rapidly escalating burden of non-communicable diseases (NCDs),



nutritional diseases such as diabetes and obesity, in particular childhood obesity. For many young Indians, the “hidden” salt in processed foods is a big danger.

High salt impairs metabolism and increases the size of adipocytes, which are cells in our body that store energy in the form of fat. These two factors together lead to obesity. The preference for high-fat and for salty food may be related. In one experiment, pregnant mice were fed a standard diet (4.6% fat) during the first week of their three-week gestation period. At this point some of them were switched to a high-fat diet (32% fat). The off-spring of the high-fat fed mice preferred salty water to plain or sweetened water.

In population studies, reducing salt intake by five to eight grams daily led to a 4 mm Hg fall in systolic blood pressure, and an overall reduction in risk of cardiovascular disease. Data from several clinical trials of antihypertensive drugs show an average reduction in blood pressure of 5mmHg by this class of drugs. Similar results were also seen in a Chinese population study in which dietary sodium was lowered by replacing normal salt with a mixture of 75% sodium chloride and 25% potassium chloride: systolic blood pressure came down by 3.3 mmHg. Oral rehydration solutions recommended by UNICEF contain 60:40 ratios of the two salts.

Lastly, salt reduction may be dangerous for some. Elderly adults must be extremely cautious of hypotension since it might lead to falls. This is especially true if they are taking medication to reduce their high blood pressure.

LOW ON SALT: TURNING THE SPOTLIGHT ON KIDNEY DONORS

There is a great deal of attention paid to the recipient of an organ transplant, and rightly so, but the backbone of live kidney transplantation for transplant surgeons is also to make sure that donors do not face the same problem in the future.

Before donating the donor is fully evaluated to make sure the person is completely normal. Age-matched kidneys may be ideal but usually 18 to 60 years is accepted. Between 60- 70 years, an exceptional kidney function and health may permit donation. Blood group matching is usually required but O can donate to any group. Special centres can do blood group mismatched transplants with good results.

Minor ailments may not be a contraindication for donating. Diabetes or pre diabetes, obesity, hypertension, kidney stones, etc. require special attention. Medical evaluation is always biased in the donor's favour. Exemptions are sometimes made based on the full social and family setting in favour of the patient. For example, when the patient is the earning member in the family and his survival is essential for the whole family Diabetes in the donor is usually an absolute contraindication. Hypertension with easy control with a single tablet is permitted. It is also essential that the kidney function on special test is at least 75 ml per minute There should no protein leak. Metabolic workup in persons having small stone is a must. Those with multiple stones should be rejected. Normally the evaluation should favour the donor and the better working kidney should be left behind with the donor.

After the donation the person requires lifelong follow-up. Immediately after the surgery the kidney function drops by almost half and the single kidney starts working more to compensate for the loss of the other. This is a process of hyperfiltration at the microscopic level and compensatory hypertrophy at the gross level. Donors require to periodically monitor blood pressure. Kidney function and protein loss should be checked at least once a year. Almost one



third of donors would develop hypertension over several years but this almost the same incidence as in the general population. A small percentage would develop protein leak in the urine.

Fortunately even though the kidney function may be less than the normal population of the same age frank kidney failure is not common. So it is essential that the donors are instructed properly with regards to diet, exercise and avoidance of drugs toxic to the kidneys. DASH diet (dietary approaches to stop hypertension) would be ideal. Sufficient vegetables, fruits, whole grains, lean meat, moderate restriction of salt and sugar, and avoidance of trans-fats is essential.

The WHO and other medical associations caution on the importance of salt restriction to 5 gms per day in the general population. The 5 gms includes salt present in natural food, salt added during cooking and hidden salt present in preserved or packed food like bread and noodles. Restriction of salt reduces not only blood pressure but also strokes and kidney failure. The benefits of restriction is better if started early in life. Early this year the WHO said that only a few countries have a salt policy implemented legally. Although studies have not been done on the effects of salt intake in persons with a single kidney such as donors it would be correct to presume that the damage would be more. A recent study from MIOT international on the salt intake in renal donors has highlighted the importance of monitoring salt intake in kidney donors The study has been accepted for presentation at the Asian Transplant Week to be held at Seoul

104 kidney donors were studied. The average follow up was 4 years with a maximum follow-up of 27 years. None of the donors developed kidney failure. The average drop of kidney function from pre-donation state was 21% by calculated GFR . What was alarming was that only 13% of donors were following restricted salt intake. The average salt intake measured by the 24 hours sodium excretion in the urine was 9.2 gms with a maximum of 14gms per day. This is more than the general population's intake of salt as reported by the ICMR. This is the first time that donors' intake of salt is being reported. Further studies are required and estimation of urinary sodium as a measure of salt intake should be included in kidney donors follow up so suitable advice can be given.

Chronic Kidney disease(CKD) affects almost 10% of the worlds population. Even if a small percentage of those patients progress to end stage kidney disease requiring dialysis or transplantation the burden on the health resources and economy would be enormous .So it is essential to detect CKD early and intervene to halt the disease. Proteinuria or protein leak and blood creatinine are the commonest markers used to detect kidney disease.

Creatinine is produced by muscles in the body and excreted by the the kidneys. Since normally only kidneys remove the creatinine ,its measurement in blood reflects kidney function .Mathematical formulae adjusting for age, weight and sex are used to calculate kidney function and express as eGFR(Glomerular function rate)Although the test is sensitive, there is a problem of lack of standardisation in laboratories. Proteinuria or protein leak is a more sensitive test and 85% of the kidney diseases are detected earlier than creatinine estimation. Protein has a large molecular weight and does not appear in the urine unless the microscopic vessel (glomerulus)in the kidney is damaged or it is secreted by tubules. The quantity of protein loss in the urine reflects the kidney damage and is used as a measure to see the response for treatment.

Proteinuria can be measured both qualitatively and quantitatively. Strips are used in the laboratory in routine urine examination to detect proteinuria/albuminuria. This is only a screening test. For more precise information a spot sample can be estimated quantitatively for protein/albumin and creatinine. The result is expressed as a ratio of protein to creatinine. The



gold standard is the measurement of protein in a 24 hour urine sample. Proteinuria unlike creatinine is not only a marker of kidney disease but also a cause for progression of kidney disease. This understanding has led to the development of several group of drugs which would lower protein loss to reduce damage to the kidneys. They include the anti-renin system (ACE and ARB) group of drugs, the SGLT2 inhibitors, anti-aldosterone drugs etc.

Of course a specific treatment where possible would reverse the kidney disease like immunosuppression in allergic disorders and, withdrawal of drugs likely to damage kidneys. This may include native and other herbal medications which may contain heavy metals .Of course a good control of blood pressure makes a big difference in all kidney disorders It is not surprising from the recent studies of ICMR and WHO to know that 35 to 40 % of adult population in the world have high blood pressure often undiagnosed presenting with an end organ damage. Even in those in who have been diagnosed the control is poor .It is sad that even now youngsters have presented for the first time with reduced vision due to condition called malignant hypertension(often systolic 200 and diastolic 120).

In a study conducted by Sapiens Health foundation a NGO from Chennai amongst college students 5% had hypertension 20% were obese and 6% had abnormal protein excretion in urine. More than 80% did not know the recommendation of salt intake per day. A project undertaken by the Kidney Trust run by M. K. Mani covered villages in and around Chennai. The Blood pressure and diabetes were detected doorstep and simple low cost drugs were administered to control BP and sugar with a .remarkable reduction in kidney failure in contrast to comparable villages where there was no intervention. A recent study from China showed that a simple measure of using salt substitutes reduced strokes considerably.

It is high-time we realise the importance of this, and implement salt reduction globally.

HOW AI CAN HASTEN HEART TRANSPLANT RECOVERY WITH NO BLOOD TRANSFUSION OR LOSS

A 52-year-old man from Jodhpur, a foodie suffering from hypertension and stress over the years and who had two heart attacks in rapid succession in 2012 and 2015, had reached a stage of heart failure. But now with AI-assisted technology, he has had a heart transplant that cut down the need for blood transfusion and hence the chances of infection and unnecessary bleeding.

He has now become the first Asian to undergo a heart transplant without a blood transfusion, claims Marengo CIMS Hospital, a private hospital in Ahmedabad.

A key component which made this surgery possible was a point-of-care analysis technology that analyses the blood coagulation factors every 10 minutes, giving an almost real-time picture of how the blood is reacting in the body prior, during and post-surgery. The technology is relatively recent and world over, a few centres have adopted this technology. In the US, earlier in April this year, Massachusetts General Hospital completed a similar heart transplant for a Jehovah's Witness patient. Religious consideration for a Jehovah's Witness means they cannot accept donor blood.

How is a transplant possible without blood transfusion?

The first step involves detailed and minute evaluation of blood coagulation factors prior to the transplant surgery at the pre-operative stage. This is critical, according to Dr Dhiren Shah, Director of the Heart Transplant Programme at Marengo CIMS Hospital. He was part of the team that conducted the transplant surgery, "Any patient of heart failure will have liver and kidney

3RD FLOOR AND 4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



dysfunction. Since a majority of the blood coagulation factors are synthesised in the liver, it is crucial to check for deficiencies or any issues in these factors,” he explains. There are 10 such factors such as fibrinogen and thromboplastin, that work together. So if one factor activates, it has a cascading effect on the other factors for blood clotting function to be normal.

The idea is to rectify such deficiencies in the blood coagulation factors, if any, prior to the surgery. “Aiding the surgeons in this blood analysis is an artificial intelligence-aided technology,” says Dr Shah.

During the surgery, blood thinners such as heparin are given and the AI-aided technology monitors the blood coagulation effect every 10 minutes and flags in case any course correction is required. This too is essential as not monitoring the same can lead to severe bleeding or blood clotting.

This particular patient fortunately had a “fairly good liver function.” The surgical team also modified their surgical techniques and ensured that once the donor heart reached the operation theatre, it was transplanted and the sutures on the recipient were closed within an hour.

Is a transplant without blood transfusion better?

Yes, says Dr Shah. A usual heart transplant surgery can require up to four to five units of blood and this transfusion in itself is a transplant with donor blood cells entering the body of the patient. So the patient essentially undergoes two transplants — one of the organ and second of the blood — both having chances of being rejected and/or causing further complications.

Elaborating on the benefits of going for a transplant surgery without blood transfusion, Dr Shah says, “Any surgery with massive blood transfusion means the chances of morbidity and mortality are as high as 25-35 per cent because this can have an effect on the lungs and kidneys where they can sequester and end up causing inflammation.”

Blood transfusion can also result in transmission of infections which may not be detected during usual medical investigation. Besides, recovery period reduces, reducing the length of stay in hospital and associated costs.

While a usual heart transplant patient would require 14-15 days, this patient could be discharged on the ninth day and the recovery was smoother as well. However, it is possible that despite the point-of-care analyses, blood transfusion may be required in case of surgical or medical bleeding.