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DREAMIAS



INTERNATIONAL

TRUMP'S MOVES TO STIFLE DISSENT DRAW PARALLELS TO DEMOCRACIES THAT WANED

In 2007, eight years after becoming Venezuela's President, Hugo Chavez revoked the licence of the country's oldest private television station. Eight months into his second term, U.S. President Donald Trump suggested revoking the licences of television stations he believes are overly critical of him.

Since he returned to office in January, Mr. Trump's remaking of the federal government into an instrument of his personal will has drawn comparisons to elected strongmen in other countries who used the levers of government to consolidate power, punish their enemies and stifle dissent.

But those familiar with other countries where that has happened, including Hungary and Turkiye, say there is one striking difference: Mr. Trump appears to be moving more rapidly, and more overtly, than others did.

Political enemies of the President becoming targets of the U.S., is a long way from Venezuela or other authoritarian governments. It still has a robust opposition to Mr. Trump — judges who often check his initiatives and a system that diffuses power across 50 States, including elections — making it hard for a President to dominate the country. Some of Mr. Trump's most controversial pledges, such as revoking television licenses, remain just threats.

Mr. Trump has both scoffed and winked at the allegation that he's an authoritarian.

In a recent social media post, Mr. Trump complained to his Attorney-General, Pam Bondi, about a lack of prosecution of his foes, saying "JUSTICE MUST BE SERVED, NOW!!!" Days later, the Department of Justice secured a felony indictment against former FBI Director James Comey, whom Mr. Trump has blamed for the Russian collusion investigation that dogged his first term.

The same day, Mr. Trump ordered a sweeping crackdown targeting groups, he alleges, fund political violence. The examples he gave of victims were exclusively Republicans and his possible targets were those who have funded Democratic candidates and liberal causes.

The week before, Mr. Trump's Federal Communications Commission chairman, Brendan Carr, threatened ABC after a comment about the assassination of conservative activist Charlie Kirk by late night host Jimmy Kimmel angered Republicans. ABC suspended Kimmel for five days, but Mr. Trump threatened consequences for the network after it returned his show to the airwaves: "I think we are going to test ABC out on this. Let's see how we do," the President said on his social media site.

Mr. Trump has said he is repaying Democrats for what he says is political persecution of him and his supporters.

Mr. Trump opened his second term pardoning more than 1,500 people convicted of crimes during the January 6, 2021, attack on the U.S. Capitol, in an attempt to overturn his 2020 election loss. He has threatened judges who ruled against him, targeted law firms and universities he believes opposed him, and is attempting to reshape the nation's cultural institutions.

Steven Levitsky, a Harvard political scientist and co-author of the book *How Democracies Die*, said he is constantly asked by foreign journalists how the U.S. can let Mr. Trump take such actions.



“If you talk to Brazilians, South Koreans, Germans, they have better antennae for authoritarians,” he said. “They experienced, or were taught by their parents, or the schools, the danger of losing a democracy.” Of the United States, he said: “This is not a society that is prepared for authoritarianism.”

Alper Coskun presumed the U.S. would not go the way of his native Turkiye, where he served in the government. He left, as that country’s President, Recep Erdogan, consolidated power. Mr. Coskun now laughs bitterly at the quip his countrymen make: Turkiye wanted to become little America, but now America has become little Turkiye.

“It’s a very similar playbook,” said Mr. Coskun, now at the Carnegie Foundation for International Peace. The difference, he said, is that Mr. Erdogan, first elected in 2002, had to move slowly to avoid running afoul of Turkiye’s then-independent military and business community. Mr. Trump, in contrast, has more “brazenly” broken democratic norms, Mr. Coskun said.

Eroding democratic norms took longer in other countries. Hungarian Prime Minister Viktor Orban has often been cited as a model for Mr. Trump. Mr. Orban has become an icon to some U.S. conservatives for cracking down on immigration and LGBTQ rights. Like Mr. Trump, he lost an election and spent his years out of office planning his return.

When voters returned Mr. Orban to power in 2010, he moved as quickly as Mr. Trump, said Kim Scheppele, who was an adviser to Hungary’s constitutional court and now is a sociologist at Princeton. But there was one difference. To avoid resistance, Ms. Scheppele said, “Orban had a ‘don’t scare the horses’ philosophy.” She said he spent much of his first year back working on legal reforms and changes to Hungary’s constitution that set him up to consolidate power.

In the U.S., Mr. Smilde said, people trust the country’s institutions to maintain democracy. And they did in 2020 and 2021, when the courts, administration, and elected officials blocked Mr. Trump’s effort to overturn his election loss. “But now, here we are with a more pointed attack,” Mr. Smilde said.

“Here, nobody has really seen this in a President before.”

PEACE MIRAGE

President Donald Trump’s 20-point “peace plan” for Gaza has won rare approval from Israel and key Arab countries. While Israel Prime Minister Benjamin Netanyahu says it aligns with Israel’s war objectives, Arab and Muslim leaders have welcomed the initiative as a step towards peace. But one truly important voice is missing — that of any representative of the Palestinian people. When the latest phase of the Gaza war began, following Hamas’s October 7, 2023 attack, Israel vowed to “destroy” the Islamist militant group. Two years on, Israel has turned Gaza into dust and displaced the entire population. Yet, Hamas has not been totally defeated. Any lasting peace hinges on an agreement between Israel and true representatives of Palestinians, even if Hamas is to be kept out. Mr. Trump and Mr. Netanyahu have issued an ultimatum to Hamas: accept the plan or face continued Israeli attacks. The Trump plan promises an immediate ceasefire in return for the release of all hostages. It further states that Palestinians will not be forced to leave. For a population living in makeshift shelters, a ceasefire and the permission to stay on will be a relief. But beyond this veneer of concession, the rest of the plan is structured almost entirely to serve Israeli interests.



It proposes to place Gaza under an international governance body overseen by a ‘Board of Peace’, chaired by Mr. Trump. The plan further calls for the deployment of an International Stabilisation Force (ISF) in Gaza, while allowing the Israeli troops to retain “a security perimeter”. Hamas will have to demobilise itself. In essence, Gaza would be placed under a new colonial-type administration and a foreign military force, while Israel would continue to occupy parts of the enclave. Palestinians will be excluded from the top decision making bodies until “reforms of the Palestinian Authority are complete”. This is a plan written in sand. Even if Hamas were to accept the proposal and disband itself, or if Palestinians were to reject Hamas completely, there is no assurance that the Palestinian resistance will wither away. Without a credible pathway to Palestinian statehood, violence will continue in one form or another — the message of October 7. The plan offers no timeline for its lofty goals; it does not specify which countries would contribute troops to the ISF; nor does it clarify who would oversee the implementation process or the “reforms” within the Palestinian Authority. Rather than forcing his ally to end its daily attacks on Palestinians and withdraw through a ceasefire for hostages agreement, Mr. Trump is making an already intractable conflict more complicated. This proposal will not win him peace. Rather, it will drag him deeper into the quicksand of West Asia.

HOW ISRAEL USED AZURE TO MONITOR PALESTINIANS

The story so far:

In August, a joint investigation by The Guardian, +972 Magazine and Local Call revealed that Israel’s military intelligence unit had built a cloud-based surveillance system using Microsoft’s Azure to store audio recordings of Palestinians’ phone calls. Unit 8200, which is considered Israel’s equivalent to the U.S.’s National Security Agency, was reportedly uploading “audio files of millions of calls by Palestinians in the occupied territories” into a dedicated Azure environment.

What was Microsoft’s initial response?

Microsoft’s initial response downplayed any wrongdoing. The company said it had “found no evidence” that its tools were used to harm civilians and claimed to be unaware of how the cloud project was being used. But following the expose, the software giant launched an internal review. And on September 25, the company announced that its review had “found evidence that supports elements” of the reporting and that it had “ceased and disabled a set of services” to the Israeli defence unit involved.

How did this partnership begin?

The project was hatched in late 2021 when Unit 8200’s commander, Yossi Sariel, met with Microsoft CEO Satya Nadella in Seattle. Mr. Sariel pitched to move a huge portion of Israel’s collected intelligence data onto Azure. Mr. Nadella reportedly agreed to a proof-of-concept plan and assigned a dedicated team of Microsoft engineers to work closely with Unit 8200 to build a secure, custom Azure deployment accessible from military bases. In Microsoft’s internal view, this partnership was treated as “critical” to the company and even a “powerful brand moment” for Azure.

The military’s reason was simple: the existing Israeli data centres could not hold vast volumes of intercepted phone traffic. Under Mr. Sariel’s tenure, Unit 8200 had dramatically expanded its surveillance and integrated multiple databases of Palestinians. Previously, the unit could keep the calls of only some tens of thousands of individuals on its own servers. By moving to Azure, it



suddenly had “infinite” storage. In effect, once the cloud project was approved, Unit 8200 could funnel nearly all phone intercepts into Azure and scale its watchlist from thousands of calls per day to millions.

How did the surveillance work?

The mechanics of the system hinged on cloud computing. Essentially, Unit 8200’s field listening posts and telecom intercepts were piped into a dedicated Azure “instance”. Microsoft and IDF engineers built a segregated Azure environment so that data from Gaza and the West Bank could be uploaded continuously and stored long-term. Because Azure offers elastic capacity and advanced AI tools, the unit could automate analysis on this content.

According to published reports, all intercepted voice calls and texts were transcribed and translated in the cloud. Advanced search indexes were then used to analyse the data to quickly decipher patterns. In short, Azure acted as both an enormous archive and an AI-driven search engine. The Guardian’s investigation emphasised that the IDF’s calls database was kept in “a customised and segregated area within the Azure platform,” allowing it to be “analysed using AI-driven techniques”. This kind of setup is enabled by modern cloud features that are powered by multi-modal AI that can turn any data into searchable text. Once a phone call is converted by speech-to-text, it is treated like any document. In practice, such tools would allow an intelligence officer to input a query and quickly retrieve relevant conversation snippets or even link them to satellite imagery.

Where did phone usage data come from?

Crucially, none of this would have worked if Palestinian networks were independent. While, under the 1995 Oslo accords, Israel recognised Palestinians’ right to build and operate their own communications systems, including mobile networks, in practice, Israel retained control over almost all telecommunications infrastructure in Gaza and the West Bank. That means virtually every Palestinian cellphone call and data packet passes through Israeli-controlled switches.

As The Guardian’s report notes, “thanks to the control [Israel] exerts over Palestinian telecommunications infrastructure, Israel has long intercepted phone calls in the occupied territories”. Without an independent mobile backbone, Palestinians must use cellular services that are extensions of Israeli operators, so mass monitoring of local networks has long been routine. Multiple analyses stress that Israel’s continued monopoly or de facto control of Palestinian internet and phone lines violates the spirit of Oslo’s “separate infrastructure” provisions. Israeli bureaucrats often justify such surveillance on security grounds, but rights advocates warn that it amounts to mass spying.

Will the surveillance stop?

Microsoft’s Azure was not the only cloud in use. Earlier investigations revealed that the Israeli military also tapped Amazon Web Services (AWS) for some of its data storage. Moreover, the IDF has a broader cloud strategy: it signed a \$1.2 billion deal, nicknamed “Project Nimbus”, under which both Google Cloud and Amazon provide computing and AI services to the military. Even IBM subsidiary Red Hat has supplied cloud infrastructure, and Palantir, a U.S. defence tech firm, offers AI targeting tools to Israel. In short, besides Microsoft, almost all major U.S. tech firms have become entwined with Israel’s digital war effort. What this means is that cutting off Azure does not leave Unit 8200 defenceless; it will simply shift workloads to Google or a combination of on-premises servers.



INDIA SIGNALS REALIGNMENT WITH GLOBAL SOUTH; ADOPTS ASSERTIVE LINE ON GAZA

India stepped up its engagement with the Global South quite visibly during External Affairs Minister S. Jaishankar's hectic consultations at the United Nation's 80th high-level week, with strong criticism of Israel's war on Gaza, U.S.-led trade turmoil, and the lack of UN reform in focus in statements.

More than half of his approximately 30 one-on-one bilateral meetings with Foreign Ministers were with countries of the developing nations, while nearly all the multilateral meetings India hosted or Mr. Jaishankar hosted focused on the Global South's issues, and non-western groupings.

The multilateral meetings included the BRICS, IBSA (India-Brazil-South Africa), India-CELAC (South American countries), India-SICA (Central American Integration System), FIPIC (Pacific Island countries), L-69 (developing countries from the Global South) and C-10 (African Union representatives) and the "High-Level Like-Minded countries of the Global South".

Pharma tariffs

Some of the focus on the Global South may have come, suggested analysts, from disappointment with the U.S.'s actions this week. Mr. Jaishankar held a meeting with U.S. Secretary of State Marco Rubio at the beginning of the week, but there was no let-up in the U.S.'s rhetoric and actions against India.

A day after the meeting, President Donald Trump called India and China the "primary funders of the war" in Ukraine, and repeated his claim that he ended the India-Pakistan conflict. In addition to 50% tariffs on Indian goods, and visa and immigration cuts that affect Indian professionals, the U.S. administration also slapped new tariffs on pharma industries this week. Commerce Secretary Howard Lutnick said the U.S. would "fix India" to ensure it opens its markets and cuts trade actions against the U.S.

Meanwhile, Mr. Jaishankar also met with Australian Foreign Minister Penny Wong and his Japanese counterpart on the sidelines of other groupings, but there was no Quad Foreign Ministers' meeting, raising questions about whether a date can still be agreed on for the Quad Summit India is due to host this year.

Washington also ruffled feathers in Delhi with its engagement with the South Asian neighbourhood. Mr. Trump held talks with Pakistan Prime Minister Shehbaz Sharif and Army chief Field Marshal Asim Munir, even as U.S. Ambassador-designate and Special Envoy for the region Sergio Goro met leaders from Bangladesh, Sri Lanka and Bhutan in New York.

In contrast, Mr. Jaishankar met only counterparts from Sri Lanka and Maldives during the week.

Gaza situation

A significant shift at the UNGA week was indicated by India's position on Gaza. New Delhi, which has been an outlier from other Global South countries and abstained on resolutions calling for a ceasefire, was seen backing a number of statements sharply critical of Israel during the UNGA. These included statements by the BRICS Foreign Ministers and the IBSA Trilateral Commission, which said the "Ministers expressed grave concern about the situation in the occupied Palestinian territory and strongly condemned the Israeli attacks against Gaza, which, after almost two years,



continue to cause unprecedented suffering to the civilian population of the territory, ravaged by deaths, destruction, forced displacement, and famine”.

The statements are much tougher than previous ones that India has agreed to be a part of, indicating a greater alignment with Global South priorities on the issue.

US-VENEZUELA RELATIONS: A RAPIDLY ESCALATING CRISIS

Relations between the United States and Venezuela have reached a dangerous new low in 2025, with military confrontations and escalating tensions bringing the two nations to what some describe as a "war footing."

Recent Military Strikes

The most dramatic development has been the Trump administration ramping up pressure on Venezuela through an unprecedented military deployment and use of force in international waters off its coast.

In September 2025, the United States carried out a lethal military strike against a suspected drug vessel linked to the Tren de Aragua gang, with eleven people dying in the attack in international waters. This was followed by a second "kinetic strike" on a Venezuelan drug boat that killed three confirmed narcoterrorists.

Venezuela's Response

Venezuela has reacted with its own show of military force. President Maduro signed a decree granting him additional powers and threatened a "state of emergency," with Caracas carrying out military drills amid talk of being a "republic in arms". Venezuela's show of force included displaying fighter jets after the Trump strikes.

However, Maduro also wrote to President Trump days after the US strike and offered to engage in direct talks with special envoy Richard Grenell, suggesting some openness to diplomacy despite the military tensions.

What's at Stake

Trump's priorities regarding Venezuela are to control illegal migration, lower US energy prices and inflation, and contain the influence of China and Iran. The US is preparing options for military strikes on drug targets inside Venezuela, though President Trump has not approved any action yet, and the two countries are talking through Middle Eastern intermediaries.

AFGHANISTAN: TALIBAN'S INTERNET BLACKOUT PLUNGES NATION INTO DIGITAL DARKNESS

The Taliban has imposed a sweeping internet shutdown across Afghanistan in late September 2025, cutting off over 43 million people from the digital world and sparking international condemnation.

What Happened

The shutdowns began in mid-September 2025 and covered the entire country by the month's end, with Taliban officials claiming they initiated them to prevent "immoral behavior". More than 43



million people in Afghanistan are now believed to be offline, after the Taliban began cutting communications cables several weeks ago.

The Taliban's Justification

Taliban officials warned they would cut off internet access across the country "to prevent immoral activities". However, the Taliban has denied implementing a nationwide internet ban, following a communications blackout across Afghanistan, despite widespread evidence of the shutdown.

The Impact on Daily Life

The blackout has had devastating consequences:

Humanitarian Crisis: The shutdowns have impeded access to education, commerce, media, and healthcare services. The work of UN humanitarians has been affected by the communications breakdown.

Economic Disruption: Nearly all links to the outside world are cut, with the blackout closing businesses and grounding flights.

Women's Access: The shutdown particularly affects Afghan women, who were already severely restricted under Taliban rule and relied on internet access for education and work opportunities.

International Response

The United Nations urged Taliban authorities in a statement to "immediately and fully restore nationwide Internet and telecommunications access," noting that "reliable communications are essential for our ability to operate, to deliver life-saving assistance, and to coordinate".

The Taliban said it would continue the shutdown until further notice, leaving the country in an indefinite state of digital isolation that represents one of the most extreme internet shutdowns in modern history.

DreamIAS



NATIONAL

AT MULTILATERAL BODY, INDIA PUSHES FOR NEW GLOBAL GOVERNANCE INDEX

OVER the past few years, several global indices have portrayed India in a negative light and the government has questioned their methodology. Now, as the current president of the International Institute of Administrative Sciences (IIAS), India has proposed a new international governance index, The Indian Express has learnt.

— India, which won the presidency of the Brussels-based IIAS for the first time in June this year, has pitched for research on establishing this index. As India completed 100 days of its three-year presidency, IIAS released Friday a list of achievements that included advancing this research agenda through initiatives such as the international governance index.

— He added that the committee would establish a working group to develop the index. The topic would be incorporated into the agenda for the IIAS annual conference in 2026, he said.

— This move at IIAS comes at a time when India's rank has slipped on global indices. In its reports, the Varieties of Democracy (V-Dem) Institute of the University of Gothenburg, Sweden, has listed India as an electoral autocracy since 2017. The latest report in 2025 ranked India 100 out of 179 countries on the "liberal democracy index", in which Denmark was ranked one.

— In 2022, the Economic Advisory Council to the Prime Minister had published a working paper on the Freedom in the World Index, the V-DEM indices and the EIU Democracy Index.

— Speaking at a seminar organised by the Finance Ministry on November 15, 2023, Chief Economic Adviser V Anantha Nageswaran had called for greater transparency in the Worldwide Governance Indicators, which he said are used by credit rating agencies in making their assessments.

— "This World Governance Index itself is a composite of several sub-indices, which are purely based on the subjective opinions of some so-called expert institutions which do not have presence on the ground nor do they understand whether the context in which they are making these judgements is appropriate or apt for the member countries," he had said.

— The WGI covers over 200 economies and includes six indicators: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption.

— The 2023 WGI, the most recent report available, gives India the percentile rank of 51.47 for voice and accountability; 21.33 for political stability and absence of violence/terrorism; 67.92 for government effectiveness; 47.17 for regulatory quality; 56.13 for rule of law and 41.51 for control of corruption.

— Zero is the lowest and 100 the highest rank.

Do You Know:

— The IIAS, established in 1930, has 31 member countries, including India, Japan, China, Germany and Saudi Arabia. While it is not affiliated with the UN, it actively works with it.



— An international non-profit, IAS organises events for public servants and academics and produces research on public governance. India had won the presidency for 2025-2028 after the first-ever election for the post, defeating Austria.

— India has been represented by the Department of Administrative Reforms and Public Grievances since 1998.

U.K. POLICE INVESTIGATING GANDHI STATUE DEFACEMENT

Britain's Metropolitan Police said on Tuesday that it has begun an investigation into the criminal damage caused to Mahatma Gandhi's statue at Tavistock Square in London, a crime which the force is treating as "racially aggravated".

The police said it was called to the iconic statue on Sunday evening as reports emerged of the plinth being defaced with disturbing graffiti. The High Commission of India in London said it was a "violent attack".

"We have begun an investigation into reports of criminal damage to a Mahatma Gandhi statue at Tavistock Square Gardens in Camden," a Metropolitan Police statement said.

"The incident is being treated as racially aggravated and enquiries are ongoing. No arrests have been made at this time," it said, appealing for witnesses to come forward with any information that could assist the investigation.

The local Camden Council authorities, meanwhile, confirmed that their cleaning teams were sent to the site to assess the damage and are involved with the restoration work.

On Monday, the Indian High Commission in the U.K. strongly condemned the vandalism as an attack on the legacy of the Mahatma just days before Gandhi Jayanti on October 2.

"The High Commission of India in London is deeply saddened and strongly condemns the shameful act of vandalism of the statue of Mahatma Gandhi at Tavistock Square in London," the mission's social media statement reads.

"This is not just vandalism, but a violent attack on the idea of non-violence, three days before the International Day of Non-Violence, and on the legacy of the Mahatma. We have taken this up strongly with local authorities for immediate action, and our team is already on site, coordinating with authorities to restore the statue to its original dignity," it says.

The UN has designated Gandhi Jayanti, on October 2, as International Day of Non-Violence.

INDIA TO EXTEND ITS RAILWAY GRID TO BHUTAN: HOW THIS WILL HELP THE NEIGHBOURS

The Centre on Monday (September 29) announced two cross-border railway projects spanning 69 km and 20 km respectively, which will connect Bhutan with the bordering areas of Assam and West Bengal. The 69-km Kokrajhar (Assam)-Gelephu (Bhutan) and 20-km Banarhat (West Bengal)-Samtse (Bhutan) will cost Rs 3,456 crore and Rs 577 crore, respectively.

- Bhutan currently does not have any railway network. The Gelephu and Samtse lines will be its first such projects.



- Result of almost two decades of efforts by both nations. MoU for five links signed in 2005; progress came after PM Modi's 2024 visit.
- Gelephu line: Bhutanese side is 2.39 km; Indian side 66.66 km. Samtse line: Bhutanese side 2.13 km; Indian side 17.42 km.
- Projects include major/minor bridges, viaducts, goods sheds, overpasses, and underpasses. Construction period: 4 years (Gelephu), 3 years (Samtse).

Do You Know:

- Gelephu and Samtse are Bhutan's major export-import hubs, serving the 700-km long India-Bhutan border. Gelephu developed as "Mindfulness City," Samtse as an industrial town.
- The train line is for cargo and passenger movement; potential exports to India: dolomite, ferro-silicon, quartzite, stone chips.
- India is Bhutan's top trading partner, accounting for nearly 80 percent of Bhutan's total trade.
- 2016 bilateral agreement on trade, commerce, transit provides duty-free transit for goods from and to third countries.
- India-Bhutan partnership is deep-rooted, based on diplomatic, economic and security cooperation; Neighbourhood First Policy counters China's influence.

THE INDIAN OCEAN MINERAL EXPLORATION PUSH

India last week signed a contract with the International Seabed Authority (ISA) for exclusive rights to explore Polymetallic Sulphides (PMS) in the Carlsberg Ridge in the Indian Ocean.

- With this, India has become the first country in the world to have two contracts with the ISA for PMS exploration. It now commands the largest area allocated in the international seabed for PMS exploration — a scientific achievement with strategic importance.
- Goa-based National Centre for Polar and Ocean Research (NCPOR) will carry out the PMS exploration in 2026, starting with geophysical and hydrographic surveys in the licensed area
- Polymetallic Sulphides are deposits on the ocean floor, rich in strategic and critical metals such as copper, zinc, lead, gold, and silver, along with trace amounts of rare and precious elements.
- Since land resources containing these minerals are very limited for India, exploring PMS in the deep ocean could enhance resource security. These metals are essential for high-technology applications, renewable energy systems, and green technologies.
- PMS deposits are generally found near hydrothermal vents, which are like hot springs on the ocean floor. The ocean seabed has cracks. Through these cracks, the cold seawater interacts with the magma under the earth's crust, and is expelled back in a hot gush. This expelled water is rich in minerals, which are then deposited on the ocean floor as solids.
- The ongoing Deep Ocean Mission program of the government has enhanced these capabilities, including the acquisition of new deep-sea vessels and advanced tools, such as Autonomous Underwater Vehicles (AUVs). Matsya, a deep-sea vehicle under development for the ambitious



Samudrayaan mission, will provide an additional boost to India's deep-ocean mineral exploration capacity.

- The Carlsberg Ridge is a major segment of the mid-ocean ridge system in the Indian Ocean, formed by seafloor spreading between the Indian Plate and the Somali Plate. It is estimated that the current phase of opening of the Carlsberg Ridge began at about 40 million years ago following a major plate reorganisation and its average spreading rate is of 2.4 to 3.3 cm/year.
- The ridge is known to host hydrothermal vent systems, potential sites of PMS deposits.
- Strategically, the Carlsberg Ridge is particularly important because it is located much closer to India (around 2 degree north) compared with the Central and Southwest Indian Ridges (around 26 degree south).
- India is looking to acquire additional sites in the Indian Ocean for mineral exploration as part of the Blue Economy initiatives of the Government of India.

Do You Know:

- The ISA is an autonomous international organisation. It allocates sites for mineral exploration in international waters under the United Nations Convention on the Law of the Sea (UNCLOS) framework. A country, either through its government, public sector, or sponsored entity, can submit applications to the ISA.
- With India's 11,098 km-long coastline, the government has long pushed for a blue economy policy — harnessing ocean resources for economic growth. The deep ocean is home to several unexplored minerals, fuels, and biodiversity resources. It is also where a crucial medium of modern global telecommunications is found in the form of undersea cables, which are laid on the ocean floor.
- Additionally, only a few countries presently possess deep-sea exploration capabilities, including the United States, Russia, China, Japan, and France. India will join this select group of nations with the Samudrayaan Project, which is among the six components of the Deep Ocean Mission approved by the Union Cabinet in 2021.
- Samudrayaan is India's manned deep ocean mission envisioned for deep sea mineral exploration. It is a project under the Deep Ocean Mission. Under the mission, MATSYA 6000 manned submersible design has been completed.
- Matsya-6000, the submersible vehicle set to transport three Indians into the deep sea in 2026, has successfully completed wet tests and facilitated multiple manned dives in the Bay of Bengal.

WHY ARE INDIAN BROADCASTERS OWED PAYMENTS?

The story so far:

Indian broadcasters have complained of mounting dues from distributors in Nepal and Bangladesh, The Hindu reported in August. Over ₹350 crore in dues from the two countries remain unpaid since 2023.

Do Indian channels air in Nepal and Bangladesh?



Indian entertainment channels, particularly in Hindi and Bengali, are widely popular in Nepal and Bangladesh. A list of available channels in Nepal Telecom's list shows options from Zee, Star, Sony and Viacom, and similar options are available on Bangladeshi TV distributors' networks. Like in India, some of the Indian channels are available with basic packs, and others are available with add-ons. Nepal and Bangladesh receive a separate feed of Indian channels, known as a "clean feed". This is because ads on channels in India may be for products or variants of products that are unavailable in those countries. Channels typically spend extra to create this separate feed, and uplink it to satellites or cable providers licensed to operate in Nepal and Bangladesh (India has similar uplinking and downlinking regulations). As these are international deals, Indian broadcasters typically charge dollars from foreign countries where their feeds are played.

Nepal and Bangladesh, like India, have extensive broadcast regulations, particularly targeting foreign broadcasters. Bangladesh, for instance, requires foreign broadcasters to use satellites that are controlled by local firms, an expensive prospect. Similarly, Nepal abruptly introduced its à-la-carte channel bundling rules for cable operators practically overnight in 2023, with rules that matched India's New Tariff Order, but with none of the notice, sending foreign broadcasters into a tailspin to comply.

Why are Nepal and Bangladesh firms not paying Indian broadcasters?

Payment issues are not uncommon for Indian firms operating in these countries. In Bangladesh, for instance, Adani Power was not paid for months on end after the ouster of former president Sheikh Hasina. Nepalese telcos faced a payments crisis with Airtel, whose terrestrial cables provide a large portion of the country with Internet, in 2023.

In Bangladesh's case, the economic fallout of Ms. Hasina's ouster has led to the country prioritising key areas for clearing dues and investing limited funds, one broadcasting executive told The Hindu. Media and entertainment, as it turns out, has not been a key priority area, with the country choosing to focus funds it received — including from a recent World Bank loan — in medicine and electricity dues, among other things.

Both countries, however, have an added complication — their respective governments have to approve the issue of foreign exchange that companies need to make good on these deals. As such, even when a distributor is good for the money, stonewalling from the ministry or central bank has led to payments stopping, another executive told The Hindu.

As a result of these factors, both countries' distributors owe above ₹350 crore to Indian firms. Nepal owes ₹100 crore while the rest of the amount is due from Bangladesh. While a prime ministerial visit to India by Nepal was due, Nepal Prime Minister K.P. Sharma Oli resigned in the wake of mass protests in September, increasing uncertainty for all businesses as the interim government works toward a fresh election.

Can broadcasters cut off their feeds?

Unlike Adani Power and Airtel, broadcasters don't have much leverage over defaulters in foreign countries. Airtel provides Nepal with Internet access, which the landlocked country cannot obtain from an undersea cable. Adani Power's electricity transmission lines literally keep the lights on. Both of these firms can throw these countries into chaos if they cut off access.

Broadcast executives worry, however, that if they cut off their clean feeds, Nepalese and Bangladeshi TV distributors would simply buy an Indian satellite TV receiver, and pirate the feed



from there. This has happened before, and entering these markets legitimately with a fee was already a huge challenge. Doing so all over again would be a tall order, they complain. Nepalese cable operators have openly flouted Indian broadcasters' intellectual property rights by simply covering up a pirated feed's logo and replacing it with their own, one broadcaster complained.

Same in Pakistan and Afghanistan, where Indian broadcasters have not been operating for years.

International agreements like this typically have an arbitration clause, but broadcasters have little confidence in the legal systems of the two countries to be able to enforce such arbitral orders.

Executives have also complained of Indian diplomatic missions' limited influence in urging foreign governments to clear these dues. India maintains an extensive diplomatic presence in both Dhaka and Kathmandu, with economic and cultural attachés, one executive said, but companies often find themselves fending for themselves, or if they have a foreign shareholder, trying their luck by making representations to diplomats of that country.

BITTER VICTORY

Suryakumar Yadav's men refused to shake hands with their Pakistani counterparts all through the championship; an even more obnoxious trait was revealed when the victors refused to accept the trophy from Mohsin Naqvi, the Asian Cricket Council (ACC) president, the Pakistan Cricket Board chief, and also Pakistan Interior Minister. The scars of the Pahalgam terror attack and the angst over Operation Sindoor may linger but this was poor behaviour on the field.

If India felt strongly about playing against Pakistan, then the matches should have been skipped. This lame excuse of playing the neighbour only in multi-team tournaments, while avoiding bilateral fixtures, does not cut ice. Broadcast revenues govern these strategically placed India-Pakistan clashes in all tournaments, conducted by the International Cricket Council or the ACC. India-Pakistan contests always had an edge and it was inevitable due to Partition-trauma and multiple wars. Still in the 1980s, Dilip Vengsarkar and Javed Miandad would go hard against each other on the turf and would have a meal together at night. Punjabi pop, a shared cuisine and even common expletives forged a bond between players split by the Wagah border. But in these times of shrill nationalism, sport has become part of the external noise. In one fell swoop, Suryakumar's men and petulant Pakistani players have shown that sport can also burn bridges. This was unnecessary. While politics cast a dark shadow on the tournament, India still has some internal assessment to deal with. Suryakumar may have made some smug remarks in press conferences but he cannot hide his poor form in this tournament. The leader cumulatively scored a mere 72. This Indian T20 unit is still a work in progress even as it seizes tournaments.

WHY WAS X'S 'CENSORSHIP' CHALLENGE REJECTED?

The story so far:

The Karnataka High Court has dismissed X Corp's petition against the Union government's Sahyog portal, which enables content takedown under Section 79(3)(b) of the Information Technology (IT) Act, 2000. The ruling marks a setback for X's (previously Twitter) months-long litigation and endorses the government's content regulation framework, which has already been adopted by 38 intermediaries, including Microsoft, Amazon, Google and Telegram. Delivering the verdict, Justice M. Nagaprasanna said that social media "cannot be left in a state of anarchic freedom" and that



India's digital space could not be treated as a "mere playground where information can be disseminated in defiance of statutes."

How does the Sahyog portal operate?

Launched by the Union Ministry of Home Affairs (MHA) in October 2024, the Sahyog portal is operated by the Indian Cybercrime Coordination Centre (I4C) as a centralised platform for issuing takedown orders to internet intermediaries, including telecom operators, internet service providers, social media platforms, and web-hosting services. Its purpose is to enforce Section 79 of the IT Act, which grants intermediaries "safe harbour" protection — shielding them from liability for user-generated content. For instance, a platform cannot ordinarily be sued for a defamatory post published by a user. The legal liability rests solely with the individual who created the content.

However, this protection is conditional. Under Section 79(3)(b), intermediaries lose their immunity if, after receiving "actual knowledge" from a government agency about unlawful information, they fail to "expeditiously remove or disable access" to it. The portal was introduced to automate and streamline the issuance of such notices. Its existence was first disclosed in *Shabana versus Govt. of NCT of Delhi and Ors (2024)*, a Delhi High Court case concerning a missing 19-year-old. During the proceedings, the court stressed the need for a mechanism to facilitate real-time coordination between intermediaries and law enforcement in time-sensitive cases.

Court records reviewed by *The Hindu* show that nearly a third of the 66 takedown notices sent to X by I4C over the past year targeted posts about Union Ministers and Central government agencies. Posts referring to Prime Minister Narendra Modi, Home Minister Amit Shah and his son Jay Shah, Minister of State for Home Affairs Bandi Sanjay Kumar, and Finance Minister Nirmala Sitharaman were among those flagged for removal.

Why did X go to court?

In March, Elon Musk-owned X filed a writ petition in the Karnataka High Court challenging the legality of the Sahyog portal, which it described as a "censorship portal." The company argued that the government was invoking Section 79(3)(b) of the IT Act to sidestep the stricter and more transparent procedure under Section 69A.

According to X, the two provisions serve distinct purposes. Section 79 merely grants intermediaries safe harbour protection from liability for user-generated content, while Section 69A empowers the Centre to block online material, but only on grounds that mirror the reasonable restrictions on free speech under Article 19(2) of the Constitution such as for upholding sovereignty and integrity of India, security of the State, friendly relations with foreign States, preserving public order etc. Notably, Section 69A also mandates that the government constitute a committee, give intermediaries a chance to be heard, and issue a reasoned written order, thereby ensuring the possibility of judicial review.

To bolster its case, X relied on the Supreme Court's landmark ruling in *Shreya Singhal versus Union of India (2015)*, which struck down Section 66A of the IT Act for vagueness and upheld Section 69A as the sole constitutionally valid framework for restricting online content, subject to procedural safeguards. The court had clarified that takedown directions under Section 79(3)(b) could only follow a court order or a formal government notification, and must remain tethered to the constitutional grounds in Article 19(2), as reflected in Section 69A. By permitting thousands of



officials across both Union and State governments to issue notices through Sahyog, X argued, the Centre had created a “parallel” and “unlawful” censorship regime that lacked these safeguards.

In support of X’s challenge, DigiPub, an association of 92 digital news outlets, also intervened in the proceedings, contending that takedown orders routed through Sahyog had a disproportionate impact on its members, whose reporting was frequently targeted.

What was the government’s defence?

The Union government defended Sahyog as a necessary regulatory mechanism. It argued that the distinctive nature of the Internet, with its algorithm-driven virality, required stricter oversight than traditional media. Safe harbour, it said, was a statutory privilege, not an inherent right, and platforms that failed to act on unlawful content notices would forfeit this protection. Sahyog merely operationalised this obligation by creating a streamlined channel for such notices.

Rejecting the allegation that it had created a parallel blocking regime, the government emphasised that Sections 79 and 69A operated independently. Non-compliance with a Sahyog notice, it argued, did not amount to direct censorship but only to the loss of legal immunity. The portal, it insisted, was simply an administrative tool to facilitate swift action against illegal online content.

The government also questioned X Corp’s locus standi, pointing out that as a foreign corporation, it could not invoke fundamental rights under Article 19, which guarantees the freedom of speech and expression exclusively to Indian citizens. Represented by Solicitor General Tushar Mehta, the Union government contended that X was seeking “special treatment” in India while complying with comparable regulatory regimes elsewhere. It further pointed out that X was the only major intermediary yet to integrate with Sahyog.

What has the High Court ruled?

Dismissing X’s challenge as “devoid of merit,” Justice Nagaprasanna described Sahyog as both an “instrument of public good” and a “beacon of cooperation between citizen and intermediary.” He emphasised that oversight was especially vital in cases affecting the dignity of women.

The court also upheld the Centre’s objection to X’s legal standing, ruling that Article 19 of the Constitution is a “charter of rights conferred upon citizens only.” Since X is not a citizen of India, it ruled that “the protective embrace of Article 19 cannot be invoked” by the company. Issuing a stern caution to foreign social media corporations, the judgment warned that India could not be treated as a “playground” where information is disseminated “in defiance of the law” and later disowned through “a posture of detachment.” Entry into the Indian marketplace, the court underscored, is a “privilege tied to responsibility and accountability,” and no platform can claim exemption from the country’s legal framework.

In a pointed critique of X’s conduct, Justice Nagaprasanna observed that the platform complied with takedown regimes in the United States, “yet the same platform refuses to comply with takedown directions in this nation”. Referring to the U.S. Take It Down Act, 2025, which criminalises the publication of AI-generated deepfakes and non-consensual intimate imagery, he noted that X readily adhered to U.S. laws that impose criminal liability for non-compliance, but resisted equivalent obligations in India.

The court also rejected X’s principal contention that the Sahyog portal lacked statutory backing and that Section 79(3)(b) of the IT Act did not authorise content takedown.



Justice Nagaprasanna reasoned that the Supreme Court's ruling in Shreya Singhal was anchored in the now-defunct Information Technology Rules of 2011 and could not be "transposed" to the present context.

The 2021 IT Rules, he held, are "fresh in their conception and distinct in their design" and therefore "demand their own interpretative frame, unsaddled by precedents that addressed a bygone regime."

What are the implications?

Prateek Waghre, Head of Programs at Tech Global Institute, told The Hindu that the High Court's ruling risks enabling an unchecked expansion of state control over online content. "The problem lies in the absence of clear, narrow, and objective criteria for what constitutes unlawful content. In practice, this is likely to result in broader censorship of information that fosters political accountability, as well as the suppression of views across the spectrum," he said.

Mr. Waghre cautioned that content takedowns, whether initiated by platforms or directed by law enforcement, are not a sustainable solution, since both actors often operate selectively and in self-serving ways. "Law enforcement already has mechanisms to prosecute harmful speech under criminal codes, but these are enforced inconsistently and subjectively. Without deeper social and political reforms that disincentivise harmful expression and curb selective enforcement, the trade-off between curbing abuse of power and safeguarding free expression will endure. There are no easy fixes here".

In a statement issued on September 29, X said it was "deeply concerned" by the single-judge verdict and would file an appeal. However, it did not clarify whether the challenge would be placed before a larger Bench of the Karnataka High Court or taken directly to the Supreme Court.

X further argued that the ruling was inconsistent with a Bombay High Court judgment delivered last year in September, which struck down the Union government's Press Information Bureau fact-checking unit on the ground that it violated principles of natural justice by permitting unilateral determinations by the executive.

FRAUGHT FRANCHISE

The Election Commission of India's (ECI) completion of the Special Intensive Revision (SIR) of electoral rolls in Bihar, brings the final tally to 7.42 crore electors, a significant drop from the 7.89 crore figure before the exercise began. While the purpose was indeed to clean up the rolls, the lived reality of the exercise, including the manner in which it had to be corrected by the Supreme Court of India, renders the ECI's ambition to extend the SIR nationwide a matter of concern. The events in Bihar warned of the dangers of adopting a default attitude of suspicion towards the electorate. While the reasons for the deletion of 65 lakh names from the draft rolls, on ostensible grounds such as death, migration, duplication and lack of enumeration, were administratively sound, the process by which they were invoked was opaque. The ECI provided no consolidated list of the excluded and no meaningful prior notice, and attached no reasons to individual cases until the Court insisted on these particulars. Reports indicated that women were deleted in disproportionate numbers, raising questions about the exercise's accuracy. Even now, the ECI has not disclosed why 3.66 lakh names were removed between the draft and final rolls, the split of Form 6 additions, and a count of alleged foreign nationals, a *raison d'être* of the exercise but vagueness over which now risks erecting a bogeyman. The ECI also refused to accept widely-held



identity documents — most of the poor, the illiterate, women, Scheduled Castes and Other Backward Classes lack the ones it did demand, including birth certificates and caste and domicile papers.

A nationwide SIR conducted under the same requirements used in Bihar would likely replicate the same risks of exclusion. Electoral management research, including studies by the International Institute for Democracy and Electoral Assistance, points to three practices that enhance inclusion in roll revision: door-to-door verification by enumerators to supplement self-reporting; the use of widely held identity documents, such as Aadhaar and ration cards in India, to minimise barriers for citizens without birth or caste certificates; and advance publication of reasons for proposed deletions combined with an accessible appeals process. India's prior revisions, particularly in the early 2000s, depended more extensively on local booth-level officers and physical checks, which helped to identify errors without shifting the burden entirely onto the electors. A national SIR could also draw on digital tools to consolidate and publish exclusion data while ensuring physical notice at the constituency level, balancing transparency with privacy. Such measures would help the ECI ensure that no legitimate voter is excluded, especially at a time when Karnataka's Aland incident has raised sharp doubts on its technical competency.

POSTAL BALLOTS: THE NUMBERS, AND WHY OPPOSITION FAVOURS THE NEW FORMULA

Days before the 2024 Lok Sabha election results were declared, the Opposition INDIA bloc asked the Election Commission (EC) to ensure that counting of postal ballots was completed before the final counting of the EVM votes, seeking a reversal of the poll body's 2019 directive that allowed EVM counting to continue "irrespective of the stage of postal ballot counting".

- Now, more than a year later, ahead of the Bihar Assembly elections, the EC – which is fighting fire over its Special Intensive Revision of poll rolls in the state – has withdrawn its 2019 directive.
- In instructions issued to all states and Union Territories on September 25, the EC said: "The penultimate (second last) round of EVM/VVPATs counting shall not be taken up until the counting of postal ballot papers is completed at the counting centre."
- The argument of the Opposition parties, demanding that postal ballot counting be finished first, has been that in case of a close election, it is possible to influence results by rejecting or validating postal ballots, which are counted physically, at the last minute. Postal ballots can be rejected, for instance, if they are incorrectly or illegibly filled out.
- Over the years, the number of postal ballots has increased significantly as more and more people have been allowed to vote by mail. As per the provisions in the Conduct of Election Rule, 1961, members of the armed forces, government employees posted outside India, or those deployed on election duty can vote by post, as can voters under preventive detention.
- Special voters such as the President, Vice-President, Governors, Union Cabinet ministers, and Speakers also have the option to vote by post.
- In 2019, the Law Ministry, at the EC's behest, introduced a new category of "absentee voters", who can now also opt for postal voting. These are voters employed in essential services — including Railway employees and media personnel — who are unable to cast their vote due to their service conditions.



- In 2020, the EC extended the facility further to senior citizens above the age of 80 and persons with disabilities.
- Ahead of the 2019 Lok Sabha elections, the EC also introduced the Electronically Transmitted Postal Ballot System (ETPBS), through which postal ballots are sent to service voters electronically instead of by post, though the ballots are still returned by post.
- When the EC issued its 2019 directive, it had cited the considerable increase in the number of postal ballots since the introduction of the ETPBS as a reason for delinking postal ballot counting completely from EVMs.
- Since the EC began publishing complete data on postal ballots in the 1990s, the number of voters availing this service has consistently increased both in the Lok Sabha and state Assembly polls.
- In the 1996 Lok Sabha elections, 3.6 lakh postal ballots were cast, or just 0.1% of all votes cast that year. In 2024, 42.82 lakh people cast their vote by post, making up 0.66% of the total votes – the highest ever share of postal ballots in general elections.
- In Bihar, after declining for three consecutive Assembly polls, from 1995 to 2005, the number of postal ballots have increased considerably every election. In 1995, 2,209 postal votes were cast, accounting for 0.01% of all votes.

Do You Know:

- January 25 is celebrated annually as National Voters' Day to mark the foundation day of the Election Commission of India (ECI), which was founded on January 25, 1950.
- The day aims to promote people's participation in elections by encouraging and felicitating young voters and increasing voter enrolment. It is also utilised to spread awareness among voters and to promote informed participation in the electoral process.
- In democracies, voting is seen as a basic exercise that shows people's faith in the political process. Voting gives each person a say in deciding who will hold positions of power in their society and is a crucial part of exercising one's citizenship.
- In 2013, the Indian Supreme Court allowed for the option 'None of the Above' to be introduced in Lok Sabha and state Legislative Assembly elections to allow such views to be expressed.
- "Not allowing a person to cast a vote negatively defeats the very freedom of expression and the right ensured in Article 21, i.e. the right to liberty... a provision of negative voting would be in the interest of promoting democracy as it would send clear signals to political parties and their candidates as to what the electorate think about them. The mechanism of negative voting, thus, serves a very fundamental and essential part of a vibrant democracy," the court said at the time.

NATIONAL CRIME RECORDS BUREAU (NCRB) DATA

- The National Crime Records Bureau (NCRB) on September 29 released the Crime in India report for 2023, which is the most authoritative compilation of offences across the country.
- The annual report provides crucial data on violent crime, caste-based offences, economic frauds, and more that informs policymaking and law enforcement priorities.



Key data points from the report

- India recorded 27,721 cases of murder in 2023, a dip of 2.8% from 2022, while cybercrimes saw a 31.2% increase, with 86,420 cases reported.
- Crime against children: A total of 1,77,335 cases of crime against children were registered across the country in 2023, showing an increase of 9.2% as compared to the previous year.
- Crimes against Scheduled Tribes (STs): Crimes against STs increased 28.8% in 2023, with 12,960 cases registered.
- Crime against Scheduled Castes (SCs): There were 57,789 cases registered in 2023 for crimes against SCs, with Uttar Pradesh accounting for the highest share at 15,130 cases.
- Cybercrime: Cybercrime in India saw a sharp surge in 2023, with fraud, extortion and sexual exploitation accounting for the majority of cases. The crime rate, which is the number of crimes per lakh population, increased from 4.8 in 2022 to 6.2 in 2023.
- Crime against women: A total of 4,48,211 cases of crime against women were registered, marking an increase of 0.7%. The national crime rate stood at 66.2 incidents per lakh female population.

NCRB data on student suicide

- The number of student suicides in the country went up by 34 per cent in 2023 as compared to 2019, data from the National Crime Records Bureau (NCRB) shows.
- Over the past decade, the number of student suicides rose by around 65% — from 8,423 in 2013 to 13,892 in 2023. The rise is steeper than the rise in the total number of deaths by suicide over the past decade.
- The total number of deaths by suicide in 2023 is 1.71 lakh, which saw an increase of 23 per cent from 2019 (1.39 lakh deaths). Student suicides made up around 8.1% of the total deaths by suicide in the country in 2023.

NCRB data on the safest city in India

- According to NCRB, Kolkata has once again emerged as the safest city in India for the fourth year running. It has recorded 83.9 cognisable offences per lakh population in 2023, the lowest among the 19 Indian cities with populations above 20 lakh.
- Among the cities surveyed, Kochi (Kerala) is at the top amongst the most unsafe cities, followed by Delhi.

About NCRB

- The NCRB was established in 1986 to compile crime data, functioning under the Union Home Ministry. Apart from publishing annual reports, it engages in the “Collection, coordination and exchange of information on inter-state and international criminals to the respective states”.
- NCRB also acts as a “national warehouse” for the fingerprint records of Indian and foreign criminals, and assists in locating interstate criminals through fingerprint search.



BEFORE STATEHOOD DEMAND, HOW DECADES OF AGITATION GAVE IT UT STATUS

In 1931, when Kashmir erupted against Dogra rule after the killing of 22 protesters outside the Srinagar Central Jail, the British Resident in Kashmir strongly advocated for a commission to probe Muslim grievances. Under pressure, Maharaja Hari Singh set up the Glancy Commission, headed by British official B J Glancy.

- The panel recommended the creation of a Praja Sabha or People's Assembly, consisting of 75 seats: 33 elected, 30 nominated, and 12 official members. Of the 33 elected seats, 10 were reserved for Hindus, two for Sikhs, and 21 for Muslims. Ladakh, then a district, was allotted only two nominated seats.
- It was Pandit Sridhar Kaul, a Kashmiri Hindu from Rainawari in Srinagar who, while serving as an Education Officer in Leh, led the formation of the Young Men's Buddhist Association (YMBA), which later became the Ladakh Buddhist Association (LBA).
- Ladakh's modern political history is deeply intertwined with the LBA, which, while presenting itself as a non-political, socio-religious organisation, has significantly shaped the region's politics over the decades. Although its primary mission is to promote Buddhist interests, foster social reforms, and preserve Ladakh's culture and identity, the LBA has consistently been at the forefront of political and social struggles in Buddhist-majority Leh.
- For four centuries, Ladakh was ruled by the Namgyal dynasty before it was annexed into the princely state of Jammu and Kashmir under the Dogras. After the Partition, Ladakh's political trajectory was largely defined by the LBA, which had long supported the idea of Union Territory (UT) status for Ladakh. However, the demand was scaled down to seeking an autonomous region, as the amendment of Article 370 was considered politically infeasible at the time.
- In 1989, Thupstan Chhewang was elected the LBA's president. Chhewang, who now heads the Apex Body, Leh (ABL), along with key figures such as Chering Dorje Lakruk, Rigzin Spalbar, and Nuwan Rigzin Jora, advocated for a more assertive approach toward securing UT status for Ladakh.
- Ladakh has historically been a region of contradictions — Leh, with its Buddhist majority, and Kargil, with its Muslim majority, have always had contrasting political aspirations. While Leh fought for UT status, Kargil wanted to remain aligned with J&K.
- At the height of the LBA's agitation, Kargil formed the Kargil Action Committee (KAC), led by religious head Ahmad Mohammadi. The KAC opposed the idea of a Union Territory and instead called for Ladakh to be granted divisional status within Jammu and Kashmir, similar to the Kashmir and Jammu divisions. The KAC's efforts culminated in the election of Mohammad Hassan Commander, a Kargil Muslim, as Ladakh's first Muslim MP.
- Amid the continuing boycott of Muslims in Leh, the Central government intervened, initiating tripartite talks between the Centre, the J&K government, and the LBA. Although the talks saw multiple setbacks, especially after the fall of the Congress government and the rise of V P Singh and Chandra Shekhar governments, progress resumed with the return of Congress in 1991.
- By 1995, during the P V Narasimha Rao government, the Ladakh Autonomous Hill Development Council (LAHDC) Act was passed, paving the way for hill councils in Leh and Kargil.



While Leh immediately embraced the Hill Council, Kargil deferred its decision until 2003, when the LAHDC Kargil was finally established.

- On August 5, 2019, the abrogation of J&K's special Constitutional status and its division into two UTs, including Ladakh, was met with celebrations in Leh, with the LBA viewing it as the culmination of its long struggle.
- However, six years later, Ladakh's political landscape has shifted once again. Chhewang, Lakruk, and other former BJP allies have parted ways with the party and are now leading a renewed campaign for Ladakh's statehood and inclusion under the Sixth Schedule of the Constitution. And for the first time, Leh and Kargil are on the same page, at least in their demands.

Do You Know:

- Sixth Schedule contains provisions regarding the administration of tribal areas in the states of Assam, Meghalaya, Tripura and Mizoram.
- Inclusion under Sixth Schedule would allow Ladakh to create ADCs and ARCs. These are the elected bodies with the power to administrate tribal areas. This would include the power to make laws on subjects such as forest management, agriculture, administration of villages and towns, inheritance, marriage, divorce and social customs.

WHAT IS NSA, UNDER WHICH SONAM WANGCHUK WAS DETAINED

Climate activist Sonam Wangchuk, at the forefront of the movement seeking statehood and protections under the Sixth Schedule for Ladakh, was detained under the stringent National Security Act (NSA) by the police in Leh on Friday (September 26). According to his wife, he has been taken to a jail in Jodhpur.

- The Centre had previously held him responsible for instigating the violent protests that broke out in Leh on Wednesday, in which four persons were killed in police firing, and 50 were injured.
- The use of the NSA has brought focus back on one of India's most stringent preventive detention laws. Invoked in the past against separatists, gangsters and radical preachers, the NSA empowers governments to act pre-emptively against individuals seen as a threat to public order or national security.
- Preventive detention has a long history in India, dating back to colonial times when it was used to control dissent during wars. After Independence, Parliament passed the Preventive Detention Act, 1950, followed by the Maintenance of Internal Security Act (MISA), 1971, which became notorious for misuse during the Emergency. MISA was repealed in 1978, and two years later, the National Security Act was enacted.
- The NSA, 1980, empowers the Centre and states to detain individuals to prevent them from acting in a manner "prejudicial to the defence of India, relations with foreign powers, the security of India, or the maintenance of public order or essential supplies".
- District Magistrates and Police Commissioners can also exercise these powers when authorised. Unlike an arrest under criminal law, NSA detention is preventive, not punitive—it is designed to prevent an individual from committing an act deemed harmful.



- The stated purpose of the NSA was to give the government wide ranging powers to deal with threats to security, law and order, and essential supplies, while building in some procedural safeguards.
- A detention order under the NSA can be executed like a warrant of arrest. Once detained, a person can be held in specified places, moved across states, and subjected to conditions set by the government.
- The Act mandates that the grounds of detention must be communicated to the detainee within five days, and 15 days at most. It also says that the detainee has the right to make a representation to the government, and that an Advisory Board of High Court judges must review the case within 3 weeks, releasing the detainee if it finds “no sufficient cause.” Detention cannot ordinarily exceed 12 months, though it may be revoked earlier.
- However, there are serious limitations. The detainee has no right to legal representation before the Advisory Board, and the government may withhold facts in “public interest.” These provisions leave wide discretion in official hands.
- Wangchuk could either challenge the detention order by filing a representation to the government, as provided under the Act, or wait for the Advisory Board’s review within three weeks. If the Board finds no sufficient cause, he must be released immediately.
- Alternatively, he may move the High Court or Supreme Court under writ jurisdiction (Articles 226/32 of the Constitution) to contest the legality of his detention. He can also seek revocation if the government itself decides the detention is unnecessary at any stage.
- Until these remedies play out, however, the NSA allows authorities to hold him without filing formal charges or producing evidence in open court.

Do You Know:

- Article 22 prescribes protection against arrest and detention but has a major exception. It says in Article 22 (3) (b) that none of those safeguards apply “to any person who is arrested or detained under any law providing for preventive detention.” The remaining clauses — Article 22(4)-(7) — deal with how preventive detention operationalises.

LOYALTY AND LADAKH

The detention of climate activist Sonam Wangchuk under the National Security Act and the volley of allegations hurled at him by the BJP and the government mark a further deterioration of the situation in Ladakh, a sensitive border region. Mr. Wangchuk had been spearheading a movement on behalf of civil society groups demanding statehood for Ladakh and its inclusion under the Sixth Schedule of the Constitution, which turned violent on September 24. To pin the blame on him for the violence, as the government and the police appear to be doing, is unwise and flies in the face of facts. This is no way to address the issues that have led to the unrest. Mr. Wangchuk has been a supporter of the Centre’s decision, in 2019, to bifurcate the erstwhile State of Jammu and Kashmir into Union Territories (UT), in the hope that Ladakh would be granted full statehood and its indigenous culture and heritage protected by inclusion in the Sixth Schedule subsequently. The BJP did make a public commitment, at least on the question of the Sixth Schedule. Developments following the carving out of Ladakh as a UT followed an opposite pattern, leaving the native population feeling alienated. The Centre did start negotiations and arrived at a tentative



agreement with the groups on May 27, 2025, which unravelled for reasons that remain unclear. But the mistrust among the protesters, and with the Centre is apparent. The Centre is now planning to continue with talks even as Mr. Wangchuk is in jail in Jodhpur.

Investigations have been launched against SECMOL, a school he co-founded, though he is not associated with its management anymore. The Centre has revoked its FCRA licence for alleged financial irregularities. He has denied all allegations and welcomed any investigation. He has said the unrest stemmed from six years of unkept promises, especially on job creation and constitutional safeguards. The Opposition, led by the Congress, has termed Mr. Wangchuk's activism as peaceful and Gandhian. The use of the CBI and ED to overcome a political situation, the violence notwithstanding, betrays a lack of statesmanship. The situation is such that any agreement with other interlocutors while Mr. Wangchuk remains detained will carry little legitimacy in the eyes of the world or Ladakh. It is also extremely counterproductive to accuse the people or the leaders of the movement in Ladakh of disloyalty to the nation, as many allies of the BJP are doing brazenly. The Centre should be more considerate toward the concerns of Ladakh, and such an approach will advance national security and integration much more than any strong-arm measures can achieve in the short term.

WHY IS LADAKH'S TRIBAL POPULATION RESTIVE?

The story so far:

On September 26, prominent educationist and climate activist of Ladakh, Sonam Wangchuk, was detained under the National Security Act (NSA), 1980 for disrupting public order. Mr. Wangchuk was on the fifteenth day of a 35-day hunger strike when violent protests erupted in Leh city which led to the death of four people and injuries to around 150 people, including security personnel.

Why was the hunger strike called?

For the past five years, civil society groups have been demanding protection of land, resources and employment for Ladakh. The special status of Jammu and Kashmir under Article 370 was read down by Parliament on August 5, 2019 and the State was split into two Union Territories — J&K and Ladakh, the latter without an Assembly. The fear of big businesses and conglomerates taking away land and jobs from the local people led to this demand. As per the 2011 Census, the total population of Ladakh was 2,74,289.

On September 10, Mr. Wangchuk, on behalf of the Leh Apex Body (LAB) and the Kargil Democratic Alliance (KDA), announced a 35-day hunger strike along with 15 others to demand the resumption of talks with the Union Ministry of Home Affairs (MHA). They had four demands: inclusion of Ladakh in the Sixth Schedule of the Constitution (tribal status), Statehood, separate Lok Sabha seats for Leh and Kargil, and filling of existing government vacancies.

What is the framework of the talks?

In January 2023, following campaigns by groups in Kargil and Leh demanding constitutional safeguards, protection of land, preservation of culture and demand for employment opportunities, the government formed a High-Powered Committee (HPC) headed by Minister of State for Home Nityanand Rai. The committee comprised members of LAB and KDA and civil society representatives, who rejected the HPC, saying only pro-government members appeared to have been picked. The HPC was reconstituted on November 30, 2023. The terms of reference of the committee are: measures to protect the region's unique culture and language taking into



consideration its geographical location and strategic importance; to ensure protection of land and employment for the people of Ladakh; to discuss measures for inclusive development and employment generation in the region; to discuss measures related to the empowerment of the Ladakh Autonomous Hill District Councils of Leh and Kargil and to examine constitutional safeguards for the measures. The talks broke down in March 2024. On October 6, 2024, Mr. Wangchuk sat on an indefinite fast in Delhi to draw the government's attention to their demands, following which the MHA agreed to resume talks. The HPC, including leaders from Leh and Kargil, met on December 3, 2024, followed by another meeting on January 15, 2025. The committee last met on May 27. The members also met Home Minister Amit Shah at his residence the following day.

What happened since the last round of talks?

Following the meeting, on June 3, President Droupadi Murmu notified four Regulations for the Union Territory of Ladakh, defining new policies on reservation, languages, domiciles and composition of hill councils for Ladakh. The Regulations paved the way for 85% reservation for resident Ladakhis in government jobs. The Ladakh groups allege that their core demands of Statehood and inclusion in the Sixth Schedule have not been met.

What is the government's stand?

Cherring Dorjay Lakruk, president of the Ladakh Buddhist Association and co-convenor of the LAB, which had been spearheading the protests, told The Hindu that Union Home Secretary Govind Mohan on his visit to Ladakh on July 1 had assured them a discussion on the two points. The MHA had informed a parliamentary standing committee in 2022 that the objective for inclusion of a tribal population under the Sixth Schedule is to ensure its overall socio-economic development. It said the UT administration had already been taking care of this aspect and that sufficient funds were being provided to Ladakh.

After the violent protests, the MHA said in a statement that it had been actively engaged with LAB and KDA and a series of meetings were held. "The process of dialogue through this mechanism has yielded phenomenal results by increasing reservations for Ladakh's Scheduled Tribe[s] from 45% to 84%, providing one-third reservations to women in the councils and declaring Bhoti and Purgi as official languages. With this process of recruitment, 1,800 posts opened up for tribals," the MHA said.

A RED SUNSET ON THE HORIZON

Almost six decades after the Naxalbari uprising, an armed peasant revolt led by a breakaway faction of the Communist Party of India (Marxist) which spurred a lengthy left-wing insurgency in India, the Maoist movement is at a crossroads. Under relentless pressure from the government — Union Home Minister Amit Shah has vowed to "end" the Naxal insurgency by next March — top Maoist leaders are divided on how to proceed.

— For the second time in a month, Mallojula Venugopal Rao, the ideological head and chief spokesperson of the CPI (Maoist), earlier this week wrote a letter stating that it is time for the "cessation of armed struggle" in order to "save the party".

— At the heart of the crisis among the Maoists is the relentless crackdown by central armed forces, backed by elite anti-Maoist state police units, which has brought the armed guerrillas to their knees.



— In recent years, Maoists have also struggled to recruit new cadres to replenish their diminishing ranks. While recruitment from the non-tribal populations ceased more than a decade ago, today, even tribal youth are disinclined to join the party.

— This is, in large part, due to the inability of the Maoist ideology to keep up with rapid material and social changes in areas that were once hotbeds of revolutionary fervour. Sources say that tribal communities greatly benefit from government welfare schemes and free education for children, making them less likely to want to join the armed struggle. Young people, who have accessed mobile phones and the Internet, are no longer interested in the austere jungle life of a Maoist guerilla, spent almost constantly looking over one's shoulder.

— This has meant that much of the top Maoist leadership, who waged war against the Indian state for decades, has grown old; many are learnt to be suffering from serious illnesses.

Do You Know:

— The “Maoist-Naxal movement” began in Naxalbari in northern West Bengal on May 18, 1967 when some 150 peasants, armed with only sickles, daggers, and spears, attacked properties of landlords, seized maunds of paddy, and started seizing land.

— Charu Mazumdar, the ideologue behind the Naxalbari uprising, was a hardcore CPI(M) member who, between 1965 and 1967, penned eight monographs, known as the ‘Historic Eight Documents’, which laid down the ideological fundamentals of the decades-long insurgency.

— Among other things, Mazumdar claimed that the Indian state was a bourgeois institution, accused communist parties of “revisionism” for deciding to work within the framework of this bourgeois state, and advocated for a protracted revolutionary war, on the lines of what Mao Zedong waged in China or Fidel Castro and Che Guevara waged in Cuba, to overthrow the Indian state.

— The uprising led to a split in CPI(M) which opposed armed struggle. Many communists, including Mazumdar and his comrade-in-arms, Kanu Sanyal, were expelled from the party. They went on to form the CPI(Marxist-Leninist) in 1969.

— A government crackdown on CPI(ML) and the Naxalites, as the revolutionaries came to be known, however, all but ended the original movement. Many leaders went underground, surrendered, or were captured or killed by the forces. Mazumdar himself was arrested; he died in police custody in 1972.

— But even as the movement petered out in Bengal, it resonated in many parts of the country. Most notably, it entered Andhra Pradesh through Srikakulam, a district where tensions between tribal farmers and landlords had long been simmering. In October 1969, these tensions came to a boil: peasants attacked landlords, seized grain and land, and armed themselves, joining splinter groups of the CPI(ML).

— In the late 2000s, left-wing extremism (LWE, the government's official nomenclature) affected nearly 180 affected districts across an area of 92,000 sq km. But the government's efforts, “combining security enforcement, inclusive development, and community engagement” according to one MHA press release, has made a significant impact since.

— The number of LWE-affected districts reduced to only 38 in April 2024, with only six of these being deemed “districts of concern” where additional resources need to be deployed.



EXPRESS VIEW ON 'I LOVE MUHAMMAD' ROW: UP GOVERNMENT'S CRACKDOWN ERODES 'VISHWAS'

It began with a light board installed in front of a lane in Kanpur, "I love Muhammad" written on it, ahead of the annual Barawafat procession to mark Prophet Muhammad's birth anniversary. A police FIR blamed one community for deliberately introducing a new practice — "jaan boojh kar nayi parampara ki shuruat" — which would ostensibly endanger communal amity, and relocated the banner. But that was not the end of the matter. Over nearly a month since then, protests against the police action spread across several of Uttar Pradesh's districts, roiling Bareilly in particular, and spilled into other states, including Uttarakhand, Gujarat, Karnataka, Telangana, Maharashtra. They were met, more often than not, with official heavy-handedness, with FIRs slapped indiscriminately, a spate of arrests, and demolition of properties. This disquieting pattern is now ebbing mercifully.

Violence and arson are unacceptable and those who participate in the lumpenism of the mob must be proceeded against lawfully. At the same time, hard questions need to be asked of those who criminalised the putting up of an innocuous banner. Indeed, it wasn't even all that new, similar banners had been put up in the Kanpur neighbourhood earlier too — in cloth, if not as a well-lit display board. And what is wrong, anyway, with a "nayi parampara" that does not disturb the peace? More fundamentally, the question is: In a country where the Constitution guarantees and protects the right of every citizen to profess and propagate a religion of her choice, why does the police FIR read like an indictment of the religious practice of one community, and a punishment for its public visibility? The political leadership also has much to answer for. In times when there is a simmering sense of siege in the beleaguered minority community, it is the work of politics, especially one that proclaims "Sabka saath... sabka vishwas", to observe restraint and apply the healing touch. UP Chief Minister Yogi Adityanath's hardline — "denting-painting" must be done to trouble-makers, he said, and a lesson taught to subdue future generations — is divisive. It does not behove his office.

Especially now that his refrain is the economic development of UP. The state government has been making moves to attract private investment, and address long-standing infrastructure deficits. The flaring of tensions over the "I love Muhammad" banners, the excessive use of the state's strong arm and the political bid to stoke minority insecurities, undermine that effort. They point to a state in which peace is fragile and the vulnerable are ill at ease. The Yogi Adityanath government must heed its mandate and its constitutional duty and take steps to correct this.

UTTARAKHAND CM DHAMI'S RESPONSE TO PAPER LEAK PROTESTS IS COMMUNAL, TONE-DEAF

The question paper leak in the Uttarakhand Subordinate Service Selection Commission (UKSSSC) exam for graduate-level posts, and the response of Chief Minister Pushkar Singh Dhami to the protests that began on the streets of Dehradun and spread across the state, are disquieting. They point to a state apparatus incapable of safeguarding the integrity of public examinations and unwilling to reckon with the consequences of its own failures. This is not the first time the UKSSSC has found itself mired in controversy, nor is it the only recruitment body in the state to come under a cloud. In January 2023, the Uttarakhand Public Service Commission (UKPSC) had to cancel its patwari and accountant exam over allegations of malpractice. In December 2021, the UKSSSC was similarly hit by a paper leak. For a state with a high level of unemployment, one that is also being hollowed out by migration — entire villages in Uttarakhand have been emptied of the young, who



have left in search of better livelihoods — the message is dispiriting: Merit and hard work count for little in a system that can be so easily rigged. In this context, Chief Minister Dhami's response to the protests seems particularly tone-deaf — and troubling. He has resorted to communal dog whistle politics, labelling it “nakal jihad”. Announcing an SIT to investigate the incident, he has attempted to discredit the protesters for “anti-national and anti-sanatan” slogans. His attempts to deflect and divert — “...the youth are wise and nationalistic as our state shares borders with two countries, and they belong to Devbhoomi, so they will move forward with these ideals”, the CM said — reek not merely of gaslighting but of a disregard for the shared frustration and distress of those out on the streets, across religions.

In recent years, competitive examinations have been compromised across states such as Rajasthan, Madhya Pradesh and West Bengal, each case leaving behind a trail of disillusioned aspirants, their trust in the public recruitment system chipped away by corruption. The September 21 examination in Uttarakhand, meant to fill 416 vacancies across positions such as patwari, lekhpal and village development officer, saw over 40,000 candidates appear in 121 centres across Dehradun alone. In a country where nearly 65 per cent of the population is under the age of 35, the turnout reflects the desperation of a generation navigating a fragile job market, where government employment remains one of the few perceived lifelines to social mobility and economic stability.

The burden is on the state to expand opportunities. It will take more than ritual investigations, lip service or attempts to deflect from the issue at hand. It needs compassion and sincerity of intent. Uttarakhand's youth deserve a future that isn't sabotaged by the incompetence — and cynicism — of the powerful.

RSS HAS ROADMAP FOR CHALLENGES ON THE ROAD TO VIKSHIT BHARAT: PM

Comparing the organisation to a river which had nurtured and nourished a civilization of nationalists around it, Prime Minister Narendra Modi on Wednesday showered praise on the Rashtriya Swayamsewak Sangh (RSS) on the eve of its centenary.

— Speaking at an event to mark the occasion at Dr Ambedkar International Centre in Delhi, PM Modi also released a commemorative stamp and coin symbolising Bharat Mata as an entity for the first time in independent India as well as a stamp acknowledging the Sangh's association with the nation's history – its cadres marching as part of the ceremonial parade on Republic Day in 1963.

— The Sangh's commitment to the ‘Panch Parivartan’ – swabodh (self-knowledge), samajik samrasta (social cohesion), kutumbh prabodhan (awareness regarding family), nagrik shishtachaar (citizen etiquette), and paryavaran (environment) – forms a significant inspiration for each Swayamsevak to tide over the challenges facing the nation and also lay the foundation for an Atmanirbhar Bharat by 2047, PM Modi said.

— Seeking to underline the RSS's role in India's socio-cultural history and terming practices such as untouchability as a disease, the PM sought to highlight its struggle for an equal society which was praised even by Mahatma Gandhi.

— PM Modi also showered praise on those who had led the RSS over its 100-year journey. From its founder Dr Keshav Baliram Hedgewar till incumbent RSS chief Dr Mohan Bhagwat, every Sarsanghchalak, he said, had fought against discrimination and untouchability.



— The Rs 100 commemorative coin released on the occasion features the national emblem on one side and an image of Bharat Mata in Varad Mudra with a lion being saluted by Swayamsevak on the other.

— This, PM Modi said, was possibly the first time in the history of independent India that Bharat Mata's image has appeared on Indian currency. It also features the Sangh's motto of "Rashtraya Swaha, Idam Rashtraya, Idam Na Mama".

— The PM underlined that from its inception, the RSS had been synonymous with patriotism and service, recalling its activities to provide relief to refugees from the Partition in 1947 to as recently as the COVID pandemic.

Do You Know:

— The first shakha of the Rashtriya Swayamsevak Sangh (RSS), the organisation that Hedgewar established in 1925 with just five members, was an act of imagination that few outside Nagpur noticed at the time. Yet, a century later, the RSS has grown into one of the most powerful forces in India, presiding — through its political progeny, the Bharatiya Janata Party (BJP) — over the most complete dominance of the Indian state.

— From Hedgewar's modest beginnings, through decades of suspicion, bans, and marginalisation, to its present-day role as the ideological core of the ruling dispensation, the RSS's journey has been remarkable for its resilience and adaptability.

— Hedgewar's own trajectory reflected the ferment of early 20th-century India. A medical practitioner inspired by Bal Gangadhar Tilak and shaped by his association with the Anushilan Samiti — a fitness club that operated as an underground society for anti-British revolutionaries — he was an enthusiastic Congress worker, even courting arrest during Gandhi's non-cooperation movement.

— But the Mahatma's support for the Khilafat agitation and the Congress's emphasis on Hindu-Muslim unity left him disenchanted. After a brief association with the Hindu Mahasabha, Hedgewar decided to chart his own course.

— Hedgewar believed that the British, though numerically insignificant, could rule India only because Hindus were disunited, lacking in parakram (valour) and civic character. His answer: to systematically train "energetic Hindu youth with revolutionary fervour."

— When Hedgewar died in 1940, the Sangh was still small, but his successor Golwalkar would turn it into a national force. A zoology lecturer at Banaras Hindu University, Golwalkar, or "Guruji", became chief at just 34.

— Golwalkar provided ideology and organisation. His writings — We or Our Nationhood Defined (1939) and Bunch of Thoughts (1966) — offered the RSS an intellectual core.

WHY ARE THE NEW RULES FOR PANCHAYATS GETTING FLAK?

The story so far:

The Mohan Majhi-led Bharatiya Janata Party (BJP) government in Odisha announced the new Odisha Panchayat Samiti Accounting Procedure (Amendment) Rules, 2025, after state cabinet approval last month. However, the Biju Janata Dal (BJD) and the Congress have strongly criticised



the amended rules, stating that it undermines people's representatives of the Panchayati Raj Institutions (PRIs).

What are the amended rules?

As per the amended rules, officials at the ground level will now enjoy greater financial authority to pass bills without requiring the counter-signature of elected representatives. Previously, Block Development Officers (BDOs) could clear bills only up to ₹2 lakh, with any amount above that needing the approval of the Panchayat Samiti chairman, an elected representative. Under the new provision, BDOs can independently sanction bills up to ₹10 lakh. Similarly, the power to grant administrative approval for Panchayat Samiti plans and estimates has been delegated to the Chief Development Officer-cum-Executive Officer of the Zilla Parishad, a senior district-level bureaucrat, even though Zilla Parishads are headed by elected chairpersons. The amendment also expands the authority of engineers to accord technical sanction for larger development projects. Depending on their ranks, engineers can now clear projects ranging from ₹5 lakh to ₹4 crore — a sharp rise from their earlier financial limits. Similarly, financial authority has been transferred to engineers in implementation of the Mahatma Gandhi National Rural Employment Act (MGNREGA), a central government scheme. Administrative approval powers have also been revised for general developmental schemes. BDOs can now approve projects up to ₹20 lakh, and Panchayat Samiti Chairpersons (elected representatives) up to ₹50 lakh.

What has the opposition said?

According to the government, these amendments will expedite bill processing, ensure timely approvals, and facilitate smooth implementation of developmental programmes across all Panchayat Samitis while retaining the supervisory role of the chairpersons.

However, the BJD has alleged that the recent amendment is a conspiracy to downgrade the authority of elected representatives in PRIs on purely political grounds. In the 2022 rural polls, the Naveen Patnaik-led BJD had secured an emphatic victory, winning 766 of 853 Zilla Parishad seats with 52.73% of the vote — nearly 90% of the total. Although panchayat elections are not contested on party symbols, BJD-backed candidates had virtually swept the polls across the State. The next panchayat elections are due in 2027. The BJP, buoyed by its unexpected triumph in both the Assembly and Lok Sabha elections of 2024, is under tremendous pressure to replicate that success at the grassroots level to consolidate its influence. Observers note that the BJP, through its control of the bureaucracy, can now implement development programmes without depending on PRI members — most of whom are aligned with the BJD.

Why is the BJD angry?

For the BJD, the issue goes beyond financial control or political leverage. The party contends that the BJP has sought to tamper with a legacy: the strengthening of the three-tier PRIs, a system nurtured by both the late Biju Patnaik and his son, Naveen Patnaik.

Biju Patnaik was credited as the first Chief Minister in India to introduce 33% reservation for women in PRIs, later extending it to chairperson posts. Naveen Patnaik further raised this quota to 50% in 2012.

The BJD has also objected to the rebranding of its flagship scheme Aam Odisha Nabin Odisha as Bikashita Gaon Bikashita Odisha, with provisions substantially altered. Under the original scheme,



each panchayat received ₹50 lakh, but allocations have now been reduced to just ₹7–8 lakh, the BJD said.

UPSC @ 100: THE STORY OF INDIA'S TOP RECRUITER

Shyamlal Yadav writes- "When the Constitution came into effect in India on January 26, 1950, so did some institutions that enabled the foundation of a newly democratic nation. One such institution was the Union Public Service Commission (UPSC), located at Dholpur House on Shahjahan Road in New Delhi."

— "At the time it was founded on October 1, 1926, under the Government of India Act, 1919, the UPSC was known as the Public Service Commission. Before its current name, between 1937 and January 26, 1950, it was called the Federal Public Service Commission (FPSC). On October 1 this year, the highest recruiter of officials to the Indian government will enter its centenary year."

— "A constitutional body, its mandate under Article 320 (outlines the functions of Public Service Commissions) is "to conduct examinations for appointments to the services of the Union and ...State respectively".

— "Today, the UPSC mostly holds written exams (usually the two-tier prelims and mains) and interviews (called personality tests)."

— "UPSC's roots date back to the arrival of the East India Company in India as a "traditional trading concern" in the 1600s. As a "traditional trading concern", its employees — writers, and junior and senior merchants — were purely mercantile servants, appointed and paid according to their individual merits for decades. In the second half of the 18th century, especially after the Company's victories in the Battle of Plassey in 1757 and the Battle of Buxar in 1764, it realised its new role — to rule India."

— "Around this time, Governor Generals Warren Hastings (from 1773 to 1785), Lord Wellesley (from 1798 to 1805) and Lord Cornwallis (from 1786 to 1793) had reshaped the bureaucracy in British India."

— "By 1858, the character of the Company and its civil servants had changed. To manage a rich empire like India efficiently, the Company had started feeling the need to appoint bureaucrats. Before this, its administrative machinery was essentially based on the structure of the Mughal-era, though the Company kept refining its administrative machinery over time."

— "The Macaulay Committee of 1854 was a huge leap forward in the direction of modern-day bureaucracy. In 1855, a Civil Service Commission came into existence in Britain. By 1858, its jurisdiction was extended to the Indian Civil Service (ICS). At first, recruitments to the Commission were done via the direct route — through a written test and, if needed, an interview. After the First World War (1914-1918), a Staff Selection Board (SSB) was set up to manage this."

— "However, entry to the Commission would remain out of bounds for Indians till 1922. Two years after the ICS exams started being held in India from 1922 onwards, in 1924, the Lee Commission recommended early establishment of a Public Service Commission in the country. From 1926 onwards, the SSB handed over the responsibility of recruitments to this very Public Service Commission. Sir Ross Barker served as its chairperson till 1932."



— “A new proposal under the Government of India Act, 1935, established a Commission for both the federation and each province or group of provinces. By the time this new format — the Federal Public Service Commission (FPSC) — rolled out in on April 1, 1937, and Sir Eyre Gordon took over from Sir David Petrie as its chairperson, India was merely a decade away from Independence. Already, the Constitution was being debated and provisions were being framed for an independent recruiter of civil servants in India.”

— “When India became independent on August 15, 1947, the FPSC was headed by its first Indian chief, H K Kripalani. After him, R N Banerjee headed the Commission from 1949 to 1955. During his tenure, the Constitution came into effect, as did two change of names — the FPSC was now the UPSC, while the ICS was renamed as the Indian Administrative Service (IAS).”

— “The UPSC’s Dholpur House headquarters, where it shifted in 1952, too has an interesting backstory. Belonging to the erstwhile Raja of Dholpur, Udai Bhan Singh, it was transferred to the government after Independence, when the Raja decided to merge his state with the Union of India. The Raja was then appointed as the Rajpramukh (similar to a Governor) of the Matsya Union, a state created with the merger of some princely states after Independence. This building continues to be the house of UPSC.”

— “Over the years, the UPSC instituted several reforms within. It has also disclosed several details related to its exams after Right to Information (RTI) queries were filed, though it resisted the law at first.”

— “Various commissions and committees — the first Administrative Reforms Commission of 1966 (headed by Morarji Desai, and later by K Hanumanthaiah), the Thorat panel of 1967 (headed by Lt Gen S P P Thorat), the Kothari panel of 1976 (headed by Daulat Singh Kothari), the Satish Chandra panels of 1989 and 1990, the Alagh Committee of 2001 (headed by Y K Alagh), the P C Hota panel of 2004 and the Arun Nigavekar panel of 2012 — too have shaped the UPSC’s current recruitment pattern.”

WHY STAMPEDES HAPPEN

As the Karur death toll mounts, where a rally by Tamilaga Vettri Kazhagam (TVK) president and actor Vijay saw a stampede on Saturday, there is a familiar script to how the incident unfolded.

- More than crowds thronging to an event, a specific trigger — in this case people climbing on to a tree behind Vijay’s van and then falling off into the crowd, setting off a crush — and the resultant panic leads to a wider stampede. Delays in rescue efforts, because of the crowd size and the inability of first responders to wade in, further contribute to the toll.
- The instances of stampedes in India typically unfold at places of worship, sporting events, railways stations, and at large-scale gatherings such as the Maha Kumbh. Nearly 90 people are reported to have lost their lives since the beginning of this year in such event-linked crushes.
- According to the NCRB’s report titled ‘Accidental Deaths and Suicides in India,’ from 2000 to 2022, 3,074 lives had been lost in stampedes. Nearly 4,000 stampede events have been recorded over the last three decades. The NCRB has been collecting data on stampede incidents across India since 1996.
- Not that these events do not happen elsewhere. In 2022, Halloween celebrations in South Korea resulted in a stampede while in Germany, in 2010, a devastating “Love Parade” crush



unfolded. The difference, though, is that these events typically are not allowed to reoccur, as authorities learn from the odd incidents and put in place remedial measures.

- It needs to be mentioned though that in India, the scale of all these events is always much larger than in most other parts of the world. Another issue is a general disregard towards rules and regulations, which is a societal phenomenon in India.
- According to Anna Sieben, a professor at the University of Wuppertal in Germany who has been researching crowd dynamics, a big problem is that people in such events often do not realise anything is wrong until it is too late.
- Sieben, a social and cultural psychologist, has said that “individuals in crowds often communicate and orient themselves through non-verbal cues, such as body language” and that it has been convincingly shown that “mental states in crowds do not spread like wildfire, but emotions actually change depending on the situation and the behaviour of others”. That transmission happens faster if the crowds are densely packed in, given that the sense of personal space is a lot more negotiable in India than elsewhere in the world.
- Also, in a stampede, while some people might die due to trampling, a bigger trigger is compressive asphyxia, where pressure on the rib cage due to the sudden crush leads to impaired breathing. The initial cause is invariably asphyxia. But then someone may stumble and fall, resulting in a domino effect and others falling on top of the people who are down, which could then lead to more deaths on account of trampling.
- A tightly packed gathering is a recipe for disaster, especially if the authorities have underestimated the crowd sizes or are ill-prepared to tackle a localised crush, which can then spread outwards in a gathering. That does seem to have been the case in Karur.

Do You Know:

- Wenguo Weng and others define a stampede as “an impulsive mass movement of a crowd that often results in injuries and deaths” (“Review of analyses on crowd-gathering risk and its evaluation methods”, 2023).
- According to Illiyas and others, “Stampede is the surge of individuals in a crowd, in response to a perceived danger or loss of physical space. It often disrupts the orderly movement of crowds resulting in irrational and dangerous movement for self-protection leading to injuries and fatalities”.
- K M Ngai and others classify two types of stampedes on the basis of movement — unidirectional or turbulent (“Human Stampedes: A Systematic Review of Historical and Peer-Reviewed Sources”, 2009):
 - Unidirectional stampede events may occur when a crowd moving in the same direction encounters a sudden positive or negative change in force which alters its movement. A positive force can be a “sudden stop” situation like a bottleneck and blocked exit, whereas a negative force would be something like a broken barrier or column which sends a group of people tumbling.
 - Turbulent stampede events can occur in situations with uncontrolled crowds, induced panic, or crowds merging from numerous directions.



- Crowd management is a crucial tool for ensuring the safety of citizens during various types of mass gatherings. Unfortunately, stampedes still occur. According to nidm.gov.in, such unfortunate events happen due to a lack of (i) understanding of crowd behaviour, (ii) coordination, (iii) clear roles & responsibilities of various stakeholders, and (iv) proper planning on the part of organizers.

INDIA'S PLEDGE TO RESOLVE 'LEGAL ISSUES' AROUND N-POWER IS EASIER SAID THAN DONE

Amid renewed efforts to clinch a trade deal with the US, Commerce Minister Piyush Goyal said in New York on Wednesday (September 24) that India's energy security goals will have a "very high element of US involvement" in the years to come.

— Flagging India's interest in small modular reactor (SMR) innovations in the US, Goyal – who is leading a team of Indian trade negotiators who are in the US to bring trade negotiations back on track – said both countries will also continue to work together and deepen cooperation in the nuclear energy sector, and hinted at certain legal issues that "needed to be resolved" at India's end.

— This includes addressing the liability concerns that have hindered nuclear energy growth between the two countries. That's, however, easier said than done.

— As Goyal spoke in New York, the legislative groundwork is currently underway in New Delhi for multiple amendments in the two overarching laws governing the country's atomic energy sector, which now aim to align these legislations with legal provisions globally.

— This, in turn, is expected to address festering investor concerns and set the stage for a progressive opening up of India's civil nuclear sector, nearly two decades after the historic Indo-US nuclear deal was signed.

— The first amendment is an easing of the provisions in India's nuclear liability law called the Civil Liability for Nuclear Damage Act, 2010 (CLNDA), which sought to create a mechanism for compensating victims from damages caused by a nuclear accident, and allocating liability and specifying procedures for compensation. This has subsequently been cited as an impediment by foreign equipment vendors on the grounds that this legislation channellises operators' liability to suppliers through a provision called the right of recourse of the operator.

— A set of around 11 legal amendments are now being worked out for the CLNDA, of which two are key. One is an amendment aimed at diluting a specific provision – Section 17 (b) of the CLNDA, which is seen to be at odds with similar nuclear liability legislations enacted worldwide.

— The second major amendment in the works is aimed at enabling private companies to enter nuclear power plant operations in India, could also set the stage for foreign companies to potentially take a minority equity exposure in upcoming nuclear power projects.

— Hitherto, atomic energy has been one of India's most closed sectors. The set of legal amendments are being seen as a reform push that could help leverage the commercial potential of the Indo-US civil nuclear deal, nearly two decades after it was inked. New Delhi is also keen to package this as part of a broader trade and investment outreach with Washington DC, which could eventually culminate with a trade pact that is currently under negotiation.



— Amendments to the second key legislation – the Atomic Energy Act 1962 – are being initiated to enable private companies, and possibly even foreign players at a later stage, to enter nuclear generation as operators, which is currently restricted to only state-owned companies such as NPCIL or NTPC Ltd.

— The amendments in the CLNDA would effectively bring India’s nuclear liability legislative framework in line with the provisions of the 1997 Convention on Supplementary Compensation for Nuclear Damage (CSC), which sought to establish a worldwide liability regime.

— India, not being a party to the Vienna or the Paris Conventions, signed the CSC on October 29, 2010 on the basis of its national law namely the CLND Act and ratified it on February 4, 2016, thereby becoming a ‘State Party’ to the CSC. The tweaks now proposed in the CLND Act would aim to align it further with the CSC provisions, officials indicated.

Do You Know:

— SMRs are small reactors offering 30-300 MWe power output per unit, and are seen as effective in not just producing base load power (where thermal is seen as important), but also amongst renewables as a more carbon-neutral source.

— SMRs are conceptualised in such a way that their systems and components are manufactured in a controlled factory environment and then transported straight to the project site to be installed, which optimises the construction lead time and cuts down the cost of these projects — two big concerns with regard to traditional large reactor projects.

— They have potential deployment advantages like reduced size of the Emergency Planning Zone (ring fenced areas around the project site) and passive safety system, rendering them relatively safer than larger reactor-based projects.

ASTROSAT, INDIA’S FIRST SPACE OBSERVATORY, COMPLETES A DECADE AMONG THE STARS

India’s first dedicated space astronomy observatory, AstroSat, completed a decade of operations on Sunday.

Ten years ago, on September 28, 2015, the PSLV-C30 (XL) rocket carrying AstroSat lifted off from the Satish Dhawan Space Centre in Sriharikota. Though the designed mission life of AstroSat was five years, it continues to provide valuable data.

In the last decade, the multi-wavelength space observatory with five payloads aboard has made major interesting discoveries.

Commemorating the milestone in a post on X, the Indian Space Research Organisation said, “On this day 10 years ago, AstroSat, India’s first multi wavelength astronomy observatory was launched by ISRO. From black holes to neutron stars, from the nearest star Proxima Centauri to first time detection of FUV photons from galaxies 9.3 billion light years away, AstroSat enabled groundbreaking insights across the electromagnetic spectrum from UV/Visible to high energy X-rays. Congratulating AstroSat for a successful decade and wishing many more years of exciting results and discoveries.”



Five payloads

AstroSat was designed to observe the universe in the visible, ultraviolet, low and high energy X-ray regions of the electromagnetic spectrum simultaneously with the help of its five payloads.

The five payloads are the Ultra Violet Imaging Telescope (UVIT), Large Area X-ray Proportional Counter (LAXPC), Cadmium-Zinc-Telluride Imager (CZTI), Soft X-ray Telescope (SXT), and the Scanning Sky Monitor (SSM).

Collaborative effort

Astrosat was realised by the ISRO with the participation of all major astronomy institutions, including the Inter University Centre for Astronomy and Astrophysics, Tata Institute of Fundamental Research, Indian Institute of Astrophysics, and the Raman Research Institute (RRI), some universities of India and two institutions from Canada and the U.K.

PM LAUNCHES BSNL'S 'SWADESHI' 4G NETWORK

In a major boost to telecommunication infrastructure, Prime Minister Narendra Modi on Saturday inaugurated BSNL's 'Swadeshi' 4G stack, marking India's entry into a coveted league of nations that manufacture telecom equipment.

— Modi, who launched the facility on the occasion of the Bharat Sanchar Nigam Limited's silver jubilee, also commissioned more than 97,500 mobile 4G towers, including 92,600 4G technology sites of the telecom service provider.

— These towers have been built at a cost of around Rs 37,000 crore with 'swadeshi' (indigenous) technology, he said.

— While lauding the BSNL and its partners' dedication, Modi said the launch of the 'Swadeshi' 4G stack marked India's entry into a league of nations such as Denmark, Sweden, South Korea, and China, which manufacture homegrown telecom equipment.

— Stating that when telecom services like 2G, 3G, and 4G were introduced globally and India remained dependent on foreign technology for these services, Modi said, "Now, India is advancing towards becoming a global telecom manufacturing hub." The PM said the expansion of 4G technology will directly benefit over two crore people nationwide.

Do You Know:

— According to officials news agency PTI spoke to, the India-made 4G network is cloud-based, energy-efficient, and designed for seamless upgrades to 5G. The rollout, part of BSNL's silver jubilee celebrations, is aimed at connecting over 26,700 previously unserved villages, including 2,472 in Odisha, and benefit nearly two million new subscribers. Many of these towers are solar-powered, making them the country's largest cluster of green telecom sites.

— From generation one (1G) to the fifth, each generation of telecom technology has sought to change for the better the way humans interact with each other and the world around them.

— High speed, high quality, high capacity voice and data services – that's the promise that 4G, the network brought with it around 2010. Standard 4G came with five to seven times faster speeds than 3G.



— Compared to 3G, a phone on a 4G network got quicker response to its requests (lower latency). This is what made our phones more like hand-held computing devices.

INDIA EXPERIENCED 5TH WETTEST MONSOON SINCE 2001, MORE RAIN IN OCTOBER, SAYS IMD

Even as the southwest monsoon season officially ended Tuesday, the IMD has said that rain will continue well into October over the northeast, central and peninsular India due to delayed

- This year, the all-India rainfall during the June to September season was 937.2mm, a surplus of 8 per cent.
- India experienced the 5th wettest monsoon season since 2001 and recorded its second consecutive 'above' normal monsoon rainfall.
- Although many rain-related disasters struck various parts of the country, there was good rainfall distribution both spatially and temporally.
- The final quarter of 2025 will see 'above' normal rainfall over south peninsular India due to the northeast monsoon from October to December.
- During October, all-India rainfall is expected to be 'above' normal except Jammu & Kashmir, southern regions of Kerala and Tamil Nadu.
- IMD predicts La Nina phase following neutral ENSO conditions in the Pacific Ocean — influencing global weather.

Do You Know:

- There are two notable types of monsoon in India:
 - o Southwest monsoon (June–September): Hits Kerala and proceeds across the country, responsible for 70% of annual rainfall, vital for kharif crops. LPA is 880 mm.
 - o Northeast monsoon (October–December): Winds blow from northeast to southwest, affecting peninsular states; important for rabi cultivation. Tamil Nadu receives nearly 48% of its annual rain in these months.

GOVT PULLS NOD FOR 11 BIOSTIMULANTS OVER 'RELIGIOUS, DIETARY' CONCERNS

Months after clearing them for crops, such as paddy, tomato, potato, cucumber and chilli, the Union Agriculture Ministry has withdrawn approval for the sale of 11 biostimulants derived from animal sources — from chicken feathers and pig tissue to bovine hide and cod scales — due to "religious and dietary restrictions", The Indian Express has learnt.

- A biostimulant is a substance or microorganism, or a combination of both, that stimulates plant processes to improve nutrient uptake, growth, yield, quality and stress tolerance. Unlike fertilisers, it does not supply nutrients directly, and unlike pesticides, it does not control pests.
- Biostimulants are separate from fertilisers and are used, mainly as a spray, to enhance crop yield, quality and growth. The ministry's move is part of its efforts to bring the opaque sector, and its products, under a regulatory framework.



- According to Fortune Business Insights, the Indian biostimulants market was valued at US\$ 355.53 million in 2024 and projected to grow to US\$ 1,135.96 million by 2032. Biostimulants are usually sold across the counter in liquid form and sprayed on crops.
- The Centre’s decision is directed at one of the most common types of biostimulants: protein hydrolysate, which is a mixture of amino acids and peptides formed by breaking down proteins. These can be derived from plants, such as soy or maize, or from animal sources like feathers, hides or tissue.
- In a notification issued on September 30, the Ministry “omitted” the 11 biostimulants made from protein hydrolysates. They comprise different doses used for green gram, tomato, chilli, cotton, cucumber, hot pepper, soybean, grapes and paddy.
- These biostimulants were added to Schedule VI of the Fertiliser (Inorganic, Organic or Mixed) (Control) Order (FCO), 1985, through separate notifications earlier this year after the Indian Council of Agriculture Research (ICAR) cleared them.
- Before 2021, biostimulants were sold freely in India for more than a decade with no specific rules governing their sale, safety and efficacy. In 2021, the Government brought them under the FCO, which meant companies had to register products and prove safety and effectiveness. But they were still allowed to keep selling until June 16, 2025, provided they submitted applications for approval.

Do You Know:

- In 2017, NITI Aayog, the government’s premier think tank, and the Agriculture Ministry started working on a framework for biostimulants. Finally, in February 2021, the ministry amended the 1985 FCO and included biostimulants, paving the way for their regulated manufacturing, sale and import.
- On April 9, 2021, the agriculture ministry constituted the Central Biostimulant Committee for five years, with the Agriculture Commissioner as its Chairperson and seven other members.
- Under the FCO, it shall advise the Centre on: (i) inclusion of a new biostimulant; (ii) specifications of various biostimulants; (iii) methods of drawing of samples and its analysis; (iv) minimum requirements of laboratory; (v) method of testing of biostimulants; (vi) any other matter referred to it by the central government.

COST OF CONVENIENCE: HEALTH HAZARDS AS A SIDE EFFECT OF USING DIGITAL TOOLS

India’s digital transformation has revolutionised communication, education, commerce, and governance. From smartphones to smart homes, convenience has become the cornerstone of contemporary urban living. Yet, beneath this technological leap lies a growing environmental and public health catastrophe: electronic waste (e-waste).

E-waste, the fastest-growing solid waste stream globally, is now one of India’s most pressing yet least acknowledged urban crises. Our embrace of electronics has outpaced our ability to manage their afterlife, resulting in widespread informal recycling practices that are endangering both ecosystems and human health — especially in the country’s most marginalised communities.

Escalating burden



India generated 2.2 million tonnes (MT) of e-waste in 2025, making it the third-largest e-waste generator globally, after China and the United States. This figure represents a 150% surge from the 0.71 million tonnes recorded in 2017–18. At current growth rates, India's e-waste volume is expected to nearly double by 2030.

Urban India is the epicentre of this explosion. More than 60% of e-waste originates from just 65 cities, with key hotspots including Seelampur and Mustafabad (Delhi), Moradabad (Uttar Pradesh), and Bhiwandi (Maharashtra). Despite the existence of 322 registered formal recycling units with a combined capacity to treat over 2.2 million metric tonnes annually, more than half of the country's e-waste is still processed informally or not at all.

The informal ecosystem of kabadiwalas, scrap dealers, and slum-based workshops engage in manual dismantling, open-air burning, acid leaching, and unscientific dumping, often without gloves, masks, or protective clothing. These crude methods release over 1,000 toxic substances, such as: heavy metals such as lead, cadmium, mercury, and chromium; persistent organic pollutants (POPs) including dioxins, furans, and brominated flame retardants and particulate matter (PM_{2.5} and PM₁₀) that is released from burning wires and circuit boards

Scientific measurements show that PM_{2.5} levels in recycling zones such as Seelampur often exceed 300 g/m³, over 12 times higher than the World Health Organization's 24-hour safety limit of 25g/m³.

E-waste and human health

E-waste affects human health in a number of ways. Some of these are:

Respiratory illnesses: Informal e-waste recycling releases fine particulate matter and toxic gases that can deeply infiltrate the lungs, leading to severe respiratory issues. In Benin, West Africa, a study revealed that 33.1% of e-waste workers experienced respiratory ailments such as chest tightness, wheezing, and breathlessness, significantly higher than the 21.6% observed in a non-exposed control group.

Similarly, a 2025 study published in MDPI Applied Sciences reported that 76–80% of workers engaged in informal e-waste processing in India exhibited symptoms of chronic bronchitis, asthma, and persistent coughing.

Neurological damage and developmental delays: Exposure to neurotoxins such as lead, mercury, and cadmium during informal e-waste recycling poses serious risks to brain development, particularly in children. Lead, a well-known neurotoxin, affects children through contaminated air, dust, soil, and water. Even blood lead levels below 5 g/dL are linked to cognitive impairment, reduced IQ, attention deficits, and behavioural disorders. A 2023 systematic review published in Frontiers in Public Health, which analysed 20 studies from e-waste recycling areas — mostly in China — found that blood lead levels at or above 5 g/dL were common. Documented effects included neurological issues such as lower serum cortisol, inhibited haemoglobin synthesis, and delayed neurobehavioral development. According to the WHO, millions of children are exposed to hazardous levels of lead due to informal e-waste recycling. This exposure can impair brain development, damage lung function, disrupt endocrine systems, and potentially lead to DNA damage.

Skin and ocular disorders: Direct contact with hazardous substances during informal e-waste recycling leads to a spectrum of skin and systemic health issues, especially in the absence of



protective equipment. Workers handling electronic devices, cathode ray tubes (CRTs), and acid baths without safety gear commonly get rashes, chemical burns, and dermatitis. A 2024 review found that skin-related problems affected up to 100% of informal recyclers in several studied clusters. Those dismantling screens, CRTs, and circuit boards without protection frequently experienced skin burns, eye irritation, and chemical rashes due to direct exposure to acids, barium, phosphor compounds, and heavy metals. In Guiyu, China — one of the most extensively studied informal recycling hubs — residents reported chronic health problems such as headaches, dizziness, persistent gastritis, and skin lesions. Alarming, there were also higher incidence of miscarriages and preterm births, correlating with significant soil contamination by lead, chromium, and other toxic substances.

Genetic and systemic impacts: Beyond surface-level injuries, research highlights DNA damage, abnormal epigenetic changes, and increased oxidative stress in those exposed to informal recycling environments. Children are especially vulnerable, presenting with more frequent immune alterations and increased markers of inflammation. Studies in recycling clusters have documented PM 2.5 exposures well above safety thresholds, establishing a direct correlation with increases in neurological and respiratory disease rates.

The health effects of e-waste do not exist in isolation. Rather, they intersect with pre-existing vulnerabilities — poverty, malnutrition, lack of healthcare, and unsafe housing. This creates a syndemic environment where multiple diseases interact and exacerbate each other, worsening health outcomes for the urban poor. According to the WHO, 18 million children and nearly 13 million women work in, or live near, informal waste-handling zones globally. In India, children are often found helping parents dismantle electronics in home-based workshops, with devastating long-term health consequences.

Policy progress, gaps

India's E-Waste (Management) Rules, 2022, introduced critical provisions such as strengthened Extended Producer Responsibility (EPR) norms; mandatory registration for dismantlers and recyclers as well as incentives for formalisation and scientific handling. However, implementation remains weak. The informal sector still handles the majority of India's e-waste. As of 2023–24, only 43% of e-waste was officially processed. Further, the capping of EPR credit prices has triggered legal battles, with manufacturers arguing it creates compliance hurdles. These roadblocks risk delaying unified enforcement and undermining progress.

The way forward

To break this toxic chain, India must adopt a multi-pronged strategy that includes formalising the informal by integrating informal workers into the regulated sector through skill certification, PPE provision, safe infrastructure, and access to healthcare and social security; strengthening enforcement by empowering pollution control boards, introducing digital e-waste tracking, and mandating environmental audits to ensure compliance; expanding medical surveillance by setting up health camps and conduct long-term studies, especially focusing on children in e-waste hotspots; fostering innovation by supporting R&D for affordable, local recycling technologies and promoting decentralised treatment hubs to improve efficiency and, importantly, raising awareness through mass awareness campaigns and including e-waste education in schools to build public responsibility from an early age.

India stands at a toxic crossroads. The digital empowerment that fuels its economy cannot come at the cost of public health and environmental degradation. As the e-waste mountain grows, so



does the urgency of the need for systemic reform. The country must reject the silent normalisation of informal toxicity. It must act — guided by science, informed by justice, and driven by a vision where technology uplifts, rather than undermines, human dignity and health.

NEW STUDY SHOWS REDUCING POLLUTION HAS HEALTH BENEFITS. IT'S UP TO THE GOVERNMENT TO TAKE THE RIGHT LESSON

Exposure to poor air can not only cause respiratory diseases like asthma, COPD, and lung cancer, but it is also a leading risk factor in diabetes, heart ailments, and even premature deaths in children. Several studies have quantified the health-related costs of pollution in India. Last year, for example, a paper in the Lancet Planetary Health estimated that the failure to follow the WHO's recommendations on limiting particulate matter and other toxins is responsible for about 1.5 million deaths in the country. While policymakers are now aware of the perils of inaction on pollution, what is also needed is research that highlights the public health benefits of cleaning up air. A new study by scientists at IIT-Delhi and experts at the research agency Climate Trends does that. It reveals that slashing pollution levels by up to 30 per cent can substantially reduce the burden of heart disease, diabetes, anaemia, and low birth weight among women and children. It draws on information from the National Family Health Survey 5, epidemiological studies, and pollution data to underline the co-benefits of adhering to the National Clean Air Programme (NCAP).

The scenario modelled by the IIT-Delhi and Climate Trends experts is an ideal one. The NCAP has, however, not always worked according to plan. Launched in 2019, the programme aims to enhance air quality in 131 cities by next year. It recognises the far-reaching impacts of particulate matter pollution on public health and aims to reduce the intensity of these particles by 40 per cent by 2026. However, as a white paper put together by scientists, civil society groups, and public health experts pointed out in August, air pollution is not confined to administrative boundaries. In other words, meeting NCAP's targets is not contingent on the measures taken in the cities covered by the programme. The rural parts of the country are largely out of the purview of the monitoring systems. Individual cities and states are, by and large, left to their own devices, and even emergencies such as Delhi's annual health crisis do not lead to a modicum of cooperation.

Several cities, including the national capital, have compounded their problems by not adhering to the NCAP's basic tenets. The programme's funds have not been adequately utilised, pollution monitoring stations have not been installed — or placed in low population density areas, instead of congested localities, construction-heavy zones, and industrial belts — and officials do not join the dots between environment and public health. The IIT-Delhi Climate Trends study shows the NCAP's potential to make a meaningful difference. It's now up to the government to take the right lessons from the study and tweak the programme.

Do You Know:

Air pollution is the contamination of the environment, whether indoors or outdoors, by any agent—chemical, physical, or biological—that alters the natural characteristics of the atmosphere.



Pollutants	Source	Impact
Nitrogen dioxide (NO₂)	Burning of fuel, with sources including emissions from vehicles and power plants.	Short-term exposure to high levels of NO ₂ can aggravate respiratory diseases. Long-term exposure may contribute to asthma.
Ozone (O₃)	Surface ozone pollutant formed by reaction of atmospheric pollutants in the presence of sunlight.	Increase in risk of hospital admissions for Chronic Obstructive Pulmonary Diseases (COPD) and the number of cardiovascular and respiratory deaths.
Sulfur dioxide (SO₂)	Burning of fossil fuels by power plants and industries. Industrial processes and volcanoes are sources.	Harmful to cardiovascular system; can cause respiratory illnesses. Reacts to form particulate matter.
Ammonia (NH₃)	Fertilizer use and livestock waste.	Harmful to plants and reduces air/water quality.
Lead (Pb)	Mining, smelting, manufacturing, and recycling activities.	Children with severe lead poisoning may have permanent intellectual disability & behavioural disorders.
Carbon Monoxide (CO)	Given off when burning carbon-containing fuel (wood, coal, petrol).	High levels: unconsciousness and death; long-term: increased risk of heart disease.

DELHI PERMITS LOUDSPEAKERS TILL MIDNIGHT IN FESTIVE SEASON: WHAT RULES STATE

Delhi Chief Minister Rekha Gupta on Tuesday (September 23) announced that the deadline to use loudspeakers in Ramlila performances, Durga Puja pandals and other cultural festivities will be extended until midnight, providing a two-hour extension from the usual 10 pm cut-off time for the use of loudspeakers in public.

- The Noise Pollution (Regulation and Control) Rules, 2000, framed under the Environment (Protection) Act, 1986, are the primary regulation governing noise pollution. These rules provide a detailed framework for regulating noise from various sources, including loudspeakers.
- Rule 5(1) states that a loudspeaker or a public address system cannot be used without obtaining written permission from a designated authority. Crucially, Rule 5(2) imposes a blanket ban on their use during night hours, defined as the period between 10 pm and 6 am, except in closed premises like auditoriums, conference rooms, and banquet halls for internal communication.
- The rules prescribe maximum permissible noise levels for different areas, categorised as industrial, commercial, residential and silence zones. For residential areas, the daytime limit (6 am to 10 pm) is 55 decibels (dB), while that for nighttime is 45 dB. For context, a whisper is about 30 dB, while normal conversation is about 60 dB.
- Gupta’s announcement is enabled by a specific provision in the rules. Rule 5(3) allows a state government to permit the use of loudspeakers between 10 pm and 12 midnight on or during any cultural or religious festive occasion for a limited duration, not exceeding 15 days in a calendar year.



- Therefore, the Delhi government's decision to extend the deadline is legally permissible, provided it is confined to the 15-day annual limit specified in the rules.
- Over the past two decades, the Supreme Court and High Courts have repeatedly adjudicated on the issue of noise pollution. The judiciary has consistently prioritised the right to a peaceful environment over the use of sound amplification for religious purposes.
- In a judgement in 2000 concerning the use of loudspeakers by a church in Chennai, a two-judge Bench of the Supreme Court held that no religion prescribes that prayers should be performed by disturbing the peace of others. It emphatically stated that the use of loudspeakers could not be claimed as a fundamental right under Article 25 of the Constitution, which provides the fundamental right to freedom of religion.
- However, it was in a judgement in 2005 that the apex court laid the bedrock for modern noise pollution jurisprudence. In a suo moto case — that is, one initiated by the court on its own accord — the Supreme Court declared that the right to a peaceful and noise-free environment is a fundamental right implicit in Article 21 of the Constitution that guarantees protection of life and personal liberty.
- It held that the freedom of speech and expression under Article 19(1)(a) does not grant anyone the right to force an unwilling audience to listen to them through “aural aggression”. This ruling established the strict 10 pm-6 am ban on loudspeakers in public places.
- Just a few months later, though, the same Bench of the Supreme Court heard a specific challenge to the constitutional validity of the 15-day midnight exception under Rule 5(3). The Court upheld the rule, calling it a “limited power” necessary for a country with diverse cultures and religions. However, it laid down strict conditions for its use.

Do You Know:

- If there is one health hazard that has crept up unacknowledged on Indian cities, it is noise. Legally, it is already recognised as an air pollutant under the Air (Prevention and Control of Pollution) Act, 1981.

Medically, it is among the leading contributors to hypertension, sleep disruption, stress disorders, and cognitive decline — conditions that together shorten lives and push people toward premature death.

INDIA'S DIETARY PROFILE LINKED TO RISING DIABETES, OBESITY, SHOWS STUDY

India's rapidly changing eating habits are fuelling an alarming spike in diabetes and obesity with at least 21 states and UTs exceeding the national recommendations of less than 5%E (total energy) for added sugar intake while overall protein intake was suboptimal averaging 12% of the daily calories, according to the findings of the ICMR-INDIAB study published in Nature Medicine.

- Most Indians get 62% of their calories from carbohydrates.
- Indians need diets richer in plant-based and dairy proteins, and lower in carbohydrates and saturated fats.
- The study found 11.4% people in the country have diabetes while another 15.3% were prediabetic.



- Higher calorie intake from carbohydrates was associated with a 14% higher likelihood of newly diagnosed type 2 Diabetes.
- Refined cereal intake is highest in the Northeast, followed by the South and East. Most protein comes from plant-based foods; intake of dairy and animal protein is low.
- At least 21 states and UTs exceeded the recommendation for added sugar intake; saturated fat intake exceeded recommendations in all but four states.
- Replacing 5% of daily calories from carbohydrates with plant/dairy proteins significantly lowered risk for diabetes and prediabetes.

Do You Know:

- UNICEF's Child Nutrition Global Report 2025 flagged an alarming surge in obesity among children and adolescents in India between 2006 and 2021.
- The number of overweight children below age five more than doubled in 15 years.
- India is expected to be home to over 27 million children/adolescents (ages 5–19) living with obesity by 2030 – about 11% of the global burden.
- Nutrition deficits among children are often carryovers of poor dietary practices in mothers.

INDIA'S CANCER CRISIS: PREVENTION MUST LEAD THE WAY TO TACKLE SURGE

A report in The Lancet underscores an alarming reality: Cancer is becoming a major public-health crisis, especially for low- and middle-income countries, including India. Cases of cancer in the country have risen from 84.8 per 1,00,000 people in 1990 to 107.2 per 1,00,000 in 2023. This means nearly 1.5 million people are diagnosed with cancer annually. Cancer mortality has increased from 71.7 per 1,00,000 in 1990 to 86.9 per 1,00,000 in 2023, translating to around 12.1 lakh yearly deaths. India's cancer burden is becoming heavier, resulting in a system grappling with late diagnoses, uneven access to care, and, in certain cases, avoidable complications. Even though cancer incidence and the mortality rate remain lower than the global average, the pace of growth, set against an expanding and ageing population, makes the challenge urgent.

The study highlights that nearly 70 per cent of cancers in India are linked to preventable or modifiable risk factors, ranging from tobacco consumption and air pollution to obesity, poor diet, alcohol consumption, infections such as HPV and hepatitis B, and high blood sugar. These risks are often shaped by personal choices as well as systemic failures: Weak regulation, inadequate health infrastructure, and low public awareness. To break the cycle, India must make preventive action the backbone of its cancer policy. This includes investing in cleaner air and water, scaling up HPV and hepatitis B vaccinations, expanding public awareness on the triggers of certain cancers.

There have been some encouraging pockets of progress. Many states have begun deploying technology-driven models of care, such as mobile vans and tele-oncology, to expand access. Last week, Punjab launched AI-enabled screening devices for early detection of breast and cervical cancers. In Karnataka, which reports around one lakh cases annually, the use of oncology procedures under the Ayushman Bharat Arogya Karnataka (AB-Ark) scheme has increased more than sixfold over the past six years. Yet, a lot more remains to be done. The rollout of India's first approved CAR-T therapy, NexCAR19, shows promise, but it remains prohibitively expensive.



Screening programmes continue to be patchy and poorly linked to treatment pathways; India's cancer registry infrastructure remains underdeveloped — reporting is voluntary, and data lag impedes real-time policy adjustments. Building a national cancer map is vital to understand where and why India's cancer hotspots are emerging — and how best to deploy resources. Without such steps and without a commensurate scale-up in infrastructure and clinical trials, India risks letting innovation benefit only a privileged few while the larger population continues to shoulder a disproportionate — and preventable — toll of loss and disease.

WHY IS ENVIRONMENTAL SURVEILLANCE IMPORTANT?

The story so far:

Pathogens (usually bacteria and viruses) that cause diseases in humans and animals, can be tracked in samples taken from the environment, for example, by sampling sewage through wastewater surveillance. This can provide early warnings for potential disease outbreaks.

How does this work?

Samples taken from sewage treatment plants, effluents from hospitals and from public spaces such as railway stations and toilets in airplanes, can be studied to see how the pathogens they contain change from day-to-day. It works because pathogens of interest are shed in the stools or urine of infected individuals. Diseases transmitted by parasitic worms such as roundworms and hookworms can also be monitored through wastewater and soil samples, providing information about the burden of the disease and the effectiveness of control measures.

Rigorous protocols inform the collection of samples. These protocols detail how samples must be collected and processed, and how pathogens are detected and analysed. By following these protocols, comparisons of pathogen load become possible, and whole-genome sequencing enables the identification of variants of the same pathogen.

Why is this important?

Traditionally, the only way to figure out levels of infection in a community was to detect infections in patients, called clinical case detection. However, not all infected people might show symptoms, or might not choose to be tested if symptoms are mild. The number of people who are tested might not reflect the true numbers of those infected.

Environmental surveillance can thus provide important early warning signals of an impending outbreak. It is now known that the levels of pathogen in wastewater can precede, often by more than a week, a rise in infections.

Why do early-warning signals matter?

Understanding how many infected people there are is important for public health planning. The more the amounts of pathogen that circulate, the more likely it is that people will be infected. Preparing for a disease outbreak becomes much easier if there's more notice.

Wastewater-based epidemiology has been used for over 40 years to track several diseases such as measles, cholera and polio. Such disease surveillance in India, through wastewater, was first initiated in Mumbai for polio in 2001. During the COVID-19 pandemic, similar surveillance programs for COVID-19 were started in five cities, and they continue to this day.



What is India doing?

The Indian Council of Medical Research (ICMR) has recently said that it will initiate wastewater surveillance for 10 viruses across 50 cities. This will enable public health surveillance to pick up any increase in viral load within community settings. This extends ICMR's involvement in establishing environmental surveillance for viruses, including avian influenza virus, particularly in areas with outbreaks. However, there is scope for improvement. The sharing of data and protocols across institutions and reaching common agreements on templates for surveillance frameworks that are disease-specific is important. Programmatic approaches, rather than project-driven approaches, must be developed that integrate waste-water and other environmental surveillance with routine disease surveillance. Developing a national wastewater surveillance system for India is important.

Moreover, new methodologies are emerging — audio samples of people coughing in public places can be used to examine the prevalence of respiratory conditions, through refined machine learning methods. Thus, the possibilities of environmental surveillance are ever-increasing.

LABOUR OF CARE

For decades, the women who serve as Anshakalin Stri Parichars (ASPs) in Maharashtra have been performing some of the hardest, yet least acknowledged, labour in the rural health system. For a wide breadth of responsibility, their monthly wage has stagnated at ₹3,000 since 2016, decades behind inflation. They also lack job security, pensions, safety gear and travel allowance. In 2023, a labour court in Nagpur acknowledged that they deserved at least the protection of the Minimum Wages Act but left the decision to the State. In keeping with its verbal-only assurances, the State has even now only promised them ₹6,000 a month by December 2025 — much less than what multi-purpose health workers receive. The indifference is not accidental: ASPs, who predate Accredited Social Health Activists (ASHA) and anganwadi workers, have been easy to ignore because they are poor, rural women. Their neglect reveals a gendered and caste-inflected hierarchy of labour within public health, where skilled work is low status and devalued because of who performs it. Their ongoing protests are part of an arc of agitation following similar sit-ins in Kolhapur, Nagpur, Ratnagiri and Yavatmal. In this regard, their plight resonates with that of ASHAs in other States. ASHAs, created under the National Rural Health Mission in 2005, are the community's first link to the health system and are also officially classified as "volunteers" rather than employees, compensated only through oft-delayed incentives, amounting to less than subsistence. Across States, ASHAs have repeatedly agitated for fixed honoraria, recognition as government staff and social security, and, like the ASPs' protests, have borne the same refrain: States cannot continue to build their health systems on the underpaid labour of women.

These struggles highlight a structural contradiction. While India relies heavily on women community health workers and attendants to deliver maternal and child health care, immunisation and disease surveillance, especially in rural areas, it refuses to recognise them as workers entitled to minimum benefits and dignity. The reliance is often framed as offering rural women "opportunities" for public service. Yet, in practice, it is exploitation. These women risk snakebite while clearing hospital grounds and death in accidents en route to vaccination duty without insurance or compensation. A health system that does not value the people who keep it functional and link its margins to formal care is bound to sabotage itself. To secure rural health is to secure the rights of those women through living wages, safe working conditions and stable employment.



IN A FIRST, MONUMENT CONSERVATION WILL OPEN TO PVT PLAYERS

For the first time, the government plans to open up conservation of protected monuments — so far the mandate of only the Archaeological Survey of India (ASI) — to private players.

— Soon, corporates, public sector undertakings and even private organisations will be able to directly hire external agencies to undertake required conservation work at forts, baolis, and other heritage spaces across the country, The Indian Express has learnt.

— As of now, the core conservation work of as many as 3,700 protected monuments across the country has been solely the ASI's mandate, which functions under the aegis of the Ministry of Culture.

— Sources said the new move aims to create a public-private-partnership model in heritage conservation, leading to capacity building and also fast-tracking of conservation projects.

— This, however, will come with some checks and balances, sources said. While funds have to be routed through the National Culture Fund, the conservation project will be under ASI's supervision and the detailed project report (DPR) has to follow the National Policy for Conservation, 2014.

— The ASI will no longer be the only conservation implementing agency in the country, and several private players with relevant experience will be on board, as directly hired by these donors, once this takes shape.

— So, the idea is that instead of giving the money to the government, the donors spend the money themselves, through the National Culture Fund, and also get tax benefits. This will create greater participation of the private sector in heritage conservation and can go a long way in making conservation activities sustainable.

— In return, corporates/ donors will also get due credit at the monument campus for partnering towards heritage conservation, sources said.

— Earlier, the government had launched Adopt a Heritage scheme to allow corporates and PSUs to come in a “monument mitras” and help in creation of amenities for visitors (ticket windows, toilet blocks, entry and exits, cafes etc), but this is the first time that private donors can sign up for the execution of the core conservation work at the monuments.

Do You Know:

— The National Culture Fund was set up in 1996 with an initial corpus of Rs 20 crore by the government. The idea was to retain the base corpus and use interest amount for conservation activities at the monuments. Ever since, Rs 140 crore has come into NCF through corporate and PSU donations, which have been used to fund around 100 conservation projects at protected monuments.

— The NCF is managed by a Council and an Executive Committee. The Council is chaired by the Union Minister of Culture and has members representing the corporate and public sector, private foundations and non-profit organisations. The Executive Committee is chaired by the Secretary, Ministry of Culture.



— With donations to the NCF eligible for 100% tax exemptions, the aim is to encourage corporates to partner with it through CSR for promoting the cultural heritage of India.

— The ASI, which works under the Union Ministry of Culture, is responsible for protecting and maintaining certain specific monuments and archaeological sites that have been declared to be of national importance under the relevant provisions of The Ancient Monuments Preservation Act, 1904 and The Ancient Monuments and Archaeological Sites and Remains Act, 1958 (AMASR Act).

ARCOP-LED CONSORTIUM EMERGES AS TOP BIDDER TO DESIGN NEW YUGE YUGEN BHARAT MUSEUM

A consortium led by the architectural firm Arcop Associates has emerged as the best bidder pending further approval from competent authorities to provide design consultant services for the upcoming Yuge Yugeen Bharat Museum which is being built at North and South Blocks, the government buildings that flank Rashtrapathi Bhavan in the national capital.

As part of the Central Vista project, these historic buildings are undergoing a phased restoration as part of the ambitious Yuge Yugeen Bharat Museum project which will replace the National Museum. Once completed, this museum will be the largest in the world, with 950 rooms spanning 1,17,000 square metres.

Experienced team

The ARCOP-led consortium has brought in an experienced team led by Principal Architect Kulapat Yantrasast, a Thai-born architect and designer known for his thoughtful, human-centred approach that blends contemporary aesthetics with cultural sensitivity.

Mr. Yantrasast, a protégé of Japanese master Tadao Ando, co-founded the firm WHY Architecture in Los Angeles, where he has led acclaimed projects such as the Grand Rapids Art Museum, the Speed Art Museum renovation, and the Academy Museum of Motion Pictures in Los Angeles. He has also been selected to design galleries for the redevelopment of the Louvre in Paris.

The Notice Inviting Tender (NIT) for the selection of a Design Consultant (Architectural & Exhibition Design) for the museum through open competitive bidding was published on July 9 by the Union Culture Ministry.

A pre-bid meeting was conducted on July 21, which generated queries from over 25 national and international firms. The Ministry received five technical bids online through the e-procurement portal.

As part of the evaluation process, all five agencies were invited to present their technical proposals before a distinguished evaluation jury on September 22 and 23 as stipulated in the NIT conditions, sources told The Hindu.

Following a evaluation of submitted documents, adherence to criteria as per the NIT, and assessment of presentations, three firms were shortlisted: Arcop Associates Pvt. Ltd., Knight Frank India, and EcoFirst Services Limited. Upon evaluation of the bids, and based on the composite quality and cost-based selection score, Arcop Associates was declared the successful bidder for the design consultant services for the museum, the sources said.



HIMACHAL COLD DESERT ENTERS UNESCO BIOSPHERE RESERVE LIST

The Cold Desert Biosphere Reserve (CDBR) in Himachal Pradesh, along with 25 other biosphere reserves across several countries, has been included in World Network of Biosphere Reserves (WNBR) by the UNESCO, a global recognition that places the 7,770-sq km area spread across the state's Lahaul-Spiti district on the international conservation map. With this addition, India now has 13 biospheres listed in WNBR.

— “UNESCO designates 26 new biosphere reserves across 21 countries — the highest number in 20 years. The WNBR now includes 785 sites in 142 countries, with an additional one million sq km of natural areas brought under protection since 2018 — equivalent to the size of Bolivia,” UNESCO said in a statement.

— The decision to include India's Cold Desert Biosphere Reserve in the WNBR was taken at the 37th session of UNSECO's International Coordinating Council of the Man and the Biosphere (MAB) held in Paris Saturday, Union Environment Minister Bhupender Yadav said in a post on X.

— Spread in the Trans-Himalayan region, the reserve encompasses the entire Spiti Wildlife Division and adjoining areas of the Lahaul Forest Division, including Baralacha Pass, Bharatpur, and Sarchu with altitudes ranging from 3,300 to 6,600 m.

— It integrates Pin Valley National Park, Kibber Wildlife Sanctuary, Chandratat Wetland, and the Sarchu plains, encompassing windswept plateaus, glacial valleys, alpine lakes, and high-altitude desert making it one of the coldest and driest ecosystems in WNBR.

— The Cold Desert is zoned into three parts — core (2,665 sq km), buffer (3,977 sq km), and transition (1,128 sq km) — balancing conservation, sustainable use, and community participation. Ecologically, it harbours 655 herbs, 41 shrubs, and 17 tree species, including 14 endemics and 47 medicinal plants crucial to the Sowa Rigpa/Amchi system. Its wildlife includes 17 mammal and 119 bird species, with the snow leopard as the flagship species, supported by a robust prey base of more than 800 blue sheep in Spiti valley. The fauna also includes Himalayan ibex and Himalayan wolf.

— Around 12,000 inhabitants live in scattered villages, practising traditional pastoralism, yak and goat herding, barley and pea farming, and Tibetan herbal medicine, knowledge sustained through Buddhist monastic traditions and community councils that regulate the use of fragile alpine resources, as per a statement by UNECCO.

— “As India's first high- altitude cold desert biosphere reserve, it highlights the urgent need to safeguard mountain ecosystems facing tourism pressures and climate change,” it added.

— Welcoming the development, Amitabh Gautam, PCCF (Wildlife) and Chief Wildlife Warden of Himachal Pradesh, said the designation would boost international research collaborations, promote responsible eco-tourism, and strengthen climate resilience efforts in the Himalayas.

Do You Know:

— The Man and the Biosphere (MAB) programme is UNESCO's flagship initiative for biodiversity conservation and sustainable development, focussing on improving people's relationships with their ecosystems.



— The MAB programme is an intergovernmental scientific initiative that seeks to build a scientific foundation for improving the relationship between people and their ecosystems.

— The MAB programme formulated the concept of biosphere reserves in 1975, which deals with the conservation of ecosystems and the genetic resources contained therein. A notable feature of biosphere reserves is the inclusion of local communities in it.

— The World Network of Biosphere Reserves is a dynamic and participatory network of exceptional places maintained by UNESCO's Man and the Biosphere (MAB) Programme.

83 SNOW LEOPARDS IN HIMACHAL, UP FROM 51 IN 2021: SURVEY

The snow leopard count has jumped from 51 in 2021 to 83, excluding cubs, across Himachal Pradesh's high-altitude habitats, the Wildlife Wing of the state's Forest Department said on the first day of the Wildlife Week Thursday, after the conclusion of its second comprehensive population estimation.

- In the first state-wide assessment, which started in 2018 and ended in 2021, the population was recorded at 51.
- The survey, which was completed in a year and conducted in partnership with the Nature Conservation Foundation (NCF), marks a significant advancement in wildlife monitoring, positioning Himachal as the first state in the country to undertake a population estimation of the elusive species.
- Notably, the survey documented the first official sighting of Pallas's cat (*Otocolobus manul*) in Kinnaur and the rediscovery of the woolly flying squirrel (*Eupetaurus cinereus*) in Lahaul.
- The faster turnaround time of the survey demonstrated a scalable and cost-effective model for long-term monitoring. Officials noted that this was possible due to prior experience, refined techniques, and enhanced coordination among field teams.
- During the exercise, around 271 camera traps were set up across the 26,000 sq km habitats of snow leopards in Spiti Valley, Kinnaur, Pangi, Lahaul and Greater National Himalayan Park (GNHP), a wildlife officer said.
- This time, however, Bhandari said that many snow leopard detections were recorded outside protected areas such as Kibber Wildlife Sanctuary, Great Himalayan National Park, Sechu Tuan Nala Wildlife Sanctuary, and Asrang Wildlife Sanctuary.
- This underscores the importance of local community participation in conservation efforts and strengthens the case for community-based initiatives to safeguard snow leopard habitats in Himachal Pradesh, the official said.
- For the first time globally, an indigenous women's team from Kibber also contributed to the data analysis, marking a milestone in inclusive conservation.
- Forest officials said the survey not only provides a robust baseline for long-term snow leopard monitoring in Himachal Pradesh but also sets a blueprint for other states across the Himalayan snow leopard range.



- By carrying out such large-scale, scientifically rigorous assessments in a cost-effective manner in a short time, Himachal Pradesh has offered a model for continuous monitoring and adaptive management of the species and its ecosystem.

Do You Know:

- On January 23, the International Big Cat Alliance (IBCA), launched by Prime Minister Narendra Modi in 2023 for the global conservation of seven big cats, formally became a full-fledged treaty-based intergovernmental organization.
- The IBCA is an initiative launched by Prime Minister Narendra Modi in April 2023 in Mysuru commemorating the 50th anniversary of Project Tiger. The objective of the IBCA is to ensure cooperation for the conservation of seven big cats: lion, tiger, leopard, cheetah, snow leopard, jaguar, and puma, and enhance knowledge exchange and threats associated with them.
- Snow Leopard (*Panthera uncia*): The mountainous regions of twelve Asian countries—Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyz Republic, Mongolia, Nepal, Pakistan, Tajikistan, and Uzbekistan—make up the habitat range of the snow leopard. The Snow Leopard Population Assessment in India (SPAII), 2024 has estimated a population of 718 in Ladakh, Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.

SWIM TO SAFETY

Once widespread across the Gulf of Mannar, Palk Bay, the Gulf of Kutch and the Andaman and Nicobar Islands, India's dugongs dwindled to a few hundred individuals as poaching, by-catch, habitat loss and pollution compounded the animals' slow rate of reproduction. But, in the last decade, a series of initiatives have signalled a serious, if still inchoate, effort to reverse this decline. The most visible step was the notification of the Dugong Conservation Reserve in Palk Bay in 2022 under the Wildlife (Protection) Act. Protecting over 12,000 hectares of seagrass meadows, it has become a model of integrated marine conservation. Tamil Nadu's stewardship, bolstered by the Wildlife Institute of India (WII) and local community participation, has mitigated poaching and encouraged fishers to release dugongs caught as by-catch. Now, the International Union for Conservation of Nature has recognised the reserve as an exemplar, lauding its ecological significance and innovative restoration techniques. WII surveys suggest that the population here numbers over 200, fragile but encouraging progress from the fear of extinction voiced two decades ago. India has also experimented with technologies that widen conservation options, which include drone platforms and acoustic and satellite-based mapping of seagrass beds.

Yet, much remains to be done. Even in the reserve, mechanised fishing, port construction, dredging and pollution from agriculture and industry threaten seagrass meadows. Dugongs continue to die in fishing nets. Rising sea temperatures, acidification and storms threaten restoration gains. Populations in Gujarat and the Andamans are also smaller and less protected than in Tamil Nadu. Experts have stressed the importance of cross-border collaboration, particularly with Sri Lanka, since dugongs traverse the narrow Palk Strait. Without shared protection, the recovery will remain local. Funding, too, has been inconsistent: while allocations from the compensatory afforestation fund have helped, the long gestation of dugong populations requires decades of steady investment. These efforts and shortcomings hold broader lessons for the conservation of other marine species that demand intact ecosystems while being directly threatened by human activity. The Palk Bay reserve demonstrates that community engagement with fishers as partners can mitigate by-catch and create local constituencies for conservation.



The IUCN recognition underscores how international endorsement can amplify domestic efforts, offering legitimacy and opportunities for knowledge exchange. Likewise, blending traditional ecological knowledge with technologies such as drones and echosounders shows how conservation can bridge tradition with modernity.

SHORT NEWS

WHAT HAPPENS WHEN THE US GOVERNMENT SHUTS DOWN

The US government shut down on Wednesday (October 1) at 12:01 AM for the first time in seven years, after Republican and Democrat members of the Senate failed to approve federal funding for the government.

As a result, thousands of federal employees will be furloughed, or temporarily dismissed from work, while public services will be immediately impacted. Further, the release of important data on the American economy will be delayed.

The government has been shut down 14 times since 1980, with three of these occurring during Trump's first term (2017-2021) alone.

Thus, a shutdown is the result if Congress is unable to authorise more spending before the funding deadline lapses. Depending on the extent of approvals made, and which agencies get funded, the government must fully or partially shut down.

This time, the shutdown followed the Democrats' demand for an extension on expiring healthcare subsidies and to restore Medicaid cuts introduced as part of Trump's Big, Beautiful Bill.

WHAT IS BRITAIN'S DIGITAL ID CARD PLAN TO CURB ILLEGAL IMMIGRATION

With an aim to crack down on illegal immigration, the British government has announced that a new digital identity document will be mandatory to work in the country.

The scheme will be available to all UK citizens and legal residents, saving time by ending the need for complicated identity checks, which often rely on copies of paper records.

There will be no requirement for individuals to carry their ID or be asked to produce it – but the digital ID will be mandatory as a means of proving your Right to Work.

The government said the digital ID would be held on people's mobile phones and over time, it would also be used to provide access to services such as childcare, welfare and access to tax records.

MUTUAL LEGAL ASSISTANCE TREATY (MLAT)

— The Assam government has requested the Ministry of Home Affairs to invoke the Mutual Legal Assistance Treaty (MLAT) with Singapore to assist in the ongoing probe into superstar Zubeen Garg's death in Singapore.

— An MLAT is an agreement between two or more countries for the purpose of gathering and exchanging information in an effort to enforce public laws or criminal laws.



— When evidence or other forms of legal assistance, such as witness statements or the service of documents, are needed from a foreign sovereign, states may attempt to cooperate informally through their respective police agencies or, alternatively, resort to what is typically referred to as requests for ‘mutual legal assistance’.

MODEL YOUTH GRAM SABHA INITIATIVE

— The Centre is planning to launch Model Youth Gram Sabha (MYGS). It is an initiative based on the Model UN – an educational simulation of the United Nations – in schools across the country.

— It will be launched in over 600 Jawahar Navodaya Vidyalayas (JNVs) and 200 Eklavya Model Residential Schools (EMRS) across the country in the first phase beginning from October 2025.

— As part of the initiative, a mock Gram Sabha will be conducted in identified schools, where students from classes 9-12 will play the roles of sarpanch, ward members, and village-level officials, including village secretary, Anganwadi worker, auxiliary nurse midwife (ANM), and junior engineers.

— They will hold mock meetings of the Gram Sabha, discuss various issues, and prepare the village budget and development plans.

RBI CHANGES LOAN RULES: NEW NORMS LIKELY TO BOOST POLICY TRANSMISSION, SAY EXPERTS

The Reserve Bank of India’s (RBI) decision to allow banks to reduce the spread component on loans offered before three years will benefit existing customers and further aid monetary policy transmission, experts said.

Spread refers to the additional percentage that lenders add to the benchmark interest rate such as external benchmark rate or marginal cost of funds based lending rate (MCLR) by banks when determining the final lending rate to a borrower. Banks typically factor in credit risk profile, operating cost and tenure of the loan while finalising the spread charged to a borrower.

AIIMS STUDY: 6 IN 10 TOP INDIAN DOCTORS NOT TRAINED TO CERTIFY BRAIN DEATH, HURTING ORGAN DONATION

A survey of 177 of the country’s top neurosurgeons, neurologists and critical care specialists shows that over half (59.2 per cent) were not trained in medical colleges to certify brain death — a knowledge gap that impacts organ donations, according to a study published recently by doctors at the All India Institute of Medical Science (AIIMS), Delhi.

While nearly three-fourth (74.5%) of the doctors surveyed worked at teaching hospitals, only 10 per cent said they regularly trained their residents in brain death certification. More than a third of the doctors said their institutions did not have a fixed curriculum for the certification or even a suitable checklist.

Brain death is a medico-legal term to describe the cessation of all brain activity due to lack of oxygen to the brain cells — even if the heart continues beating under ventilator support. In contrast, clinical (or circulatory) death occurs when both breathing and blood circulation permanently cease.



In many transplant protocols, brain death is declared first so that organs can still be perfused and maintained until removal. But timely certification is critical: once circulation stops, organs begin deteriorating.

DIETHYLENE GLYCOL

— In Madhya Pradesh, authorities have ordered the immediate stoppage of sales and distribution of a cough syrup after it was allegedly found to contain a poisonous substance linked to child deaths in the state's Chhindwara district.

— The analysis found that the syrup contained 48.6 percent by volume of Diethylene Glycol, a toxic industrial chemical, that may render the contents injurious to health.

— Diethylene Glycol is an industrial solvent used in antifreeze, paints, brake fluids, and plastics. It is not meant for medicines.

— It is a colourless and odourless impurity of propylene glycol that is highly toxic and has caused poisoning epidemics since the early 20th century, making it prohibited in food and drugs due to its adverse effects on humans.

CHRYSANTHEMUMS

— The Jammu and Kashmir government has begun work on an exclusive chrysanthemum (or Gul-e-Dawood) garden at the Srinagar Botanical Garden, adjacent to the famed Tulip Garden.

— A native of East Asia and Europe — and Japan's national flower — the chrysanthemum is a perennial herbaceous plant that blooms in autumn.

DRAGONFLY

— During the three-day survey on dragonflies at seven biodiversity parks in New Delhi registered a 54 per cent increase in the number of dragonflies.

— At the Yamuna Biodiversity Park, Yellow-tailed Ashy Skimmer (*Potamarcha congener*) has been recorded for the first time.

— Dragonflies and damselflies are bioindicators or species whose presence tracks wetland health. Their larval stages require clean, well-oxygenated water, and both larvae and adults are voracious mosquito predators.

— A single dragonfly is reported to eat 30-100 mosquitoes per day, underscoring its importance, especially after floods.

— The International Union for the Conservation of Nature, in its global assessment in 2021, found that 16% of 6,016 species of dragonflies and damselflies are at risk of extinction, with their freshwater breeding grounds having plummeted.

WILDLIFE WEEK 2025

— Wildlife Week is annually celebrated from October 2 to 8 to raise mass awareness about the importance of wildlife conservation and ecological balance. This year's celebrations are being

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organized under the theme of Sewa Parv, aligning with the broader spirit of service and responsibility towards nature.

— Union Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav, along with Haryana Cabinet Minister Shri Rao Narbir Singh, laid the foundation stone of 'Namo Van' at Manesar on the occasion. The occasion was also marked by a plantation drive under the campaign 'Ek Ped Maa Ke Naam'.

CYCLONE SHAKHTI

— Cyclone Shakhti, which developed in the Arabian Sea on Friday, has further intensified into a 'severe' storm on 4th October, according to the India Meteorological Department (IMD).

— As the storm, the first to develop in the North Indian Ocean basin in 2025, has moved significantly away from the Indian coast, there is no direct threat to the west coast.

— Cyclone Shakhti, was located 420 km west of Dwarka, 420 km west-southwest of Naliya, and 290 km south-southwest of Karachi in Pakistan.

— The cyclone has been named Shakhti, a name suggested by Sri Lanka as per the convention followed by the WMO/ESCAP Panel on Tropical Cyclones.

— The North Indian Ocean basin, comprising the Arabian Sea and the Bay of Bengal, is prone to cyclones during the pre-monsoon (March to May) and the post-monsoon (October to December) periods.

T J S GEORGE

— Veteran journalist T J S George, who was the founding editor of Asiaweek magazine in Hong Kong and a former editorial adviser at The New Indian Express, died at the age of 97.

— George, who was awarded the Padma Bhushan in 2011, authored a widely read weekly column 'Point of View' for The New Indian Express for over two decades until 2022.

PANDIT CHHANNULAL MISHRA

— Hindustani music titan, the Padma Vibhushan singer, Pandit Chhannulal Mishra of Varanasi, died on October 2.

— Born in Azamgarh in 1936, Mishra grew up to be a doyen of Hindustani classical music, contributing immensely to such styles of the form as Khayal, Thumri, Dadra, Chaiti, Kajri, and Bhajan.

— He was conferred with Padma Vibhushan in 2020 and Padma Bhushan in 2010.

SARAH MULLALLY

— Dame Sarah Mullally has been named Archbishop of Canterbury designate, becoming the first woman chosen for the Church of England's most senior role.



— A former chief nurse in the NHS, Mullally was ordained in 2006 and became the first female Bishop of London in 2018, the third-highest office in the Church.

SANDHYA SHANTARAM

— Veteran actress Sandhya Shantaram, wife of late filmmaker V Shantaram, has died due to age-related ailments, her family said on October 4.

— He has starred as the leading lady in films such as Do Aankhen Barah Haath (1957), Navrang (1959), Jhanak Jhanak Payal Baje (1955), and Pinjra (1972).

— She had debuted in the Marathi movie, Amar Bhoopali in 1951 in which she played the role of vocalist who was wooed by poet Honaji Bala.

HUAJIANG GRAND CANYON BRIDGE

— China has opened the Huajiang Grand Canyon Bridge in Guizhou, claiming the title of the world's tallest bridge. Soaring about 2,050 feet above a river and gorge, the bridge surpasses the Royal Gorge Bridge in Colorado, which stands 956 feet above the Arkansas River.

WORLD PARA ATHLETICS CHAMPIONSHIPS 2025

— The 12th edition of the World Para Athletics Championships was held in New Delhi from 27 September to 5 October.

— Asia has hosted the World Championships in four occasions, at Doha 2015 in Qatar, Dubai 2019 in the United Arab Emirates and Kobe 2024 in Japan.

— Brazil finished top of the medal tally in the World Para Athletics Championships 2025 with 44 medals, including 15 gold medals, 20 silver medals, and nine bronze medals. India finished tenth in the medal tally. It won a total of 22 medals, with six gold medals, nine silver medals, and seven bronze medals. This is the best-ever medal haul for India at a single edition of the World Para Athletics Championships.

DreamIAS



BUSINESS AND ECONOMY

WILL CHINA CAPTURE THE ELECTROLYSER MARKET?

The story so far:

In the clean energy market, the limelight has recently shifted from solar and wind towards green hydrogen. Hydrogen is widely used in industries for oil refining and ammonia and methanol production, but most of it is currently produced using fossil fuels, which add to carbon emissions. Green hydrogen technologies used in production, storage, transportation and application are rapidly advancing, with electrolyzers at the core of this transformation. Electrolyzers are central to its production, much like photovoltaic (PV) modules are to solar power. And just as no discussion on solar PVs is complete without examining China's dominance in its supply chain, a similar story seems to be unfolding with electrolyzers.

Is China a dominant player?

By 2024, China had become the world's leading hydrogen producer, reaching an annual production of 36.5 million tonnes. China produced a total of 1,20,000 tonnes of green hydrogen, which represents almost half of the world's green hydrogen output. With respect to electrolyzers, China has come to dominate nearly 85% of the global manufacturing capacity of Alkaline electrolyzers. Currently, Alkaline (ALK) and Proton Exchange Membrane (PEM) electrolyzers are used in commercial plants, with ALK electrolyzers being a more mature technology. While the costs of ALK electrolyzers are low, they are less efficient than PEM electrolyzers in producing hydrogen using renewable energy, given problems of fluctuating loads. PEM electrolyzers, on the other hand, offer higher efficiency even at fluctuating loads as well as higher purity hydrogen as output. For now, China's dominance rests on its manufacturing capacity of ALK electrolyzers, both for domestic consumption and exports.

Looking at China's growing electrolyser manufacturing capacity, and its roll-out of large-scale green hydrogen production plants, concerns over its increasing global share in green hydrogen production and supply chain are beginning to emerge.

How did China establish dominance?

China was able to capture the global market of solar PV modules by offering cheaper rates due to state subsidies; integrated supply chains; control over raw materials; and quicker rollout of production facilities. In the case of electrolyzers, the average price of ALK electrolyzers supplied by China has been significantly lower than the average overseas price. Utilising Chinese ALK electrolyzers can offer up to 45% of cost advantages in setting up hydrogen production plants in Europe. Electrolyser prices in China are decreasing further due to supply chain maturity and increasing entrants in the market. In 2024, a 1,000 Nm³/h (5MW) ALK electrolyser system was priced at six million yuan (approx. 1,200 yuan/kW or \$167/KW), a 20% drop from 2023 whereas, a 200 Nm³/h (1MW) PEM electrolyser system was also priced at about six million yuan (~ 6,000 yuan/kW or \$838/KW) which is a reduction of 32% from 2023.

Further, ALK electrolyzers are made with nickel and steel both of which are abundantly available in China. PEM electrolyzers, however, rely on precious metals such as iridium, platinum, and titanium, making significant cost reductions challenging — even for China. Despite its manufacturing prowess, China remains one of the world's largest importers of these critical



materials. Moreover, hydrogen production requires system integration that varies with the required hydrogen purity. The final application of the hydrogen produced determines the specific systems that must be installed. As a result, competing purely on price might not be enough in the green hydrogen industry; exporters will have a greater advantage in delivering fully integrated systems.

Chinese solar and wind equipment manufacturers like LONGi and Envision are entering the green hydrogen space. Besides manufacturing electrolyzers, the firms have also signed deals to construct hydrogen production facilities overseas. For instance, China-based Guofu Hydrogen is partnering with German companies to develop electrolyser systems and hydrogen production facilities in Germany. Envision Energy launched the world's largest green hydrogen and ammonia plant, powered entirely by renewable energy sources.

Have other competitors emerged?

China is poised to become a dominant force in the global green hydrogen equipment market, as its firms proactively scale up production facilities and expand their international presence. However, this dominance is subject to significant advancements in technology and greater integration of their supply chains.

Despite their aggressive expansion, Chinese firms will face considerable hurdles in replicating their past success. Unlike solar, the green hydrogen sector is highly prioritised by many countries that have rolled out national plans and wish to maintain their local competitiveness. As a result, Chinese imports are likely to face significant scrutiny, restrictions, and stringent regulations, making it more challenging for them to compete on the same terms as they did in previous industries. Concerns over supply chain security are likely to play a larger role in shaping the market for green hydrogen technologies, potentially limiting the unhindered entry of Chinese products.

AMERICA'S 'FIX-IT' MENTALITY: A RECIPE FOR STRAINED TIES WITH INDIA

In a blunt assertion that has ruffled feathers across diplomatic circles, United States Commerce Secretary Howard Lutnick has declared that America must "fix" countries like India, Switzerland, and Brazil to mend their trading relationships. Speaking in an interview aired on News Nation, Lutnick painted these nations as wayward partners who need to "react correctly" by opening their markets wide and ceasing actions deemed harmful to US interests. This paternalistic rhetoric, coming amid escalating tariff wars, underscores a troubling unilateralism in Washington's approach to global trade—one that risks undermining the very strategic partnerships it claims to cherish.

The context is unmistakably one of economic arm-twisting. Since August 2025, President Donald Trump has slapped a staggering 50 per cent tariff on Indian imports, including a punitive 25 per cent levy for New Delhi's purchases of Russian oil—a move the White House accuses of indirectly funding Moscow's war machine in Ukraine. Lutnick's comments extend this logic, lumping India with Switzerland (for its \$40 billion trade surplus with the US) and Brazil, insisting they must "play ball" if they wish to access American consumers. For India, already grappling with export vulnerabilities in sectors like textiles, pharmaceuticals, and IT services, these barriers threaten thousands of jobs and could shave off billions from a bilateral trade volume that crossed \$190 billion last year. Exporters in Mumbai and Chennai are already feeling the pinch, with orders drying up and supply chains in disarray.



From an Indian vantage, this "fix-it" mindset smacks of arrogance, as if emerging economies are mere puzzles for Uncle Sam to solve. Sure, trade imbalances exist—India's duties on US goods like Harley-Davidson motorcycles and almonds have long irked Washington—but reciprocity cuts both ways. New Delhi has rightly countered that the US itself imports Russian chemicals, fertilisers, and uranium, while the European Union guzzles Moscow's energy with nary a tariff in sight. Moreover, India's oil buys from Russia stabilise global prices and shield our energy security amid volatile markets; punishing us for pragmatic diplomacy only exposes the hypocrisy in America's "America First" doctrine.

Yet, beneath the bluster lies an opportunity for recalibration. The recent birthday call between Prime Minister Narendra Modi and President Trump on 16 September signals a thaw, hinting at negotiations to avert further escalation. Even US lawmakers, in a bipartisan letter led by Representatives Ross and Ro Khanna, have urged Trump to dial back the tariffs, warning of a "low moment" in bilateral ties. India must leverage this, pushing for a comprehensive trade pact that addresses mutual concerns—easing our data localisation rules in exchange for tech transfers, or harmonising standards without the threat of penalties.

In the end, true partnership isn't about "fixing" sovereign nations but fostering equitable growth. As the world's largest democracy, India will not be lectured into submission; we seek a level playing field where our aspirations as a rising power are respected. Washington would do well to remember: alliances built on coercion crumble swiftly. Let this tariff tussle be a wake-up call for dialogue, not diktat, lest it fractures the Indo-Pacific synergy both sides need against shared challenges like China's assertiveness.

WEAPONISING HEALTH

By announcing 100% tariffs on imports of branded and patented medicines, with effect from October 1, U.S. President Donald Trump has weaponised access to health care in America, where prescription drugs account for about 10% of household medical care spending. The caveat of a 15% tariff cap on imports from the European Union and Japan, which the U.S. has clarified that it will honour, blunts the announcement, as these two jurisdictions account for nearly three-fourths of pharma imports. Much of this trade consists of patented medicines such as the Danish-made weight-loss and anti-diabetes drugs, Wegovy and Ozempic. The impact on patients needing specialised cancer or rare disease drugs could also be severe. There will also be a likely impact on the U.S.'s health insurance sector, as firms would attempt to pass on higher prices of specialty and patented medicines on to policyholders. An Ernst & Young study found that a 25% tariff on patented drugs would raise annual drug costs by about \$51 billion. The countries most exposed are those left outside the exemptions. The U.K., Switzerland, and Singapore — hubs for pharma manufacturing — face the prospect of a 100% tariff burden, which could make their products expensive.

India's sprawling generics industry has, for the moment, been spared. Generics account for 90% of prescriptions dispensed in the U.S. but about 13% of spending. India exported more than \$10.5 billion worth of formulations to the U.S. in FY25. Any tariff expansion to cover generics or biosimilars could, therefore, deal a blow to one of India's most successful export sectors. There is also lingering uncertainty over whether Active Pharmaceutical Ingredients (APIs) will be caught in the tariff net. India and China dominate global API supply. The U.S. itself remains a leading producer of innovative medicines, exporting billions of dollars' worth of drugs worldwide. How the new tariffs on imported patented drugs will interact with the price competitiveness of U.S. exports remains unclear. Mr. Trump's move came despite objections from the influential body,

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PhRMA, which warned that tariffs would raise costs for patients without addressing structural supply chain issues. For Americans, this decision will almost certainly push up retail drug costs for advanced therapies. For the world, the move is a reminder that global supply chains forged in the post-Second World War order are being reshaped by new political realities. Nations heavily dependent on U.S. demand must accelerate alternative trade alliances and diversify export markets. This is now a necessity for India's pharma sector as well.

THE CURIOUS CASE OF GDP DATA

While official data show that India's 'real' GDP growth has been on the upside more often than not, most of the big policy moves over the past couple of years have essentially been about giving some tax relief or the other in a bid to boost overall demand and raise India's consumption levels.

- If you are observing the Indian economy from a distance, something doesn't add up. On the one hand, official data show that India's "real" GDP growth — that is, after removing the effect of inflation — has been surprising on the upside more often than not.
- And yet, on the other hand, if one moves away from the days when GDP data are announced, most of the big policy moves over the past couple of years have essentially been about giving some tax relief or the other in a bid to boost overall demand and raise India's consumption levels.
- First, in February 2023, in the year leading up to the General Election, the Union government raised the income tax exemption limit to Rs 7 lakhs per annum. Then, in February 2025, within a year of Prime Minister Narendra Modi coming back with a reduced mandate, this exemption limit was raised to Rs 12 lakhs per annum.
- Most recently, the Union government has — along with the state governments, which are also part of the GST Council — decided to cut GST rates as well.
- Why are these two trends odd, you may wonder. Typically, when an economy grows at a fast pace, inflation is up because the overall supply of goods and services is unable to catch up with the high demand. Alternatively, when the demand in the economy is subdued, inflation cools down, and there is a need for policymakers to boost demand by means such as all kinds of tax cuts and interest rate cuts.
- On the face of it, in India, growth is running hot, and yet policymakers of all hues are trying to boost demand.
- What if one of the two trends is not really as robust as one might imagine? Of course, tax cuts are for real, and so are the government's efforts to boost consumption and overall demand. So the obvious point of inquiry is the growth rate.
- Typically, and for good reason, one looks at the real GDP growth rate. But real GDP is a number that is derived or calculated after removing the effect of inflation from the nominal GDP growth, which, as it happens, is the data that is actually collected.
- The calculation of the real GDP growth rate has come under some cloud and questioning in the past few years.
- The broader point is that many outside the government have claimed that the real GDP growth rate is overstating India's economic momentum, while the government has claimed that detractors are trying to use the nominal GDP data in a bid to show weakness in India's growth.



- While looking at real GDP data is always the better thing to do when judging growth, it may be instructive to look at the trends of nominal GDP growth for at least four reasons.
- One, it is the actual observed variable and, to that extent, it is less susceptible to being questioned.
- Two, nominal GDP is the main benchmark for almost all the key economic variables in the country.
- Three, soon the process of the next Union Budget will start, and the nominal GDP and its growth rate will be the starting point for all calculations.
- Fourth, the nominal GDP does capture the demand story of the economy better than the real GDP, which maps the supply story better.
- The deceleration in nominal growth rates, both for GDP as well as its two main components — private consumer demand and investment by businesses — is significant over the past two years. This may explain why, despite very strong real GDP growth rates, policymakers have been trying their best to boost consumption and investments.
- While nominal GDP is not the best tool to compare long-term growth, primarily because inflation rates are significantly different and, as such, distort the picture.
- But if the nominal GDP growth rate starts to hover around 8% or 9%, it could quickly translate into a challenge for real GDP growth. That's because — barring exceptional times or statistical anomalies — unlike developed countries, India's economy will likely continue to have an inflation rate closer to 4%, at least for the retail consumer.

Do You Know:

- GDP is the sum of the market value of all the final goods and services produced within the geographical boundaries of a country each year. The value of GDP measured in current prices is called Nominal GDP but it might not be a good measure of production because the increase in value may result from an increase in prices and not output. Nominal GDP, adjusted for price changes, is called Real GDP.
 - $\text{Nominal GDP per capita} = \text{Nominal GDP} / \text{total population}$
 - $\text{Real GDP per capita} = \text{Real GDP} / \text{total population}$
- Furthermore, economists rely on three approaches to accurately measure GDP: Expenditure, Income, and Product. GDP calculated from all these approaches should give the same value.
- Personal consumption expenditure is the sum of expenditure on consumer durables, non-durable goods, and services.
- Gross private domestic investment is the total of business fixed investment (non-residential structure, equipment, and software), residential investment and inventory investment.



ON DECLINING INFLATION, IMPROVING CONSUMER CONFIDENCE

Since August 2023, retail inflation in India has witnessed a sharp deceleration from being close to 7% to being around or below 2% in August this year. That means the rate at which the general price level was rising has come down.

— In July 2023, consumer facing prices went up 7.4% over their level in July 2022. However, this rate of increase (called inflation) has subsided sharply since then, and prices in August 2025 went up by just 2% over where they were in August 2024. The slide in inflation has been sharpest since October last year.

— It is this deceleration in the inflation rate that has made it possible for the Reserve Bank of India, which is tasked with the job of maintaining price stability in the country, to start cutting interest rates. Central banks raise interest rates to curtail the demand for money and, through that route, contain high inflation.

— The RBI's latest surveys show that the falling inflation rate has also had a salutary effect on consumer confidence across India. That's because lower inflation means better purchasing power in the hands of consumers.

— To arrive at the consumer confidence index, the RBI seeks responses on a whole host of variables such as the general economic situation, income levels, spending levels, employment situation and the price level for the current period (as compared with one year ago).

— It is important to note that the level of 100 marks the point of difference between negative and positive sentiments. A value below 100 means that among the people surveyed by the RBI, more were pessimistic about the current state of affairs than optimistic.

— The rural consumer confidence index has now been in the positive territory (above 100) since March. In fact, it is now at the highest point since the RBI started the survey for rural consumers two years ago.

— Despite an uptick, the urban consumer sentiment tells a different story. For one, it continues to languish in the negative territory. It is important to note that the last time the urban consumer confidence was in the positive territory was way back in March 2019, just as the country was about to go into the general election.

Do You Know:

— Inflation refers to the rate at which the general price level for goods and services increases over a period of time, causing a decrease in purchasing power of money or real income. In other words, as inflation rises, each unit of currency can buy fewer goods and services than before.

— Rising inflation affects the financial well-being of households, especially those with lower incomes or fixed incomes. As the cost of goods and services increases, it reduces the quantity of goods and services that can be purchased with the same nominal income, thereby affecting households' cost of living.



RBI KEEPS INTEREST RATES UNCHANGED. NOW, TO WAIT AND WATCH

The October meeting of the RBI's Monetary Policy Committee was held against the backdrop of subdued inflation and seemingly healthy growth. Retail inflation stayed below the central bank's inflation target for seven successive months, while the economy grew at a faster than expected 7.8 per cent in the first quarter of the financial year. Alongside, the GST Council, by rationalising the tax structure and bringing down the effective tax rates, provided a boost to consumption. But given the uncertain global environment and concerns over the underlying growth momentum, with Donald Trump's tariffs putting exports under strain, there were expectations that the MPC should loosen policy further. That was not to be.

The MPC voted unanimously to keep the benchmark repo rate unchanged at 5.5 per cent, even as it acknowledged that the "current macroeconomic conditions and the outlook has opened up policy space for further supporting growth". Two members of the committee did, however, advocate for a change in stance from neutral to accommodative. The central bank's projections indicate the space for further rate cuts with inflation coming in well below earlier expectations. As per its latest forecasts, retail inflation has been pegged at 2.6 per cent in 2025-26, down from its August assessment of 3.1 per cent and the June projection of 3.7 per cent. Much of this has been due to benign food prices. Core inflation has also been subdued, and excluding precious metals, was at just 3 per cent in August. The GST rate rationalisation has also led to a reduction in prices. And though unfavourable base effects are expected to push up headline inflation next year, it is likely to remain under control.

On growth, the central bank has revised its forecast upwards, pegging the economy to grow at 6.8 per cent in 2025-26, from its earlier estimate of 6.5 per cent. As per the central bank, recent reforms and GST rate rationalisation "are expected to offset some of the adverse effects" from the external sector. However, the underlying momentum is expected to slow down next year, with the RBI projecting growth at 6.2 per cent in the fourth quarter, and 6.4 per cent in the first quarter of 2026-27. Nonetheless, considering that the full impact of the policy measures is still unfolding in the system, the committee has opted to wait for greater clarity to emerge. Further policy steps will depend on whether or not growth disappoints and/or inflation comes in lower than expectations.

RBI'S FUNDING BOOST COULD HELP UNLOCK LIQUIDITY FOR STRUGGLING CAPITAL MARKETS

Seeking to revitalise India's financial markets, the Reserve Bank of India (RBI) on Wednesday rolled out a set of measures designed to make capital more accessible for investors and companies.

- The central bank announced the withdrawal of the ceiling on lending against listed debt securities, giving banks greater flexibility to extend credit backed by these instruments.
- It also raised the individual loan limit against shares from Rs 20 lakh to Rs 1 crore, a fivefold increase, while enhancing the IPO financing limit for retail investors from Rs 10 lakh to Rs 25 lakh.
- The measures come at a time when India's IPO market is buzzing, with several high-profile offerings in the pipeline. By easing restrictions, the RBI aims to widen participation from retail and institutional investors, improve liquidity flows into the primary market and deepen financial intermediation.



- Analysts believe the measures will boost investor confidence, particularly among retail participants who often face funding constraints. At the same time, banks will benefit from new lending opportunities backed by capital market securities.
- The timing of the Reserve Bank of India's measures is significant, as equity markets have been struggling to find momentum amid global and domestic headwinds.
- Adding to the strain has been the sustained withdrawal by foreign portfolio investors (FPIs), who have pulled out \$21 billion from Indian equities over the past year in search of safer or higher-yielding assets elsewhere.
- This exodus has pressured the rupee and dampened market sentiment, leaving domestic institutions and retail investors to shoulder the burden of keeping trading volumes alive.
- The RBI has proposed sweeping relaxations in norms governing loans against financial securities. The central bank has suggested removing the existing regulatory ceiling on lending against listed debt securities, a change that is expected to deepen market activity and enhance liquidity.
- The RBI has proposed scrapping the framework introduced in 2016 that discouraged banks from lending to very large borrowers — those with aggregate credit exposure of Rs 10,000 crore or more from the banking system.
- This change is expected to significantly ease the cost of financing for infrastructure developers, a sector widely recognised as the backbone of India's long-term growth story.
- With large-scale investments required in roads, power, urban transport and renewable energy, the move could provide a timely boost to funding availability.
- The RBI's step will not only improve liquidity in the sector but also encourage NBFCs to expand their exposure to stable, cash-generating projects, thereby supporting India's infrastructure build-out while maintaining financial system stability.
- The RBI also unveiled plans to streamline and simplify regulations for External Commercial Borrowings (ECBs). The updated framework will expand the pool of eligible borrowers and recognised lenders, rationalise borrowing limits and maturity norms, eliminate restrictions on borrowing costs, relax end-use constraints, and simplify reporting requirements.

Do You Know:

- NBFC is a company registered under the Companies Act, 1956 or Companies Act, 2013, and engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures /securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, etc., as their principal business, but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/ construction of immovable property.
- A non-banking institution which is a company and has principal business of receiving deposits under any scheme or arrangement in one lump sum or in installments by way of contributions or in any other manner, is also a non-banking financial company (Residuary non-banking company).



AS CENTRAL BANK EASES LENDING REGIME, IT MUST BE MINDFUL OF RISKS

On Wednesday, the Reserve Bank of India unveiled several policy measures that will have far-reaching implications for the financial markets, both equity and debt, help boost the flow of credit and push forward the internationalisation of the Indian rupee. This pivot of the central bank away from the conservatism that has so far defined its approach towards a more liberal framework comes at a time of significant changes in the geopolitical and economic environment and global trading systems.

The measures announced to increase credit operate at multiple levels. One, the RBI is allowing banks to “finance acquisitions” by Indian corporates, an activity they have been prohibited from. Two, it is also easing the flow of funds to large borrowers by proposing to scrap its 2016 framework that had placed restrictions on lending. These moves could possibly accelerate M&As in the economy while boosting credit growth to the industry, which has been sluggish, averaging just 6.5 per cent since January this year — M&A deals were estimated at \$120 billion in 2023-24 as per a report by economists at the SBI. But there is the risk of “reckless borrowing” by corporates, as a report in this paper points out. Alongside, the central bank has proposed to increase banks’ lending limit against shares to Rs 1 crore and for IPO financing to Rs 25 lakh. This will boost the flow of funds into equity markets. Investors welcomed these announcements with shares of banks such as HDFC, ICICI and Kotak rising on the day.

The central bank has also announced measures to increase the usage of the rupee in international transactions. It will permit banks to lend rupees to non-residents in neighbouring countries like Bhutan, Nepal and Sri Lanka for cross-border trade. This is a significant step in the endeavour to internationalise Indian currency, and not rely on the USD, for the purposes of trade. But for the rupee to be widely used, and to emerge as an acceptable medium of exchange, there needs to be confidence in its stability. Alongside, the central bank has also permitted the balances in Special Rupee Vostro Accounts — these accounts have facilitated India-Russia oil trade — to be invested in corporate bonds and commercial papers. This will increase the avenues available for deploying the funds. It will also establish reference rates for currencies of major trading partners such as the UAE, making transactions more efficient. Each of these steps is designed to push for greater use of the Indian rupee in international transactions, and pave the way for its greater acceptance, while protecting the economy from sudden exchange rate movements. As the RBI pushes forward, it must proceed carefully, be mindful of the associated risks.

RBI CONSTITUTES SIX-MEMBER BOARD TO OVERSEE FUNCTIONING OF PAYMENT SYSTEMS

The Reserve Bank of India (RBI) on Tuesday constituted a six-member Payments Regulatory Board (PRB), comprising three nominees from the Central government, to oversee the functioning of payment systems in the country.

- Board is chaired by RBI Governor Sanjay Malhotra, with Deputy Governor and Executive Director representing RBI; government nominees include secretaries of Financial Services and Electronics/IT, and Aruna Sundararajan (ex-Telecom Secretary).
- PRB replaces BPSS (Board for Regulation and Supervision of Payment and Settlement Systems), now derives authority from Payment and Settlement Systems Act, 2007.



- PRB supported by RBI's DPSS (Department of Payment and Settlement Systems). Decisions are by majority vote; chairperson/deputy governor has a casting vote in case of a tie.
- Government representatives now have a say in functioning of payment systems.

Do You Know:

- The Reserve Bank of India was established April 1, 1935, under the RBI Act, 1934, one of the oldest central banks among developing countries.
- First Governor: Sir Osborne Arkell Smith (Australian); first Indian Governor: Sir C.D. Deshmukh.
- The RBI's functions cover monetary stability, currency management, inflation targeting, banking regulation, interest rate setting, and management of payment systems.
- The Preamble of the RBI outlines its core functions as regulatory authority for monetary stability, currency/credit system, price stability, and growth.

INDIA'S DAIRY SECTOR FASTEST GROWING IN THE WORLD, EXPANDED 70% IN 11 YRS

The dairy sector in India has grown by 70 per cent in the 11 years of the BJP rule at the Centre — with milk production increasing from 146 million tonnes in 2014-2015 to 239 million tonnes in 2023-24 — and is now the fastest-growing sector in the world, Union Home Minister Amit Shah Friday said.

— Shah, who also holds the cooperation portfolio, said that over the past four years, the ministry, in collaboration with all state governments, has worked to lay a strong foundation of cooperatives.

— “I want to assure you that by 2029, not even one Panchayat will be there in the country, which will not have a cooperative society,” Shah said.

— Shah said the government has decided to establish three new multi-state cooperative societies for the dairy sector. The first society will focus on ‘animal feed production, disease control and artificial insemination’, the second will promote ‘developing cow dung management models’ and the third will promote ‘circular use of dead cattle remains’.

— As many as eight crore farmers are connected with the dairy sector.

— Saini credited Prime Minister Narendra Modi's mantra of ‘Sahkar Se Samridhi’ (prosperity through cooperation) and the establishment of the Ministry of Cooperation in 2021 for revitalizing the cooperative sector.

— Haryana, ranked third in the country in milk production, produces 122.2 lakh tonnes annually with a per capita milk availability of 1,105 grams per day. The state is also extending support to farmers through cooperative societies, low-interest loans, timely seed and fertilizer supplies, and insurance and welfare schemes, he said.

Do You Know:

— Operation Flood, launched in 1970, ushered in the White Revolution and transformed the dairy sector in India. Last year, Union Home and Cooperation Minister Amit Shah announced plans for “White Revolution 2.0”.



— The idea of White Revolution 2.0 revolves around cooperative societies, which were also the bedrock of Operation Flood five decades ago.

— India is the world's top milk producer, with production having reached 230.58 million tonnes during 2022-23. In 1951-52, the country produced just 17 million tonnes of milk.

— The average yield is, however, only 8.55 kg per animal per day for exotic/ crossbred animals, and 3.44 kg/ animal/ day for indigenous/ nondescript animals. The yield in Punjab is 13.49 kg/ animal/ day (exotic/ crossbreed), but only 6.30 kg/ animal/ day in West Bengal.

— The national per capita availability of milk is 459 grams/ day, which is higher than the global average of 323 g/ day; this number, however, varies from 329 g in Maharashtra to 1,283 g in Punjab.

CABINET HIKES MSP FOR SIX RABI CROPS, WHEAT SEES ₹160 INCREASE

The Centre on Wednesday announced minimum support prices (MSPs) for six rabi crops for the rabi marketing season 2026-27, with wheat seeing an increase of Rs 160 per quintal over the current MSP.

— The MSP hikes were approved by the Cabinet Committee on Economic Affairs, which met under the chairmanship of Prime Minister Narendra Modi.

— “Government has increased the MSP of Rabi Crops for Marketing Season 2026-27, to ensure remunerative prices to the growers for their produce. The absolute highest increase in MSP has been announced for Safflower at Rs.600 per quintal followed by Lentil (Masur) at Rs.300 per quintal. For Rapeseed & Mustard, gram, barley, and wheat, there is an increase of Rs.250 per quintal, Rs.225 per quintal, Rs.170 per quintal and Rs.160 per quintal respectively,” said an official statement.

— The MSP of wheat is fixed at Rs 2,585 per quintal, 6.60 per cent higher than the current MSP of Rs 2,425 per quintal.

— Wheat is the second-largest crop (after paddy) in terms of area coverage. In 2023-24, the area under wheat cultivation stood at 318.33 lakh hectares.

— Uttar Pradesh is the top wheat-producing state, followed by Madhya Pradesh, Punjab, Haryana, Rajasthan, Bihar, Gujarat, and Maharashtra.

— The Cabinet also approved the Mission for Aatmanirbharta in Pulses—a landmark initiative aimed at boosting domestic production and achieving self-sufficiency in pulses.

— “The Mission will be implemented over a six-year period, from 2025-26 to 2030-31, with a financial outlay of Rs 11,440 crore,” said an official statement.

Do You Know:

— MSP is the price at which the government is supposed to procure/buy that crop from farmers if the market price falls below it. MSPs provide a floor for market prices and ensure that farmers receive a certain “minimum” remuneration so that their costs of cultivation (and some profit) can be recovered.



- The MSPs are announced by the Union government on the recommendations of the Commission for Agricultural Costs and Prices.
- The Commission for Agricultural Costs & Prices recommends MSPs for 22 mandated crops and fair and remunerative price (FRP) for sugarcane. The Cabinet Committee on Economic Affairs (CCEA) of the Union government takes a final decision on the level of MSPs.
- Crops covered under MSP:
 - 7 types of cereals (paddy, wheat, maize, bajra, jowar, ragi and barley),
 - 5 types of pulses (chana, arhar/tur, urad, moong and masur),
 - 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower, nigerseed),
 - 4 commercial crops (cotton, sugarcane, copra, raw jute)

EXPRESS VIEW: INDIAN FARMERS NEED INCOME, NOT PRICE SUPPORT

The Narendra Modi government has raised the minimum support price (MSP) for the 2025-26 wheat crop by Rs 160 to Rs 2,585 per quintal. The rise — more than the Rs 150-per-quintal each of the last two crop years — defies economic logic. Public wheat stocks, at 33.3 million tonnes (mt) on September 1, were the highest for this date in four years. The 2024-25 crop was good, reflected in official procurement crossing 30 mt for the first time after 2021 and wholesale wheat prices now ruling lower than a year ago. Given the recharged groundwater aquifers and near-full reservoirs from the surplus monsoon rains, one can expect a bumper crop in the ensuing season (November-December sowing and April-May harvesting) as well. In short, there is no dearth of wheat either in government warehouses or in the open market to justify the magnitude of MSP hike that has been announced.

Supply side aside, the MSP increase decision also lacks any production cost-based rationale. The Commission for Agricultural Costs & Prices (CACP) has projected the all-India average “A2+FL” cost — which includes all paid-out expenses on inputs incurred by the farmer and also an imputed value of unpaid family labour — for the 2025-26 wheat crop at Rs 1,239 per quintal. The MSP of Rs 2,585, then, works out almost 109 per cent higher than the estimated cultivation cost. That’s well above the minimum 50 per cent margin to be given as per the formula for determination of MSP. For comparison, the MSPs of other rabi season crops have been fixed at just 50 per cent over “A2+FL” cost for safflower, 58-59 per cent for barley and chana (chickpea), 89 per cent for masur (red lentil) and 93 per cent for mustard. Simply put, wheat farmers have been favoured over those growing pulses or oilseeds.

The policy bias extends even to procurement (government agencies buy wheat and paddy at the declared MSPs, which isn’t so with soyabean, chana or millets) and imports (wheat and rice attract 40-80 per cent duty, as against 0-10 per cent on pulses and 16.5 per cent on crude vegetable oils). The CACP’s MSP recommendations are supposed to also factor in inter-crop price parity and domestic and global market price trends. The latest wheat MSP of Rs 2,585/quintal, translating into over \$290 per tonne, is totally out of sync with current international prices of \$225-230. Indian farmers need income, not price support. The best way to deliver that is not through MSP and government procurement, but by direct per-hectare income transfers. The farmer should



grow what the market wants, which is already the case with animal and horticulture products. It should be no different with field crops.

GOVT IDENTIFIES 100 ASPIRATIONAL AGRICULTURE DISTRICTS, UP TOPS LIST

THE CENTRE on Friday announced 100 Aspirational Agriculture Districts to be developed under the Prime Minister Dhan-Dhaanya Krishi Yojana (PMDDKY) across 29 states and UTs, with Uttar Pradesh accounting for the most 12 districts.

— The government also released the operational guidelines of the scheme and appointed 100 Central Nodal Officers (CNOs) — most of them joint secretaries — for monitoring the scheme's performance across the selected districts. The order was issued by the Department of Personnel and Training on Friday.

— On the districts' list, UP is followed by Maharashtra with nine districts, Madhya Pradesh and Rajasthan account for eight each, while seven districts have been selected from poll-bound Bihar.

— Six states — Andhra Pradesh, Gujarat, Odisha, Tamil Nadu, Telangana, West Bengal — account for four districts each. Three districts each have been selected from Assam, Chhattisgarh and Kerala. The UT of J&K, Jharkhand and Uttarakhand have two districts each. — The remaining 11 states — Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim and Tripura — account for a district each.

— While the PMDDKY does not have a separate budgetary allocation, it will be implemented through convergence of various schemes. As per the guidelines, a district agriculture development plan will be prepared for each district and 36 schemes of 11 departments will be converged into these plans.

— Of these 36 schemes, a maximum 19 will be from the Department of Agriculture and Farmers Welfare. It is estimated that work worth ₹24,000 crore will be undertaken under the scheme every year.

Do You Know:

— Designed on the lines of Aspirational Districts Programme, PMDDKY aims at developing agricultural districts. It has 5 objectives— enhancing agricultural productivity, adopting crop diversification and sustainable agriculture practices, augmenting post-harvest storage at the panchayat & block level, improving irrigation facilities & facilitating long-term & short-term credit.

— The ADP is based on the 3 Cs, Convergence (of central and state schemes), Collaboration (of central and state level nodal officers and District Collectors), and Competition among districts through monthly delta ranking based on incremental progress in 49 Key Performance Indicators (KPIs) under five broad socio-economic themes: Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Infrastructure.

— The 100 districts are selected on the basis of three parameters – low productivity, moderate crop intensity, and below-average credit parameters.

— Cropping intensity is a measure of how efficiently land is used. It is defined as the percentage of gross cropped area to the net area sown. Simply put, cropping intensity means the number of



crops grown on a piece of land in an agricultural year (July-June). At the all-India level, cropping intensity was recorded at 155 per cent in 2021-22, but there were variations across states.

DOMESTIC VITALITY

The latest data on investment announcements in the country paint a mixed picture, with varying policy implications. New project announcements by the private sector overall rose to nearly a 15-month high in the first half of this financial year to ₹9.9 lakh crore. Such investments have historically been driven by Indian firms, but that concentration has intensified in the last few years. While Indian firms accounted for 77% of all private sector announcements in 2018-19, that share was 94% in the first half of the current financial year. Taken together, these data points underscore a diametrically opposite outlook on the Indian economy held by domestic and foreign firms. Domestic firms seem increasingly optimistic. It remains to be seen how many of these announcements fructify, but the data show that the value of projects actually completed by Indian firms was also at a near 15-month high so far this fiscal. This should come as a relief to the government, which has been pushing the private sector to invest more. The data also show that most of these new investments are to be in the manufacturing sector — another strong positive for the economy. A large part of these new investments was announced before the GST rate cuts were first made public on August 15, implying the private sector's confidence goes deeper than an expectation of a temporary demand boost. If the investments do come through, that will leave the government with more fiscal room to address developmental and defence issues, both of which need its attention.

Foreign firms, on the other hand, do not seem quite as convinced by the India story. The value of project announcements by foreign companies fell to ₹0.6 lakh crore in the first half of FY26, marking the third consecutive year of decline during this period, and also a five-year low. Several global factors have certainly dampened investor sentiment ever since the COVID-19 pandemic, but the fact remains that global investment outflows nevertheless increased 11% in 2024 and 3% in 2023. While the latest tariff friction with the U.S. would have shaken some confidence in India as an investment destination this year, the government needs to figure out why foreign companies were looking elsewhere even before. The data also reveal that fresh announcements by the government stood at ₹1.5 lakh crore during the period under review, down 71% over the same period last year. This is in line with the Centre's warnings that it will not be growing its capex as fast as before. However, with the government and foreign companies pulling back, the pressure on Indian firms increases. Simultaneously, the urgency to keep this momentum going through ease of doing business reforms also sharpens.

ARBITRAGE FUNDS FOR NEAR-ALPHA RETURN?

An active fund's total return comes from two components- returns in line with benchmark index (beta returns) and returns more than the benchmark (alpha returns). You pay a higher fee for an active fund compared with a passive one for the expected alpha returns. But a huge proportion of an active fund's return is driven by market returns. This means an investor pays higher fee for market returns too.

Large U.S.-based institutional investors argued against such practice; for market returns can be earned by investing in cheap passive products. That paved the way for alpha-beta separation in institutional investing. Think of this as earning market returns from a pure passive product and alpha returns from specialist alpha managers.



Retail investors do not have access to such process. But they can invest in exchange-traded funds or index funds to generate beta returns and invest in arbitrage funds to get near-pure-alpha returns. This week, we discuss why arbitrage funds offer such exposure.

Synthetic process

A portfolio can be created to carry only market risk via the process of diversification. Creating a near-pure-alpha portfolio needs multiple steps. The first is to create typical portfolio like an active fund. This will contain both market, company-specific and sector-specific risk. The next step would be to remove market risk from portfolio. That will leave company-specific and sector-specific risk in the portfolio to earn alpha returns. This process is achieved using index futures on the portfolio's benchmark index. Suffice it to know the process cannot clinically remove all market risk.

Residual beta

Some market risk that stays in the portfolio is referred to as the residual beta. Hence, the portfolio is said to achieve near-pure-alpha returns. Arbitrage funds apply a simple process to achieve such returns. Such funds identify stocks with overpriced futures contracts. Then, they take long position in such stocks and short position in the futures contracts to capture the price difference. The long stock and short futures position ensures the portfolio has near-zero market risk and near-pure alpha returns.

Conclusion

Markets do not always offer arbitrage opportunities. Market participants try to grab opportunities quickly when such opportunities are available.

Therefore, there could be times when arbitrage funds may not find investment opportunities. So, such funds also take exposure to money market instruments to generate returns, keeping the risk low. You must be mindful of these factors if you invest in arbitrage funds.

NITI MOOTS PRESUMPTIVE TAXATION PLAN FOR FOREIGN FIRMS

The government think tank Niti Aayog has proposed a presumptive taxation scheme for foreign companies, aiming to bring certainty and simplicity to India's tax regime. According to its working paper, this optional scheme would help resolve disputes related to permanent establishment (PE), simplify compliance, and protect revenue by codifying PE and attribution principles in line with global norms, but without retrospective changes. The scheme would allow companies to declare income at a prescribed rate, relieving them from maintaining detailed books for audit purposes. Different deemed profit rates for various sectors are suggested, with foreign companies given the option to opt out if their actual profits are lower. The paper also highlights the need for consistent rule application by tax officers, especially in complex digital and cross-border cases, to reduce subjectivity. Niti Aayog CEO B.V.R. Subrahmanyam emphasised that a stable, predictable tax regime is vital for investment and economic growth, and that tax uncertainty hinders business confidence.

THE RISE OF INDIA'S HOME-GROWN MUTUAL FUND INVESTORS

At a time when foreign investors have been pulling money out of the Indian stock market, domestic investors have kept it afloat with their steady contributions. Data show that this trend



has persisted for some time now. But who are these domestic investors, especially those putting their money into mutual funds?

Data show that urban Indian men continue to dominate the domestic investor market. However, in recent years, the share of those from smaller towns and non-metro areas has steadily increased. Also, one in four of these investors is a woman.

Foreign Portfolio Investors are those who invest in the stocks and shares of another country — in this case, India. On the other hand, Domestic Institutional Investors are investment bodies within India, such as mutual funds, insurance companies, banks, and pension funds, that channel money into the domestic financial market. Among them, mutual funds form a major category, pooling money from shareholders and investing it across different securities.

FPI ownership in NSE-listed companies has fallen to a 13.5-year low, while the share of Domestic Mutual Funds (DMFs) has climbed to a record high. Despite the decline, FPIs still held a higher share — 17.3% — compared with 10.3% for DMFs. So, while self-reliance through domestic investors is on the rise, the role of FPIs remains crucial.

DMFs are largely powered by Systematic Investment Plans (SIPs). These plans allow investors to put in a fixed amount of money at regular intervals — sometimes as little as ₹1,000 every month — without having to worry about when to enter or exit the market. The number of new SIP accounts surged from 14.1 million in 2020-21 to 68 million in 2024-25. Over the same period, assets under management (AUM) through SIPs grew from ₹4.27 trillion to ₹13.35 trillion.

Consequently, while a significant share of households still relies on traditional savings tools such as bank deposits, life insurance funds, and public provident funds, the proportion investing in mutual funds has been steadily rising. The share of mutual funds in households' gross financial savings grew from 0.9% in 2011-12 to 6% in 2022-23.

An RBI study concluded that access to the market — measured by the number of demat accounts — is the most influential factor in shaping people's willingness to invest in mutual funds. In other words, simply having the means to invest is often enough for people to begin. Other crucial determinants include low fixed deposit rates and a supportive business environment.

The number of demat accounts across India rose by 200% between 2020 and 2024, increasing from 3.8 crore to 11.8 crore. Every State/Union Territory recorded at least a 100% jump. In Bihar, the number of accounts grew by over 400% — from about 9.6 lakh to 50 lakh — while in Uttar Pradesh they climbed 348%, from 0.2 crore to 1.3 crore.

Investor participation is also no longer concentrated in metros. In September 2015, more than 80% of mutual fund AUM came from just eight cities — Mumbai, Delhi, Bengaluru, Chennai, Kolkata, Ahmedabad, Pune, and Hyderabad. By March 2025, this share had dropped to 60%.

Also, investors are not just men. Data shows that one in four investors is a woman. As of FY25, close to 25% of individual investors are women. This has been the case since at least FY16.

THE LATTE FACTOR – WEALTH KILLER IN DISGUISE

It's not always the big splurges that throw your budget off track. Even everyday indulgences in negligible amounts could wreck your ship of finance. Say, for instance, a cup of coffee here, a quick



snack bite there, a samosa grabbed between meetings, mouth-watering vadapavs in the evening, or, an OTT subscription of just ₹99 per month.

Curb wealth creation

At first glance, these small expenses might look harmless, but when they pile up, they have the potential to sabotage long-term wealth creation. In the late 1990s, David Bach, an American financial author and motivational speaker, named it the Latte Factor, a silent wealth killer that creeps into our lives in disguise.

The inherent danger with these indulgences is that they just do not bother you at all, as they are spent in negligible amounts. As these indulgences are seemingly small, they seldom trigger an alarm bell. You might justify it by saying, “It’s just ₹20 today, what’s the big deal?” or “Only today; I’ll surely skip having a coffee outside the office tomorrow.”

Pennies to pounds

Yet, the tomorrow never comes. Day after day, week after week and month after month, those seemingly trivial amounts quietly accumulate. Over a period of time, these piled-up pennies could be a hidden pitfall in your wealth creation.

What is the Latte Factor?

In the world of personal finance, the Latte Factor is an unavoidable phenomenon that spells out how everyday indulgences in negligible amounts could burrow into your long-term wealth creation. Don’t just go by the word ‘latte.’ It’s not just about the coffee but it could be any daily indulgence such as tea, biscuits, cigarettes, samosas etc.

About its origin

In 1999, David Bach introduced this idea in his book ‘Smart Women Finish Rich.’ Years later, Mr. Bach expanded this concept in another book called ‘The Latte Factor’, co-authored with John David Mann.

In 1990s, coffee became a habitual indulgence for many Americans. Mr. Bach pointed out that spending just \$3 or \$5 dollar every day on a coffee (latte) might seem insignificant at first, but this habit could silently chip away at your long-term wealth.

David Bach argued that by consistently investing what would otherwise be shelled out for unnecessary indulgences, one can accumulate a substantial corpus over time. It must be noted that the Latte Factor isn’t about giving up enjoyment in the name of saving or investing.

It’s about being aware of these leaks and plugging them before the long-term financial ship starts to sink.

How wealth erodes

Let’s say, for example, you spend ₹20 on a coffee daily. The negligible amount, ₹20, becomes ₹600 in a month and ₹7,200 in a year. Instead of indulging in this habit every day, if you consistently invest ₹600 per month in a financial instrument that yields a 12% annual return, this tiny amount could grow dramatically, reaching more than ₹20 lakh in 30 years and over ₹70 lakh in 40 years.



If you cultivate this habit from your first pocket money or first salary until you retire, it could be easily 40-plus years. But wait, neither David Bach nor Moneywise suggests quitting coffee or other small pleasures entirely. Not at all. The key is simply to find the right balance between enjoyment and investment.

THE NEW-AGE MATERNITY INSURANCE STORY

A mother is someone who can take the place of all others, but whose place no one else can take, said Gaspard Mermillod

In recent years, India has seen significant strides in maternal health, but the challenges are very real. As per the Sample Registration System, the Maternal Mortality Ratio (MMR) in India bettered from 130 per 1 lakh live births in 2014–16 to 97 per 1 lakh live births in 2018–20. Still, that means almost 25,000 mothers die a year from pregnancy-related causes. While, almost 50% of all pregnancies are considered “high-risk.”

About 49.4% of women in a recent survey had one or more high-risk factors during pregnancy with over 16% having multiple risk factors. Expecting mothers need holistic support.

Evolving cover

Maternity insurance is evolving. Beyond covering hospital bills and complications, new programmes are delivering a range of care that addresses physical, emotional, mental and spiritual dimensions of pregnancy. These solutions are designed to support mothers throughout their journey.

Maternity insurance had long been an afterthought for most consumers. Earlier, such cover in health insurance came with waiting periods of up to 2–4 years making it impractical for couples planning a family. Our data shows out of couples seeking such a cover, a majority would already be expecting a child with no scope for long waiting periods. Recognising this gap, insurers are now offering maternity plans with waiting periods as low as three months.

This means even expecting couples can opt for the cover soon as they find out. These policies include pre- and post-natal and newborn care. The cut in wait periods makes it viable for families to secure expanding households.

Imagine a system that begins with prenatal screenings and extends into personalised consultations with obstetricians, nutritionists and mental health professionals. Add to this prenatal yoga sessions that build strength and endurance. Families also benefit from curated trimester-wise content and supportive community circles where experiences and knowledge are shared.

India’s MMR, though declining, is still above the United Nations Sustainable Development Goal target of 70 per 1 lakh live births. High-risk pregnancies are common, and the gaps in preventive and emotional care are wide. Regional disparities in wealth, education, and healthcare access further compound the challenges. For many mothers, medical appointments give only partial assurance; what is often missing is continuous guidance, holistic wellness practices, and emotional reassurance. This is why maternity insurance that combines financial protection with wellness support is so powerful. Insurance is no longer a transaction that waits for something to go wrong. It becomes a partner that works to ensure more goes right.



Changing landscape

Urban lifestyles, rising stress levels, and delayed pregnancies are reshaping the maternity landscape in India. More women are entering motherhood in their late 20s and 30s, a stage often associated with higher medical risks. At the same time, the costs of childbirth are steadily rising. The cost of caesarean deliveries in private hospitals can range between ₹1.5-₹3 lakh in metros, not including postnatal care and potential complications. For young families, the expenses can create both emotional and financial strain.

Wellness-driven maternity cover cushions the financial blow of medical bills while also lowering the likelihood of complications via preventive care. This is particularly important in a country where medical inflation hovers about 14% annually, one of the highest in Asia. By embedding wellness into financial protection, these products align with the growing desire of modern families to seek holistic, long-term solutions rather than short-term fixes.

Healthier beginnings

India has made commendable progress, but with nearly one in two pregnancies classified as high risk and many women still walking into motherhood feeling overwhelmed or unsupported, the work is far from done. The opportunity lies in embedding wellness into maternity insurance so that every expecting mother feels seen and cared for not just clinically but also emotionally and spiritually.

When maternity cover also becomes wellness insurance it becomes a safety net and a companion. It supports women not only in managing complications but in nurturing strength, resilience, and confidence.

MORE WOMEN JOIN THE LABOUR FORCE, BUT ARE THEY REALLY EMPLOYED?

The female labour force participation rate (FLFPR) measures the share of women who are either employed or actively seeking work. A higher FLFPR is often seen as a sign of greater gender equality and a more dynamic labour market. The FLFPR fell from 31.2% in 2011-12 to 23.3% in 2017-18, before climbing to 41.7% in 2023-24 (Chart 1). While this rise appears encouraging, a closer look reveals that women continue to face barriers — both in terms of earnings and the kind of jobs available to them.

In India, workers are broadly classified into three categories: self-employed, regular salaried, and casual workers. The NSSO tracks earnings for each of these groups. Strikingly, during the very period when the FLFPR rose, real earnings declined for all categories except casual workers in both rural and urban areas. This points to a troubling reality — more women may be entering the workforce, but they are not finding secure or remunerative employment.

The recent rise in FLFPR is largely driven by rural women. To understand this trend better, we now turn to a closer examination of female labour force participation and employment patterns in rural India.

Economic development is typically associated with a shift of the workforce from agriculture to non-agricultural sectors. Given the recent rise in rural FLFPR, one might expect more women to be moving out of agriculture into industry or services. The data, however, suggest the opposite. The share of rural women employed in agriculture rose from 71.1% in 2018-19 to 76.9% in 2023-24, while their presence in both the secondary and tertiary sectors declined.



A large share of women's work takes the form of unpaid household labour, which does not count as employment in official statistics. Even within the employed category, there exists a group termed 'helpers in household enterprises' — a role that also falls under unpaid family work. So, two categories capture women attending to domestic duties, both of which are unpaid activities.

Among rural women aged 15 years and above, there has been a sharp fall in those reporting 'domestic duties' — from 57.8% in 2017-18 to 35.7% in 2023-24 (nearly 20 percentage points). This shift is mirrored by a 10.5-point rise in women counted as 'helpers in household enterprises' (from 9.1% to 19.6%) and a 10-point rise in 'own account workers and employers' (from 4.5% to 14.6%) over the same period. In other words, the reduction in unpaid domestic work has translated largely into self-employment, not into an expansion of wage employment.

In rural areas, it is often difficult — if not impossible — to separate women's domestic responsibilities from their role as helpers in household enterprises. This blurring of boundaries may partly explain the rise in FLFPR. It also raises a fundamental question: should such unpaid helper roles be counted as employment at all? At the same time, even within the self-employed category, the apparent increase in own account workers and employers has coincided with a decline in their real earnings. In other words, the rise in self-employment has not improved women's incomes.

Thus, the rise in FLFPR is largely driven by an increase in women counted as helpers in household enterprises and as self-employed workers. Wage employment has not expanded, and real earnings for most categories of women workers have actually fallen. Far from signalling dynamism, this pattern points to deeper vulnerabilities in the labour market.



DreamIAS

**LIFE AND SCIENCES****SCIENTISTS TURN TO THE MOON TO CATCH SPACETIME'S FAINTEST MUSIC**

The Greek philosopher Pythagoras explained the universe using the 'Music of the Spheres', orbs on which celestial objects moved in consonance with mathematical harmonies to create a cosmic symphony of sorts.

Today, astronomers are treated to this ethereal 'music' every time they eavesdrop on the universe using radio telescopes to unravel its mysteries. The bass hum they hear is a mix of the electromagnetic signatures of the most colossal objects in the universe — neutron stars (extremely dense remnants of massive stars that exploded), pulsars (rapidly rotating neutron stars that emit beams of electromagnetic radiation from their magnetic poles), and black holes.

Perhaps the most significant notes in this medley are gravitational waves, subtle wrinkles in the spacetime continuum caused by the abrupt movement of massive objects as in cataclysmic events like merging black holes or colliding neutron stars, bending space and time. These oscillations spread out as waves at the speed of light and their low rumble can be picked up by gravitational wave detectors, which measure how the waves stretch and compress spacetime between the objects they encounter.

Warping of spacetime

Curiously, gravitational waves are only powerful on large, cosmic scales. On smaller scales they are extremely weak — so weak that they are only able to alter the distance between the earth and the moon by less than the diameter of an atom! And the farther these waves travel, the weaker they become, so that by the time they reach the earth they are almost impossible to measure.

Astronomers build special instruments called interferometers that use laser light to detect gravitational waves. The Laser Interferometer Gravitational-wave Observatory (LIGO) in the US, for instance, has two L-shaped detectors, one in Louisiana and another in Washington. Each detector has a couple of 4-km-long arms. When a laser beam is sent down these arms, it is reflected back by mirrors; any delay in the reflection indicates that the light is being influenced by gravitational waves.

In 1916, Albert Einstein's general theory of relativity made two predictions. One was that stars and galaxies, because of their mass, bend light as they warp spacetime in a phenomenon called gravitational lensing. This was experimentally proved in 1919. The second prediction was the existence of gravitational waves, which was debated at length in the decades that followed as scientists wondered if these were merely mathematical constructs devoid of physical reality. In fact, Einstein himself briefly questioned their existence in 1937, suggesting that they might be theoretical artefacts and not quite what he thought initially.

Anyhow, astronomers had to wait until 2015 before gravitational waves were picked up for the first time, when the LIGO detectors in the US recorded signals emanating from two colliding black holes 1.3 billion light years away. Suddenly, cosmologists, who could until then only study the universe through electromagnetic waves or particles, had a tool with which to observe the warping of spacetime that Einstein had predicted a century ago.



'A cosmic raag'

To detect gravitational waves, a detector must be isolated from all vibrations that could potentially obscure the elusive signals. So even the best frontline gravitational wave observatories in the world — the two LIGO detectors in the US, the GEO600 in Germany, the Virgo in Italy, and the KAGRA in Japan — can only spot gravitational waves from flare-ups within 7 billion light-years from the earth.

This may be about to change as cosmologists look forward to opening a new window on the gravitational sky, on the moon. Researchers from the Vanderbilt Lunar Labs in the US plan to install a gravitational-wave detector, called the Laser Interferometer Lunar Antenna (LILA), on the lunar surface. LILA will study gravitational waves in the sub-hertz frequencies that cannot be observed by terrestrial detectors.

The moon's permanently shadowed polar regions offer ideal conditions to record gravitational waves.

"Gravity is a cosmic raag, and the moon lets us hear the notes that we cannot hear from any other place in this solar system," Karan Jani, Director of the Vanderbilt Lunar Labs Initiative and a professor of physics and astronomy, electrical and computer engineering, and communication of science and technology at Vanderbilt University, said.

"The seismic noise (on the moon) is far lower than on earth, and a natural vacuum sits right above the surface, which means far less infrastructure is required to build the detector on the moon than at earth-based observatories."

Recruiting the moon

Dr. Jani, who leads the international consortium that is building LILA, explained the project via email.

"The first phase, LILA Pioneer, can be built within this decade with the current lunar landers from American companies such as Blue Origin and Intuitive Machines, and from India's Chandrayaan program. The next phase, LILA Horizon, will require astronauts on the lunar surface for deployment."

Scientists have toyed with the idea of a moon-based gravitational-wave detector since the 1960s, when the Apollo missions and two robotic Soviet spacecraft placed five retro-reflectors on the lunar surface to reflect light back to the earth. By measuring the time light takes to travel between the moon and the earth, and knowing the speed of light, scientists have been able to calculate the earth-moon distance with great accuracy.

Such precise data has prompted some astronomers to believe that the earth-moon system itself could be a potential natural gravitational wave detector, as gravitational waves are constantly washing over the two-body system, generating small deviations in the moon's orbit, which can be tracked.

"About every 15 minutes, a gravitational wave from the collision of two black holes sweeps through the earth, the moon, and even the sun," Dr. Jani said. "The effect on the orbits of these bodies is so tiny that for practical purposes it is nonexistent. But what is scientifically interesting is that the moon can resonate with some of these incoming waves, which opens a new window for the gravitational-wave spectrum."



Terra incognita

Ground-based observatories have a major handicap as they possess only a limited detection range. They are sensitive to gravitational waves within the 100 to 1,000 hertz band, which leaves the broader gravitational-wave spectrum unexplored. Other space-based interferometers such as the Laser Interferometer Space Antenna (LISA), scheduled for launch in the 2030s, may rectify this to an extent as they can be made large enough to be sensitive to signals at very low frequencies.

LISA consists of three satellites in a triangular formation that will trail the earth as the planet orbits the sun. The satellites will monitor their relative separations using lasers and sense the changes caused by passing gravitational waves so that they can be measured at lower frequencies. With an arm length nearly a million times more than LIGO's, LISA will be able to record signals in the 0.1 millihertz to 0.1 hertz range.

The search for gravitational waves on other frequencies includes the world's largest radio telescope arrays, the Square Kilometre Array (SKA) located in Australia and South Africa that scans the nanohertz frequency range, and the LIGO detectors in the centihertz frequency range. But the real challenge for scientists is to explore the uncharted decihertz gravitational-wave frequency range, which lies between the higher (10-1,000Hz) band of ground-based observatories and the lower 0.1 mHz-1 Hz band of LISA.

"Decihertz gravitational wave astronomy is a new frontier which will potentially open up in the next two decades," Ajith Parameswaran of the International Centre for Theoretical Sciences, Bengaluru, said. "Besides LISA, there are many proposals for decihertz gravitational wave detectors," he wrote in an email.

"These include the Japanese space-based DECi-hertz Interferometer Gravitational wave Observatory (DECIGO), the U.S.-led TianGo space detector initiative and the Lunar Gravitational-wave Antenna (LGWA)."

Edge of time and space

Dr. Parameswaran said Indian scientists are working on a different decihertz detector concept of their own. India's Initiative in Gravitational-wave Observations (IndIGO) is a road map to build an advanced gravitational-wave observatory, LIGO-India, in Hingoli district in Maharashtra. When completed in 2030, it will join the global LIGO network and will give a big boost to gravitational-wave astronomy in the country.

"There is no known technology that can access decihertz gravitational waves from the earth or in deep space, except building a detector on the moon," Dr. Jani said. "Gravitational waves come to us like the notes from various cosmic raags, each at a different pitch. SKA will pick up the deepest bass notes: the slow motions of massive black holes. LIGO in India and around the world listens to the high notes: the sharp bursts from colliding stars. And decihertz gravitational wave observatories such as LISA will bring the missing notes in between, so that for the first time humankind can hear the full cosmic symphony."

Gravitational-wave astronomy is still in its infancy, but it is growing fast and promises unprecedented insights into the mysteries of the cosmos. By tapping the entire spectrum of gravitational waves, astronomers can peer back to the very edge of time and space. The decihertz range, for instance, can help in studying intermediate-mass black holes which are believed to be the building blocks of supermassive black holes found at the centres of galaxies.



It is even possible for scientists to use the entire Milky Way galaxy as an immense gravitational wave detector by monitoring pulsars. When gravitational waves sweep through the galaxy, they alter the earth-pulsar distance and, along with it, the pulsar frequencies. If astronomers can tune into these minute frequency changes, they will be able to 'listen' to gravitational waves from the early universe telling the story of its birth and evolution.

NASA'S IMAP WILL SHOW HOW SOLAR PARTICLES ARE ENERGISED AND SHIELD US

Space isn't empty. The sun issues a continuous stream of charged particles called the solar wind, which creates a vast region around our solar system called the heliosphere. This region acts like a protective bubble that shields the planets from cosmic rays and interstellar particles. Yet the structure, dynamics, and boundary of the heliosphere are still poorly understood. Scientists want to know how particles are accelerated in the solar wind and how they interact with the space between stars. Changes in the solar wind and its particles also affect space weather, which can damage satellites, harm astronauts, and disrupt communication systems on earth.

To address these questions, NASA launched the Interstellar Mapping and Acceleration Probe (IMAP) on September 24. Its goal is to map the heliosphere's boundary, trace energetic particles, and improve space weather forecasting.

IMAP is equipped with 10 scientific instruments, each designed to detect different types of particles or phenomena in space. Some of them are energetic neutral-atom detectors (IMAP-Lo, IMAP-Hi, IMAP-Ultra), which capture neutral atoms that were once charged ions but were changed by acquiring electrons. Other instruments detect charged particles directly, magnetic fields, interstellar dust, and solar-wind structures.

After launch, IMAP will travel to the sun-earth Lagrange point 1 (L1), about 1.6 million km from the earth toward the sun, where gravitational forces balance in a way that allows the spacecraft to remain in a stable orbit with minimal fuel use. Once there, IMAP will continuously observe incoming solar wind and energetic particles from a fixed vantage point. IMAP will also send data in near real-time to help scientists monitor space weather conditions.

Based on mission design and early operations, scientists expect IMAP will produce the most detailed maps yet of the heliosphere's boundary, revealing how the solar wind collides with the interstellar medium. It will also trace how particles accelerate from the sun, move out, or are energised in the heliosphere. In more specialised research, IMAP-Lo is expected to be able to observe interstellar neutral hydrogen and deuterium, possibly distinguishing primary versus secondary populations of these atoms at the heliopause, which is the outermost layer of the heliosphere.

IMAP data are expected to have profound implications. By revealing the structure and dynamics of the heliosphere, physicists can deepen their understanding of how our solar system is protected against cosmic radiation. That is relevant to understanding the earth's habitability and that of exoplanets as well. Second, better data on solar wind behaviour will strengthen physicists' ability to forecast space weather, in turn helping protect satellites, communications networks, power grids, and orbital crews.

For future human exploration beyond the earth, IMAP's measurements of how particles travel and are accelerated will help plan safer routes and design better shielding for spacecraft.



VIRTUAL MINISTER

To start off as an assistant and end up as a Minister in the span of nine months is nothing short of a meteoric rise; if only AI could be held to the same standards as humans. For, Albania unveiled earlier this month, Diella, the world's first AI Minister, that would take care of its public procurement process after having served as a virtual assistant on the government website since January.

The Balkan country, which nurses hopes of joining the EU, has been riddled with corruption. Apart from accusations of being a haven for money laundering and trafficking of drugs and guns by gangs, the government's tender processes are allegedly plagued by graft — hindrances on the nation's path towards the EU.

To circumvent these hurdles, Prime Minister Edi Rama launched Diella on September 11. Having come to power for a fourth consecutive term, Mr. Rama says Diella, which translates to 'sun' in Albanian, will ensure that public tenders are "100% free of corruption". Embodying a woman's persona and dressed in traditional Albanian attire, Diella will be "the first Cabinet member who isn't physically present, but is virtually created by AI", Mr. Rama said.

That puts Diella at odds with the country's Constitution, which mandates that a Minister must be a "mentally competent citizen" above 18 years of age. With Humphrey in the U.K. and Albert in France, digital assistants aiding in bureaucratic work is not new, but vesting decision-making powers in an AI system is unprecedented.

Diella, in its earlier avatar as a virtual assistant, boasts of offering more than 1,000 services and issuing 36,600 digital documents to citizens. As it steps into the Minister's shoes, the bot possesses the credentials of a novice. That it is based on Large Language Models (LLMs, that power the popular ChatGPT and Gemini), and is developed in association with Microsoft does little to allay concerns, for Mr. Rama's administration remains tight-lipped about human oversight regarding the Virtual Minister.

Criticisms against the initiative have been twofold — political and ethical. Opposition Democrats have termed it yet another eyewash reform of Mr. Rama. Be it attending international meetings in sneakers, welcoming Italian Prime Minister Giorgia Meloni on one knee at an EU meet in capital Tirana, or the ban on TikTok in the country, the 61-year-old Socialist leader has a penchant for hitting the headlines.

Man vs machine

Ethical detractors say merely supplanting humans with a machine is not the solution for corruption. An AI system is only as good as the data it is fed, and the human involvement while inputting this data, based on which Diella makes decisions, is enough to sway the system. Unlike humans, a machine can neither be held responsible nor be expected to take ownership of its decisions in times of crisis. Also, the whole process eliminates any room for deliberations prior to making decisions — a characteristic crucial to a democracy.

Speaking on its behalf, Diella had said at the launch, "The Constitution speaks of institutions at the people's service. It doesn't speak of chromosomes, of flesh or blood. It speaks of duties, accountability, transparency, non-discriminatory service. I assure you that I embody such values as strictly as every human colleague, maybe even more." Countering the constitutional rule, it added: "True, I have no citizenship, but I have no personal ambition or interests either."



Mr. Rama, for his part, has been committed to AI for a while now. In 2024, Albania employed the technology to translate more than 2.5 lakh EU documents and laws. The country has deployed drones and satellites that use AI to monitor its territory. Mr. Rama has availed the services of Mira Murati, the former CTO of OpenAI that created ChatGPT and a native of Albania, to expedite the country's EU membership plans.

Regardless, Diella has sparked debates on the role of AI in governance and setting institutional limits to it. As sceptics claim that deploying AI into a broken system is hardly the remedy, for it will only serve to automate the existing problems, only time will tell the end result.

A DRIVERLESS CAR, A TRAFFIC STOP, AND AN ACCOUNTABILITY QUESTION

A robot may not injure a human being or, through inaction, allow a human being to come to harm." That's the first of Isaac Asimov's three laws of robotics. But what does one do when a robot breaks a law? Reprogramme it, give it a timeout by switching it off for a while, or reduce it to scrap? In a hypothetical future where robots are animated by sentient, sapient AI, one can imagine the dread pooling in their metaphorical stomachs at the prospect of such a fate, knowing for sure that no afterlife awaits them — no wonder C-3PO in Star Wars is always so afraid of being destroyed. Perhaps justice will be reformative (reprogrammative?) rather than retributive. And, in the case of an accident or mistake, does accountability lie with the robot, its owner — if there is one — or the manufacturer?

A recent incident in California offers a peek into the future. The San Bruno police pulled up a car for an illegal U-turn, but there was no one behind the wheel, and no passenger either. It was a driverless robotaxi from Waymo, one of the leading companies in autonomous driving. The Waymo Driver — the system that controls these vehicles — got off scot-free.

In this case, the police, after contacting Waymo, hinted that a reprogramming was in the offing and that hopefully, this would "keep it from making any more illegal moves". But they might not be so lenient in the future — next year, a law will come into force in California allowing police to issue "notices of noncompliance" to the companies operating driverless cars for road violations. That closes the loophole for now, but there may come a time when the stakes are higher and the companies — or the robots — better at evading accountability.

HAS AI FINALLY SOLVED YOUR EMAIL PROBLEM?

For as long as email has been a staple in the workplace, it has also been a source of stress. The relentless stream of newsletters, meeting invites, updates, and follow-ups creates an unspoken pressure: maintain control over your inbox or risk missing something crucial. This is how the philosophy of "Inbox Zero" emerged on the belief that a clean inbox equates to a clear mind.

In today's world, with AI-driven tools promising to read, write, sort, and even reply on our behalf, it might seem like the battle is finally over. Applications like Superhuman offer smart suggestions in your writing, Gmail encourages you to respond to old threads, and Microsoft has introduced AI copilots that can draft entire replies in seconds. Most recently, Perplexity AI announced that its Max users can schedule meetings via email by just invoking a virtual assistant.

However, before declaring victory, it's important to question whether these tools are genuinely solving the problem or merely disguising it under a more polished interface.



There's no denying the progress made by AI tools. They have eliminated some of the friction that used to consume hours of our days. Faster writing is achieved through smart autocomplete and AI drafting, reducing the time spent staring at a blank reply box. Grammar and tone suggestions help polish your messages without effort, catching mistakes and smoothing over awkward phrasing.

Additionally, thread summaries allow you to catch up on lengthy email chains without scrolling through dozens of messages. These features are invaluable for straightforward communication like confirming a meeting time, acknowledging receipt, sending an agenda. They help keep things moving and reduce the burden of low-value writing.

However, the real challenge with email isn't the time it takes to type. Most people struggle with decision-making — determining which messages matter, what to prioritise, and how to phrase responses that build trust and clarity. While AI can draft polite responses, it can't decide whether a message should be answered now, later, or not at all.

Automation can create a false sense of control. An inbox filled with AI-sorted folders and machine-generated replies may appear tidy, but the underlying clutter remains unresolved. If the workflow around email isn't fixed, AI only accelerates the noise.

So, the real path to "Inbox Zero" isn't about letting AI handle more of your messages. It's about reshaping how you use email in the first place. This requires two things: clear systems and thoughtful use of AI. Define how and when you process messages.

For example, check email at set times instead of grazing all day. Decide in advance what gets archived, delegated, or escalated. Without this discipline, AI will only magnify the mess. Treat AI as a helper, not a replacement.

Let it draft routine messages, but add your own context and judgment. Use summaries to speed up comprehension, but confirm important details yourself. The goal isn't to eliminate effort, but to reserve your energy for the parts of communication that matter most.

Think of it this way: email isn't a typing problem; it's a thinking problem. AI is excellent at typing. You still need to do the thinking.

The dream of Inbox Zero may never fully match the marketing promise of a "done-for-you" inbox. But that's not a bad thing. A truly empty inbox doesn't necessarily mean a clear mind; it just means messages have been moved somewhere else.

The real value comes when technology helps you focus on what only you can decide: which relationships to nurture, which opportunities to pursue, which problems to escalate.

That clarity doesn't come from smarter algorithms, but from designing smarter habits. AI can help tidy the edges, but the centre of the inbox problem still needs a human.

JANE GOODALL: PIONEERING SCIENTIST, DIFFICULT WOMAN

By her own admission, Goodall was a difficult woman: "It actually doesn't take much to be a difficult woman. That's why there are so many of us," she once said. At 23, with no formal scientific training, only a fierce curiosity, she called the paleoanthropologist Louis Leakey in the hope of a chance to work with animals. Perhaps, he saw in her something rare — not just intelligence, but also conviction. Soon, Goodall was on her way to the Gombe Stream in Tanzania to observe

4TH FLOOR SHATABDI TOWER, SAKCHI, JAMSHEDPUR



chimpanzees in the wild. What began as an expedition became a scientific watershed. Goodall's patient, open-hearted observations of the apes would reshape primatology and force science to re-evaluate what it means to be human. It would also establish Goodall, who died on October 1 at 91, as one of the foremost primatologists of the time, alongside Dian Fossey and Birute Galdikas, who studied the gorilla and the orangutan respectively.

At a time when detachment was the gold standard of scientific observation, Goodall's approach — empathetic, patient, immersive — contrasted with that of her mostly male contemporaries. She observed chimpanzees not as data points but as individuals with personalities, emotions and social complexity. Her groundbreaking discovery that chimpanzees use tools, previously thought to be a uniquely human trait, redefined the boundaries between species and introduced the radical notion that animals are sentient beings with complex emotions and social bonds. That she gained entry to a Cambridge doctoral programme in 1962 without an undergraduate degree, and earned her PhD by 1966, was a testament to her singular brilliance and the heft of her findings.

Her path-breaking research apart, it was her defiance of convention — scientific, gendered, institutional — that marked her as a pioneer. “Difficult” is a word that often rests precariously on the edge of judgement. When spoken of a woman, especially, it becomes a veiled reproach, at once condescending and reductive. Soft-spoken, gentle, but deeply committed, Goodall's life's work stands as proof that what is often termed “difficult” in a woman is simply the courage to insist on another way.

TRUMP'S ASSAULT ON SCIENCE THREATENS ROLE OF U.S. IN RESEARCH: NOBEL OFFICIALS

U.S. President Donald Trump's assault on science could threaten the United States' position as the world's leading research nation and have knock-on effects worldwide, Nobel Prize officials in Sweden said.

Since taking office in January, Mr. Trump has cut billions of dollars in funding, attacked universities' academic freedoms, and overseen mass layoffs of scientists across federal agencies.

Next week, the Nobel Prizes will be announced, and chances are high that researchers working in the U.S. will take home some of the prestigious awards.

The U.S. is home to more Nobel science laureates than any other country, due largely to its longstanding investment in basic science and academic freedoms.

But that could change, said Hans Ellegren, secretary general of the Royal Swedish Academy of Sciences, which awards the Nobel prizes in physics, chemistry, and economics.

“In the post-war period, the U.S. has taken over Germany's role as the world's leading scientific nation. When they now start cutting research funding, it threatens the country's position,” he said.

Efforts are under way to restore some of the funding, but uncertainty looms.

Thomas Perlmann, secretary general of the committee that awards the Nobel Prize for Medicine, said it was “no coincidence that the U.S. has by far the most Nobel laureates”.

“But there is now a creeping sense of uncertainty about the U.S.'s willingness to maintain its leading position in research,” he said. Mr. Perlmann called the U.S. “the very engine” of scientific research worldwide.



“There would be very serious consequences for research globally if it starts to falter,” he added.

SPECTACLE OF BLAME

Every political story needs a villain and a vehicle. In the latest ‘Make America Healthy Again’ edition, the vehicle is maternal behaviour: what pregnant mothers take, what they eat, what they fail to suspect. In a previous era, they were blamed for overlooking vaccines; now they are being blamed for taking acetaminophen, aka paracetamol, during their pregnancy. But between the vaccine and paracetamol narratives, the strategy has been to reframe autism as a preventable harm caused by bad choices, and to marginalise social determinants and advances in genetics and leave mothers to carry the blame.

Acetaminophen has, of course, been made the villain. For a century now, this drug has been kept near bassinets and on bedside tables, and has been trusted to deal with fever and ordinary pain when stronger versions of other drugs would have been reckless. Pharmacology texts say it blunts prostaglandin signalling in the central nervous system and nudges receptors that modulate pain. While this picture remains incomplete and the subject of ongoing research, acetaminophen has been reliable in its effects against pain and temperature. Both researchers and regulators have said for many years that in excess, acetaminophen can also maim the liver.

In the new script, fronted by U.S. President Donald Trump and his health secretary Robert F. Kennedy Jr., acetaminophen has been dragged from outside the culture wars to a podium and asked to confess to something that can’t possibly be proven: that it “causes” autism when used during pregnancy. Scientists and obstetric groups have already objected to this accusation. The World Health Organization has publicly repudiated it.

Some observational studies, but especially an analysis published in JAMA Psychiatry in 2019, reported that higher in-utero levels were statistically associated with later diagnoses such as autism. A consensus statement in Nature Reviews Endocrinology in 2021 urged a “precautionary” approach to the drug.

However, these and some other papers set out associations, not proof of causation, and admitted to being vulnerable to confounding by the very illnesses acetaminophen treats (including fevers), by genetics, and by family environment.

Rhetorical effect

However, the Trump-RFK combine has mutated “might be associated under certain conditions” into “is a primary cause”. The rhetorical effect has been to pin responsibility not on access to care and diagnostics and environmental exposure but on imputed maternal failings. But just as vaccines don’t cause autism — epidemiology and reviews have repeatedly proved this — professional bodies have maintained that acetaminophen is appropriate during pregnancy when medically indicated and at the lowest effective dose.

Indeed, in 2024, a large Swedish population study reported that the small increases in risk observed in simpler studies disappeared when matched siblings were analysed. Its findings were a powerful rebuttal to lazy causal claims. Courts have also had their say: one federal judge excluded plaintiffs’ experts in a multidistrict litigation and dismissed hundreds of cases, finding their methods unreliable. Only political theatre is breathing new life back into these claims.



Acetaminophen also has its own baggage and it would be dishonest to omit it. It's the leading cause of acute liver failure in the U.S. Everyone who prescribes it is expected to be aware of the dosage ceiling as well as be mindful of the fact that certain combinations with other drugs can render it poisonous.

Ultimately, acetaminophen is a tool — and a sobering one at that. It returns the drug to the clinic, where decisions are individualised and the risks are explicit. It returns autism to being a spectrum of neurodevelopmental differences with a complicated matrix of causes, rather than a punishment for taking a pill during a difficult pregnancy. And ultimately, it returns public health to its first principles: that one shouldn't claim causal links sans evidence, shouldn't trade in fear where counsel is required, and shouldn't allow the spectacle of blame to substitute for the work of care.

TEARY EYES

Why does sadness cause us to shed tears?

Sadness can sometimes overwhelm the body to the point that it produces tears. These tears, called emotional tears, are different from the ones that keep our eyes moist or flush out irritants like dust or vapours from cut onions. They are triggered by deep activity in the brain's emotion-processing centres, especially the hypothalamus, which links feelings to physical responses. When a person feels grief or despair, this region activates the lacrimal glands, which release more tears.

Studies have shown that emotional tears may contain higher amounts of stress-related hormones, so shedding them could partly restore balance. The act of crying also activates the parasympathetic nervous system, which slows the heart and promotes relaxation, leaving people calmer afterwards.

Tears signal that someone is in distress and can invite care, comfort or understanding from people around them. Unlike loud sobs, visible tears can be a silent yet reliable cue that a person is vulnerable.

SURINAME PLEDGES TO PROTECT 90% OF FORESTS

Suriname's government has pledged to permanently protect 90% of its tropical forests, a move conservationists say is among the most ambitious commitments to climate and biodiversity ever made by an Amazonian nation.

The announcement came during Climate Week in New York City. Foreign Minister Melvin W.J. Bouva delivered the pledge on behalf of President Jennifer Geerlings-Simons, who took office two months ago.

Some 93% of Suriname is already heavily forested. Scientists also say Suriname is one of only three countries worldwide that absorbs more carbon dioxide than it emits.

"We understand and accept the immense responsibility of stewarding over 15 million hectares of tropical rainforest in a world that is seeing her forests fall day in and day out," Geerlings-Simons said in remarks released by her office.

The pledge far surpasses the "30x30" global target — an UN-backed goal for countries to protect 30% of land and oceans by 2030. It comes weeks before COP30, the UN climate summit that will be hosted in Belem, Brazil, at the heart of the Amazon rainforest.



Suriname's government says it will update conservation laws by the end of the year to create stronger protections for its forests. The new framework could also recognize the ancestral lands of Indigenous and Maroon peoples, descendants of enslaved Africans who escaped into the rainforest, and aims to expand opportunities in ecotourism and the growing carbon credit market.

A coalition of environmental donors has committed \$20 million to help finance the effort and support local jobs tied to forest protection.

"This sets a new standard for the Amazonian region as a whole, which has suffered from serious deforestation in recent decades," said Russell Mittermeier, chief conservation officer at Re: wild, a global conservation nonprofit.

Suriname's rainforests harbour jaguars, giant river otters, tapirs, and more than 700 bird species, as well as the striking blue poison dart frog. Advocates say keeping such ecosystems intact is vital not only for local communities but also for stabilizing the global climate.

Hugo Jabini, a lawyer from Suriname's Saamaka Maroon community and a 2009 Goldman Environmental Prize winner, said the pledge will mean little unless the government addresses long-standing Indigenous and tribal land rights.

"Suriname is the only country in the Western Hemisphere where Indigenous and tribal land rights are not legally recognised," he told The Associated Press. "Without recognition, the very people who depend on the forest — and who are best placed to protect it — cannot truly safeguard it."

He warned that illegal mining, logging, and roadbuilding already threaten communities despite international court rulings ordering Suriname to halt concessions. Protecting 90% of the forest, he added, will require international support to create sustainable alternatives to extraction.

AS AMAZON'S 'FLYING RIVERS' WEAKEN WITH TREE LOSS, SCIENTISTS WARN OF SEVERE DROUGHTS

Droughts have withered crops in Peru, fires have scorched the Amazon and hydroelectric dams in Ecuador have struggled to keep the lights on as rivers dry up. Scientists say the cause may lie high above the rainforest, where invisible "flying rivers" carry rain from the Atlantic Ocean across South America.

— New analysis warns that relentless deforestation is disrupting that water flow and suggests that continuing tree loss will worsen droughts in the southwestern Amazon and could eventually trigger those regions to shift from rainforest to drier savanna — grassland with far fewer trees.

— Most of the Amazon's rainfall starts over the Atlantic Ocean. Moist air is pushed inland by steady winds that blow west along the equator, known as the trade winds. The forest then acts like a pump, effectively relaying the water thousands of miles westward as the trees absorb water, then release it back into the air.

— The forest acts like a pump, effectively relaying the water thousands of miles westward as the trees absorb water, then release it back into the air.

— Brazilian climate scientist Carlos Nobre was among the early researchers who calculated how much of the water vapor from the Atlantic would move through and eventually out of the Amazon basin. He and colleagues coined the "flying rivers" term at a 2006 scientific meeting, and interest



grew as scientists warned that a weakening of the rivers could push the Amazon into a tipping point where rainforest would turn to savanna.

— That's important because the Amazon rainforest is a vast storehouse for the carbon dioxide that largely drives the world's warming. Such a shift would devastate wildlife and Indigenous communities and threaten farming, water supplies and weather stability far beyond the region.

Do You Know:

— The average size of trees in the Amazon rainforest has been steadily increasing due to the rising levels of carbon dioxide (CO₂) in the atmosphere, according to a new study. The trees are increasing in size by more than three per cent every ten years, the analysis said. The study, 'Increasing tree size across Amazonia', was in the journal Nature Plants on September 25.

— The rise of CO₂ levels can benefit tree growth because of a phenomenon known as the carbon fertilisation effect. More CO₂ in the atmosphere increases the rate of photosynthesis, leading to increased growth in some plants.

— The Amazon rainforest is the world's largest tropical rainforest, spanning nine countries in South America: Brazil, Peru, Colombia, Bolivia, Ecuador, French Guiana, Guyana, Suriname, and Venezuela. However, nearly 60% of the rainforest is situated in Brazil.

— Despite covering around 1% of the planet's surface, the Amazon rainforest is home to 10% of all the wildlife species known to humans. Notably, scientists call the Amazon rainforest the "lungs of the planet" due to the role it plays in absorbing CO₂ and producing oxygen. It is estimated that around 150-200 billion tonnes of carbon are stored in the Amazon rainforest.

CAN AN IVERMECTIN PILL KEEP MALARIA FROM BEING TRANSMITTED?

While the world's fight against malaria made remarkable progress in 2000-2015, the momentum has declined of late. In 2023, malaria claimed nearly 6 lakh lives, 95% in the African region. India has made dramatic progress, too, with malaria cases dropping by over 80% in the last decade. However, some districts in Odisha, Chhattisgarh, Jharkhand, and the Northeast continue to struggle with persistent transmission.

This lingering threat has revived attention towards the mass administration of endectocides, systemic insecticides that work from inside the human body. Of these, ivermectin has reportedly stood out as the most promising.

Since the 1970s, ivermectin has become a cornerstone of global campaigns against river blindness and lymphatic filariasis. A surprising discovery later expanded its potential: mosquitoes that bit people treated with ivermectin often died or didn't live long enough to spread malaria. This sparked renewed interest in using ivermectin as a vector control tool in malaria-endemic regions. Subsequent modelling and pilot studies suggested that mass administration of ivermectin could help lower infection rates by shrinking the mosquito population.

To test this idea in the real world, scientists launched the BOHEMIA trial in Kenya and Mozambique, and the findings were published recently in The New England Journal of Medicine.

In Kenya, the trial was conducted in Kwale County, a coastal region with year-round malaria transmission despite 85% bed net coverage. The villagers were randomly given either ivermectin or albendazole (an anti-parasitic drug that doesn't affect mosquitoes) once a month for more than



three months starting in October 2023. Children aged 5 to 15, who are among the most vulnerable, were then monitored for six months.

The result: malaria cases dropped by 26% in the ivermectin group, exceeding the WHO's threshold to be considered a valuable public health tool. Children living farther from untreated areas had even greater protection.

More than 56,000 doses were administered during the study, and the participants reported no serious side effects. However, the trial excluded pregnant women and children under 15 kg of body weight.

The Mozambique trial couldn't yield conclusive results as the researchers' operations were disrupted by Cyclone Gombe.

In November 2024, a trial in Guinea-Bissau called MATAMAL involved more than 25,000 people in 24 villages. It tested whether adding ivermectin to an already strong malaria treatment program, which used the drug dihydroartemisinin-piperaquine, could make the programme work better.

Contrary to expectations, there was no significant difference in malaria prevalence between villages that received ivermectin and those that received a placebo. In fact, there were slightly more malaria cases in the ivermectin group, with no clear impact on mosquito survival or infection rates. Researchers concluded that the timing and dosing used in this trial may not have been sufficient to add value to existing interventions.

Despite mixed results, both trials reaffirmed ivermectin's safety in large-scale campaigns. Side effects were mild and temporary, mostly headaches and dizziness.

Ivermectin also offered an advantage over traditional malaria control tools. Bed nets, indoor spraying, and larvicides target mosquitoes that bite indoors and at night. But mosquitoes evolve — some now bite earlier, outdoors or even feed on livestock — making it harder to keep them at bay. On the other hand, ivermectin kills mosquitoes from the inside after they bite humans, regardless of time or location.

The BOHEMIA team also found significant collateral benefits. In Kenya, e.g., many noticed a dramatic drop in bed bugs.

As with all widespread interventions, resistance is a looming concern. A 2024 review in Parasitology Research highlighted the growing resistance to ivermectin in ectoparasites like ticks, lice, and scabies mites, mostly due to overuse in veterinary medicine. While resistance among human parasites is rare, there's little data on its impact on Anopheles mosquitoes.

Only two out of 18 reviewed studies examined ivermectin's impact on mosquito populations, highlighting a gap in surveillance.

Should resistance emerge, the drug's value as a malaria control tool could diminish rapidly. And the drug's widespread use for scabies, lice, and livestock parasites may make resistance develop faster.

Researchers have also warned that as ivermectin's mass administration expands, resistance in non-target organisms must be closely monitored, as this risk is often overlooked. Ivermectin affects many parasites, so targeting one species may accelerate resistance in others. In regions



with multiple parasites, the chosen doses might favour the target but harm broader control efforts.

To stay ahead, researchers are exploring longer-lasting formulations, higher doses, and combining ivermectin with malaria vaccines or genetically modified mosquitoes.

HPV VACCINATION CAMPAIGN IN PAKISTAN FACES RESISTANCE OVER INFERTILITY CONCERNS

Misinformation plagued the first roll-out of a vaccine to protect Pakistani girls against cervical cancer, with parents slamming their doors on healthcare workers and some schools shutting for days over false claims that it causes infertility.

The country's first HPV vaccine campaign aimed to administer jabs to 11 million girls. But by the time it ended on Saturday, only around half the intended doses were administered.

A long-standing conspiracy theory that Western-produced vaccines are used to curb the Muslim population has been circulating online in Pakistan.

Misinformation has also spread that the vaccine disrupts the hormones of young girls and encourages sexual activity, in a country where sex before marriage is forbidden.

Wide refusal

"Some people have refused, closed their gates on us, and even hid information about their daughter's age," vaccinator Ambreen Zehra said while going door-to-door in a lower-middle-income neighbourhood in Karachi.

Only around half the intended vaccines had been administered, according to a federal health department official. "We are committed to ensuring the vaccine remains available even after the campaign concludes so that more women and girls get vaccinated," they said on Friday.

One teacher said on condition of anonymity that not a single vaccine had been administered in her school on the outskirts of Rawalpindi because parents would not give consent. This, she said, other rural schools had also experienced.

A health official said some private schools had resorted to closing for several days to snub vaccine workers.

In 95% of cases, cervical cancer is caused by persistent infection with Human Papillomavirus (HPV) — a virus that spreads through sexual activity, including non-penetrative sex, that affects almost everyone in their lifetime.

'Lack of awareness'

The HPV vaccine, approved by the World Health Organization, is a safe and science-based protection against cervical cancer and has a long history of saving lives in more than 150 countries.

Cervical cancer is particularly deadly in low and middle-income countries such as Pakistan, where UNICEF says around two-thirds of the 5,000 women diagnosed annually will die, although the figure is likely under-reported.



This is because of a significant lack of awareness around the disease, cultural taboos around sexual health, and poor screening and treatment services.

‘Stubbornly resistant’

Pakistan — one of only two countries along with Afghanistan where polio is endemic — remains stubbornly resistant to vaccines as a result of misinformation and conspiracy theories.

After marking one year without polio cases for the first time in 2023, the crippling disease has resurged with 27 cases reported in 2025 so far.

In response to overwhelming misinformation, Pakistan’s Minister of Health, Syed Mustafa Kamal, took the bold move to have his teenage daughter vaccinated in front of television cameras.

“In my 30-year political career, I have never made my family public,” he said. “But the way my daughter is dear to me, the nation’s daughters are also dear to me, so I brought her in front of the media.”

WHY DOCTORS STILL RELY ON STETHOSCOPE IN THE AGE OF ARTIFICIAL INTELLIGENCE

Have you wondered why, at every hospital visit, the doctor still reaches for a stethoscope before ordering tests or scans? In the era of artificial intelligence (AI) and precision medicine, this instrument continues to hold its place as the first line of assessment, offering immediacy that no machine can yet replicate.

The stethoscope was invented in 1816 by French physician René Laennec to improve the examination of heart and lung sounds, which were previously heard by applying one’s ear directly to the patient’s chest. The stethoscope’s relevance lies in its ability to provide detailed clinical information in a non-invasive manner, enabling early diagnosis and monitoring of conditions.

Listening to the body

“Every sound transmitted through the stethoscope has clinical significance,” says Jayaraman S., senior consultant, pulmonary medicine, MGM Healthcare, Chennai. “Auscultating the chest can help us understand the risks a patient may be facing in the heart or lungs. Despite advances in imaging and AI, the stethoscope remains the gold standard in bedside examination.”

The instrument allows doctors to detect a wide range of abnormalities. K. Thirupathi, senior consultant, pulmonology, SIMS Hospital, Chennai, describes it as the doctor’s “first set of eyes and ears on the inside of the body.” Murmurs, irregular rhythms, extra beats, or reduced breath sounds can all be picked up within seconds. In the lungs, it can reveal wheezing or crackles that point towards asthma, pneumonia or fluid build-up. Even the simple act of measuring blood pressure or listening to bowel sounds depends on it.

Beyond its clinical use, the stethoscope continues to play a cultural role in medicine. “When I place it on a patient’s chest, it signals attentiveness. It reassures them,” says Elakiya Mathimaran, consultant pulmonologist, VS Hospitals, Chennai. “Many patients feel the consultation is incomplete if the stethoscope is not used.”

Dr. Thirupathi agrees, calling it a “symbol of care and trust” that creates a personal connection. For many patients, the act of a doctor listening with a stethoscope is the most visible sign that they have been examined with care.



Digital shift

Technology is reshaping the way auscultation is performed too. Digital and AI-enabled stethoscopes now offer amplification, recording and the ability to share sounds for consultation. Some models are already integrated with algorithms that can identify abnormal heart murmurs or classify lung sounds with high accuracy.

Electronic stethoscopes, research shows, perform better in patients living with obesity where conventional auscultation can be difficult. They can also reduce variability between clinicians by capturing and standardising sounds. However, they come with challenges: higher cost, the need for training, and dependence on reliable connectivity in some cases.

The World Health Organization has also underlined the enduring value of clinical examination, especially in resource-limited settings. While AI can support screening and diagnosis, auscultation remains indispensable as a first step in patient evaluation.

Portable, affordable and immediate, the stethoscope continues to bridge medicine's past and future. For doctors, it is both a diagnostic instrument and a symbol of presence. For patients, it is reassurance that someone is listening, literally. As technology advances, both traditional and digital stethoscopes are likely to coexist, one as a timeless tool of care and the other as an adjunct offering new precision.

For now, the familiar sight of a doctor's stethoscope pressed against the chest remains one of medicine's simplest and most enduring ways of paying attention to patients.



DreamIAS